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August 6, 1992

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FYI Coordinator
OTS Document Processing Center (TS-790)
U.S. EPA, Room 421-B East Tower
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Dear FYI Coordinator:

In accordance with API's policy of providing the federal government with copies of research designed to determine whether any chemical substance or mixture manufactured, processed or distributed by API member companies may cause risk of injury to health or the environment, we are enclosing a copy of the following report:

(Identification No. FYI not assigned). A 90-Day Feeding Study in the Rat with Six Different Mineral Oils, Three Different Mineral Waxes, and Coconut Oil. Final report from CONCAWE by BIBRA.

This document does not contain confidential information. If you have any questions about it, please communicate with me.

Sincerely,

Robert T. Drew, Ph.D.

RECEIVED 10/21/92

A 90-Day Feeding Study in the Rat with Six Different White Mineral Oils (N15 (H), N70 (H), N70 (A), P15 (H), N10 (A), and P100 (H), Three Different Mineral Waxes (a Low Melting Point Wax, a High Melting Point Wax and a High Sulphur Wax) and Coconut Oil

JULY 1992

American Petroleum Institute
Health and Environmental Sciences Department

QUALITY ASSURANCE STATEMENT

Study Title: A 90-Day Feeding Study in the Rat with Six Different White Mineral Oils, Three Different Waxes, and Coconut Oil.

Testing Facility: BIBRA Toxicology International

Testing Facility Number: 3.1010

This study was reviewed by API Quality Assurance personnel under the direction of API Management on the dates indicated below for compliance with FDA Good Laboratory Practice (GLP) regulations. These studies were conducted in accordance with FDA GLP regulations, with the exceptions listed on page two of this statement.

Copies of reports by API Quality Assurance personnel are available upon written request to the Director of the Health and Environmental Sciences Department of the American Petroleum Institute or his designee.

Date(s) of Inspection/Review	Type of Inspection	Date of Report to Management
9/21/90	Pre-study Site Visit	9/28/90
12/14/90	Protocol Evaluation	12/14/90
3/4-5/91	Laboratory Inspection and Data Audit	3/12/91
4/12/91	SOP Review	4/12/91
5/13/91	Laboratory Inspection and Data Audit	5/22/91
4/21-23/92	Draft Report Audit	4/30/92
6/30/92	Second Draft Report Review	6/30/92
8/3/92	Final Report Acceptance	8/3/92

Christine Sexsmith
Christine Sexsmith
Quality Assurance Coordinator

8/3/92
Date

Study Title: A 90-Day Feeding Study in the Rat with Six Different White Mineral Oils, Three Different Waxes, and Coconut Oil.

Testing Facility: BIBRA Toxicology International

Testing Facility Number: 3.1010

The following GLP deviations were noted during audits/inspections of the laboratory and data:

1. Test article storage stability was not obtained per 40 CFR Part 58.105 of the FDA GLP regulations.

2. Test article characterization was not the responsibility of API and it is not known whether it was performed in conformance with GLP regulations.

3. Methods and results of histopathological examination of Sudan IV stained tissues, required by protocol, are not included in this report.

A 90-Day Feeding Study in the Rat with Six Different White Mineral Oils (N15 (H), N70 (H), N70 (A), P15 (H), N10 (A), and P100 (H), Three Different Mineral Waxes (a Low Melting Point Wax, a High Melting Point Wax and a High Sulphur Wax) and Coconut Oil

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A 90-day feeding study in the rat with six different mineral oils (N15 (H), N70 (H), N70 (A), P15 (H), N10 (A) and P100 (H), three different mineral waxes (a low melting point wax, a high melting point wax and a high sulphur wax) and coconut oil

BIBRA Project No: 3.1010

VOLUME 1: Report text and Tables

STUDY TITLE

A 90-day feeding study in the rat with six different white mineral oils (N15 (H), N70 (H), N70 (A), P15 (H), N10 (A) and P100 (H)), three different mineral waxes (a low melting point wax, a high melting point wax and a high sulphur wax) and coconut oil

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STUDY COMPLETED ON

23 July 1992

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Belgium

LABORATORY PROJECT IDENTITY

Project No. 3.1010

Report No. 1010/3/92

Critical Phase	QAU Inspection date	QAU Report sent to Study Director	QAU Report, Management Acceptance date
Section cutting and mineral oil staining	23 October 1991	29 October 1991	31 October 1991
Microscopic examination	11 + 12 February 1992	18 February 1992	20 February 1992

Data/Report Audits

The data for this study and the draft and final reports were audited between 20 May 1991 and 23 July 1992, with QAU reports received by the Study Director between 22 May 1991 and 23 July 1992. Audit reports were accepted by BIBRA Management between 30 May 1991 and 23 July 1992.

Protocol deviations
The following deviations from the final protocol were noted during the conduct of the study:

i) The following staff changes occurred during the course of the study:-

Deputy Study Director left BIBRA employ in December 1991.
Pathologist: from April 1992 - W.H. Butler, MB, BS, MRCS, LRCP, FRCPath, FATS.
Quality Assurance: from October 1991 - H.J. Lock, FIMLS; from April 1992 - P.B. Ellis, BSc.
Dr Brantom's role within BIBRA changed to Head of Customer and Information Services Division with effect from 14 April 1992
Director: from October 1991 - S.E. Jaggers, BSc, PhD, MIBiol.

ii) Analytical results for the mixing efficiency study samples and the study diet samples were outside the defined acceptability limits.

iii) The mixing procedure was not modified.

iv) Day 14 stability analyses for white oils N70 (A) and P15 (H) were performed on Days 16 + 15 respectively. Stability analysis results were unavailable for a number of time points for some test articles.

v) The temperature and relative humidity in the animal rooms were outside the defined range on several occasions.

vi) Details of the histopathological examination of Sudan IV stained tissues are not included within the final report.

Quality Assurance
P.B. Ellis, BSc.

Signature Paul B. Ellis Date 24th July 1992

CHRONOLOGY OF STUDY AND LOCATION OF RAW DATA

Delivery of first batch of animals	: 18 February 1991
First day of treatment of male animals from first batch	: 26 February 1991
First day of necropsy	: 28 May 1991

Archives

All raw data, any relevant specimens and a copy of the final report are retained in the BIBRA Archives under the appropriate reference unless specifically requested by the sponsor. Specimens will be retained as long as they afford evaluation or at least 10 years.

SUMMARY

The study was designed to investigate the biological effects of six mineral oils and three petroleum waxes representative of those used in food processing and food contact applications. The oil samples were chosen to reflect differences in crude oil source (naphthenic or paraffinic origin), route of manufacture (acid or hydrogenation process) and viscosity. The waxes were selected on the basis of method of manufacture and melting point. An oil of biological origin (coconut oil) was included as a control material.

Groups of 20 male and 20 female Fischer 344 rats were fed diets containing one of six different white mineral oils (N15 (H), N70 (H), N70 (A), P15 (H), N10 (A) and P100 (H)) or one of three different mineral waxes (a low melting point wax, a high melting point wax and a high sulphur wax) at dose levels of 0.002%, 0.02%, 0.2% and 2.0% for 90 days. Groups of 60 males and 60 females were fed the control diet for the same period of time. A further group of 20 males and 20 females were fed diet containing 2% coconut oil. These animals comprised the main study. Additional groups of 10 males and 10 females were fed diet containing test article at the 2% level or coconut oil at the 2% level for 90 days followed by a 28 day period on control diet. Groups of 30 male and 30 female animals were fed control diet for the same period of time. These animals comprised the reversal study.

An additional study was carried out simultaneously with groups of 5 male and 5 female animals receiving control diet, diet containing test article at the 2% level or coconut oil at the 2% level for 90 days (tissue level study) and further groups of 5 male and 5 female animals receiving control diet, diet containing test article at the 2% level or coconut oil at the 2% level for 90 days followed by a 28 day period on control diet (tissue level reversal study).

All animals were monitored for body weight, food intake and clinical condition and an ophthalmic examination was performed prior to treatment and prior to necropsy on the main and reversal study animals. Main study and reversal study animals were subject to a full necropsy with a selection of organs weighed and a comprehensive list of tissues retained. Blood samples were

collected at necropsy and a full range of haematological parameters measured. Serum was separated from the blood samples and a range of clinical chemistry parameters measured. All tissues from the high dose and control groups were processed and examined by light microscopy. Liver, lymph nodes, spleen, kidney, small intestine and lung only from all the intermediate dose level animals were processed and examined by light microscopy.

A limited list of tissues were collected from the tissue level and tissue level reversal animals, weighed and the level of mineral hydrocarbon material present in the tissues determined. Serum vitamin E levels were measured in samples collected from these animals.

A wide spectrum of effects were seen during the course of the study. With some test articles (white oil P100 (H), high melting point wax and high sulphur wax) no treatment related effects were seen. For the other test articles the effects, when present, were qualitatively similar but they differed in magnitude depending on the nature of the material tested. Generally, effects were more severe in female than male animals.

Treatment related effects were seen in liver and mesenteric lymph node. The liver effects comprised increased organ weight, small increases in serum liver enzyme levels, tissue accumulation of mineral hydrocarbon material and the development of granulomatous tissue. In general, the effects were confined to the higher dose levels. The effects in the mesenteric lymph node were similar comprising an increase in weight, an accumulation of mineral hydrocarbon material and the appearance of histiocytosis. Histiocytosis was observed at the 0.02% dose level for N10 (A), P15 (H), N70 (A), N70 (H) and at the 0.002% level for N15 (H) and the low melting point wax.

With high doses of some test articles, kidney weight and spleen weight were both increased but with no associated histopathological findings.

Haematological changes were seen at the higher doses of some test articles and comprised a small decrease in red blood cell count in female animals only and an increase in white blood cell count in both sexes.

Most effects of treatment showed some signs of reduced severity after the 28 day reversal period. However, while there appeared to be a slight reduction in severity of the histological changes seen in the lymph node and liver with some test articles (low melting point wax and white oils N10 (A), P15 (H) and N15 (H)) others seemed to be unchanged or increased at the end of the reversal period. There was no clear evidence of a substantial reversibility of the effect within 28 days.

No effects of treatment were seen with coconut oil.

The various test articles examined in the study varied widely in their biological effects. In general the magnitude of effects was greatest with the white oils N10 (A), P15 (H) and N15 (H) and the low melting point wax. The white oils N70 (A) and N70 (H) produced a spectrum of biological effects but these were of a lower magnitude. The high melting point wax and high sulphur wax and the white oil P100 (H) were without effect.

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VOLUME 2

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1. INTRODUCTION

Background

Historically, white oils and waxes have an established use in applications related to food processing and packaging. For a large number of years, these materials were produced by acid (oleum) treatment of solvent-extracted refinery streams to yield products of the required physical and technical specification. More recently, however, this "conventional" route of manufacture has been supplanted by a hydrogenation process ("hydro-treatment"). Extensive analytical data comparing products produced by both techniques were obtained (Concawe, 1984) and formed the basis of an industry conclusion that hydrotreatment oils were, in many respects, highly similar to their acid treated counterparts.

No toxicological information was available to support the safety-in-use of either class of product, resulting in regulatory calls for studies to support the continued use of these materials. Independent studies were conducted during the 1980s by at least two companies to compare the biological effects of hydrotreated versus acid-treated oils (American Petroleum Institute, 1992). Fundamentally, these studies produced some conflicting results with respect to accumulation of the mineral oils and the effects observed in certain organs (liver, spleen and mesenteric lymph nodes). Several differences between these studies that were possibly related to the test material led to selection of a number of variables to be evaluated in this subsequent 90 day feeding study. These included crude oil type (naphthenic and paraffinic), refining process (acid-treated versus hydrogenation) and viscosity for mineral oils or melting point for waxes. Likewise, these variables for mineral oils were also identified by the EC SCF in their 1990 list of substances approved for food packaging for which additional toxicity data were required.

Sample selection

Based on information provided to Concawe on typical ranges for food-grade mineral hydrocarbon products, samples were selected to represent products

currently in use in the market place in Europe. Consideration was also given to those products produced in the US since many products which contain food-grade mineral hydrocarbons are marketed internationally.

Samples were selected as follows:

1. low viscosity paraffinic, hydrogenated (P15 (H))
2. high viscosity paraffinic, hydrogenated (P100 (H))
3. low viscosity naphthenic, hydrogenated (N15 (H))
4. high viscosity naphthenic, hydrogenated (N70 (H))
5. low viscosity naphthenic, acid treated (N10 (A))
6. high viscosity naphthenic, acid treated (N70 (A))
7. hydrotreated paraffinic wax; low melting point (low melting point wax)
8. hydrotreated microcrystalline wax, high melting point (high melting point wax)
9. clay treated microcrystalline wax (high sulphur wax)

As a consequence of the different refining process, the sulphur content will be higher in the clay treated wax. Therefore it was referred to as "high sulphur wax".

In addition to an untreated control group, an oil of biological origin was selected as another type of control to assist in determining whether other saturated oils accumulate in the body and in evaluating the effect of high dietary oil content on absorption of food and fat-soluble nutrients. Coconut oil was selected as a biologically-derived oil which is similar in terms of degree of saturation (92% saturated, 6% mono-unsaturated, 2% polyunsaturated) and carbon chain length (C_8-C_{20}) to the lowest viscosity liquid mineral oil products.

The viscosity of oils selected to represent a "low" or "high" viscosity product do not, and are not intended to, represent the extreme values for these parameters and for those products currently marketed. They are, however, "close to the extremes" and, thus, are considered representative.

Protocol considerations

The protocol design was selected to represent a compilation of those referenced by OECD, EEC and US FDA guidelines for 90 day studies.

Strain selection

The Fischer 344 rat strain was chosen because it had been used in a previous study (Baldwin *et al.*, in press).

Dose selection

Ten-fold decremental dietary concentrations of mineral hydrocarbons, from 2% to 0.002% (w/w), were selected based on concentrations where effects were observed in previous studies. Previous studies indicated that biological effects occurred at dietary concentrations of 2.0, 0.2 and 0.02%, but that the no observable effect level (NOEL) exceeded 0.002%. Based on rat food consumption, these concentrations result in approximate average daily consumption values of 1500, 150, 15 and 1.5 mg mineral hydrocarbon/ kg body weight/day. These concentrations were considered to represent an adequate dose range for risk assessment purposes.

2. MATERIALS

2.1. Test articles

The test articles were supplied by the sponsor. The mineral oils were colourless liquids and the mineral waxes were white solids. The mineral waxes were powdered prior to use. The sponsor's certificates of analysis are shown in Appendix 1.

Coconut oil was purchased from Sigma Chemical Company Ltd., Poole, Dorset, England.

All test articles were stored at room temperature, in the dark and all containers were flushed with a stream of nitrogen prior to storage following each occasion of use.

2.2. Animals and maintenance

Male and female rats of the Fischer 344 strain aged approximately 4 weeks with a narrow weight and birth date range were obtained from a barrier-maintained colony (Harlan Sprague Dawley Inc, PO Box 29176, Indianapolis, IN 46229, USA). They were housed in polypropylene cages with stainless-steel grid tops and floors, suspended over paper for removal of excreta. Each cage housed five rats of the same sex and treatment group. The animals were kept in the study room for a minimum of 7 days (male) or 13 days (female) prior to the first treatment to allow them to acclimatize to the environmental conditions. Each cage carried a label identified with the following:

- BIBRA Project No. 3.1010
- Study Director (Nan Worrell)
- Project licence number
- identification numbers of animals contained
- sex of animals contained
- treatment of animals contained and the dates of starting treatment
- date of necropsy

Labels were colour coded for groups and this code extended to the bulk containers of test article:diet mixture.

The cages were held on racks in rooms used solely for this study and controlled to the following conditions:

- temperature	: 19-24°C
- relative humidity	: 45-70%
- light	: artificial, 12 hr light (06.00-18.00 hr GMT); 12 hr dark
- air changes	: minimum 15/hr with no recirculation using high efficiency filters

The rats were fed a nutritionally adequate powdered diet (Rat and Mouse No.1 maintenance diet, Special Diets Services Ltd, Witham, Essex) in stainless steel pots designed to limit spillage. Diets from batch Nos. 5587, 5786 and 6051 were used and copies of the manufacturer's analysis certificates are shown in Appendix 2. Domestic mains tap water was supplied to each cage in bottles fitted with a stainless steel drinking valve. Samples of this water are taken on a regular (6-monthly) basis from the BIBRA facility by the supplying authority. The records of these analyses are retained on a central file.

It was not considered that any of the contaminants present in the food and water adversely affected the outcome of the study.

3. EXPERIMENTAL DESIGN

3.1. Assignment to treatment groups and animal identification

The study comprised a basic 90-day study at four dose levels for each test article and at the top dose level only for coconut oil, with 20 animals of each sex per group and 60 control animals of each sex (the main study), a reversibility study at the top dose level only with 10 animals of each sex per group and 30 control animals of each sex, with a 90-day feeding period followed by a 28 day recovery period (reversal study), a tissue level study at the top dose level only and control with five animals of each sex per group taken for necropsy after 90 days (tissue level study) and a tissue level reversibility study at the top dose level only and control with five animals of each sex per group with a 90-day feeding period followed by a 28-day recovery period (tissue level reversal study).

The treatment groups and animal identification numbers are shown in the table overleaf. Each animal was given a unique identification number indicated by an ear-punch code.

3.2. Randomisation

On receipt of each batch of animals they were weighed and then allocated to five weight bands containing equal numbers of animals. Animals were assigned to cages by a random number technique such that each cage contained one animal from each weight band.

Treatment groups and animal identification

			Animal numbers					
			Main		Reversal		Tissue Level and Tissue Level Reversal*	
Group	Treatment (% in diet)	Test article	M	F	M	F	M	F
1	0	Control	1-20	801-820	1601-1610	1731-1740	1861-1870	1971-1980
2	0	Control	21-40	821-840	1611-1620	1741-1750		
3	0	Control	41-60	841-860	1621-1630	1751-1760		
4	0.002	Oil 1	61-80	861-880				
5	0.02	Oil 1	81-100	881-900				
6	0.2	Oil 1	101-120	901-920				
7	2.0	Oil 1	121-140	921-940	1631-1640	1761-1770	1871-1880	1981-1990
8	0.002	Oil 2	141-160	941-960				
9	0.02	Oil 2	161-180	961-980				
10	0.2	Oil 2	181-200	981-1000				
11	2.0	Oil 2	201-220	1001-1020	1641-1650	1771-1780	1881-1890	1991-2000
12	0.002	Oil 3	221-240	1021-1040				
13	0.02	Oil 3	241-260	1041-1060				
14	0.2	Oil 3	261-280	1061-1080				
15	2.0	Oil 3	281-300	1081-1100	1651-1660	1781-1790	1891-1900	2001-2010
16	0.002	Oil 4	301-320	1101-1120				
17	0.02	Oil 4	321-340	1121-1140				
18	0.2	Oil 4	341-360	1141-1160				
19	2.0	Oil 4	361-380	1161-1180	1661-1670	1791-1800	1901-1910	2011-2020
20	0.002	Oil 5	381-400	1181-1200				
21	0.02	Oil 5	401-420	1201-1220				
22	0.2	Oil 5	421-440	1221-1240				
23	2.0	Oil 5	441-460	1241-1260	1671-1680	1801-1810	1911-1920	2021-2030
24	0.002	Oil 6	461-480	1261-1280				
25	0.02	Oil 6	481-500	1281-1300				
26	0.2	Oil 6	501-520	1301-1320				
27	2.0	Oil 6	521-540	1321-1340	1681-1690	1811-1820	1921-1930	2031-2040
28	0.002	Wax A	541-560	1341-1360				
29	0.02	Wax A	561-580	1361-1380				
30	0.2	Wax A	581-600	1381-1400				
31	2.0	Wax A	601-620	1401-1420	1691-1700	1821-1830	1931-1940	2041-2050
32	0.002	Wax B	621-640	1421-1440				
33	0.02	Wax B	641-660	1441-1460				
34	0.2	Wax B	661-680	1461-1480				
35	2.0	Wax B	681-700	1481-1500	1701-1710	1831-1840	1941-1950	2051-2060
36	0.002	Wax C	701-720	1501-1520				
37	0.02	Wax C	721-740	1521-1540				
38	0.2	Wax C	741-760	1541-1560				
39	2.0	Wax C	761-780	1561-1580	1711-1720	1841-1850	1951-1960	2061-2070
40	2.0	Oil N	781-800	1581-1600	1721-1730	1851-1860	1961-1970	2071-2080

Oil 1 = White Oil N15 (H); Oil 2 = White Oil N70 (H); Oil 3 = White Oil N70 (A); Oil 4 = White Oil P15 (H)
Oil 5 = White Oil N10 (A); Oil 6 = White Oil P100 (H); Wax A = Low Melting Point Wax; Wax B = High Melting Point Wax; Wax C = High Sulphur Wax; Oil N = Coconut Oil; M = Male; F = Female

* First five animals in each group of ten - tissue level study; last five animals in each group of ten - tissue level reversal study

3.3. Phasing of the study

Due to the large number of animals involved, the study was commenced over a period of eight weeks. The phasing was as follows:

Week 1 - groups 1-40 main study males with five lowest identification numbers (batch 1)

Week 2 - groups 1-40 main study females with five lowest identification numbers (batch 1)

Week 3 - groups 1-40 main study males with next five identification numbers and all males on tissue level and tissue level reversal study (batch 2)

Week 4 - groups 1-40 main study females with next five identification numbers and all females on tissue level and tissue level reversal study (batch 2)

Week 5 - groups 1-40 main study males with next five identification numbers (batch 3)

Week 6 - groups 1-40 main study females with next five identification numbers (batch 3)

Week 7 - groups 1-40 main study males with five highest identification numbers and all male animals on the reversal study (batch 4)

Week 8 - groups 1-40 main study females with five highest identification numbers and all female animals on the reversal study (batch 4)

All female animals were one week older than male animals at the start of treatment. The batch numbers refer to the four separate deliveries of animals.

3.4. Administration of test article

The test articles were given as a constant concentration in the diet of each group.

3.5. Duration of treatment

Each test article was available continuously for at least 90 days. Animals designated for reversal studies reverted to control diet after 90 days of treatment and received control diet for 29, 30, 31 or 32 days prior to necropsy.

4. METHODS

4.1. Method of analysis of mineral oils and waxes in rodent diet

Samples of diet (between 2 and 20 g, depending on dose level) were extracted on a multiple vortex mixer for 5 minutes and then in an ultrasonic bath at 40°C for 30 minutes with carbon tetrachloride (50 or 100 ml). An appropriate aliquot of the extract was mixed well with Florisil (6 g) and the mixture filtered to a known volume. The filtrate was mixed well with Florisil (1 g), filtered and the infra-red absorbance, in the C-H stretching region, of the second filtrate measured against a carbon tetrachloride background using a Fourier Transform infra-red spectrometer. The concentration of test article was determined by comparison with standard solutions of the appropriate test article. Samples of control diet were also extracted and the measured concentration of test article subtracted from the measured test article concentration in the test diets. Results were corrected for recovery. Recovery of mineral hydrocarbon from the diet was estimated to be between 53 and 55% in the case of the oils and between 45 and 49% in the case of the waxes.

By the method of analysis used, hydrocarbons were seen in control diet at levels of 10-70 ppm. To define whether the background level of hydrocarbon absorbance observed in the control diets during the feeding study was due to mineral oil contamination of the diet or to residual endogenous lipid material carried through the clean-up procedure, further studies were conducted. Control diet, from a batch used for study diet preparation was spiked at 2% by weight with white oil N15 (H) and diluted with further diet to 0.02% and 0.002%. Samples of control, 0.002% and 0.02% diets were extracted with carbon tetrachloride, the extracts purified from endogenous lipid on Florisil and mineral hydrocarbon quantitated by Fourier Transform infrared spectrometry. Samples were then subject to a further treatment to remove any remaining endogenous lipid. This comprised either column chromatography on basic alumina with carbon tetrachloride extraction or alcoholic potassium hydroxide hydrolysis with Florisil treatment.

Basic alumina treatment permitted quantitative recovery of mineral oil but did not decrease the measured level of mineral hydrocarbon material in the control diet. Alkaline hydrolysis did reduce the apparent background level of absorbance in the control diet. However, the apparent level of mineral hydrocarbon in the oil spiked diets was also reduced to a similar extent by this treatment. These results indicate that the background absorbance observed in the control diet throughout the study is due to the presence of mineral hydrocarbon and not residual lipid or an artefact of the sample preparation.

4.2. Method of analysis of coconut oil in rodent diet

Samples of powdered diet (2 g) were extracted on a multiple vortex mixer for 5 minutes and then in an ultrasonic bath at 40°C for 30 minutes with carbon tetrachloride (100 ml). A sample (10 ml) of this extract was filtered to a known volume and the infra-red absorbance, in the C-H stretching region, of the filtrate measured using a Fourier Transform infra-red spectrometer. The concentration of coconut oil in the diet was determined by comparison with standard solutions. Samples of control diet were also extracted and the measured concentration of test article subtracted from the measured test article concentration in the test diets. Results were corrected for recovery. Recovery of coconut oil from the diet was estimated to be approximately 73%

4.3. Mixing of mineral oils and waxes and coconut oil with rodent diet

Generation of powdered waxes

Powdered wax was prepared by generating a fine spray of molten wax which, on cooling, formed a fine powder. The fine spray was generated by drawing molten wax through an atomiser with a stream of nitrogen. The atomiser was located in the base of a large glass chamber which contained the spray and resultant powder and prevented any contamination. The wax particles formed from the spray were allowed to settle and were removed from the chamber into clean containers for storage.

All powders were generated using the same system with variation of temperature and flow rate to provide the finest possible particle size. To ensure homogeneity of wax containing diets the waxes and diets used to prepare the pre-mixes were cooled overnight at approximately -20°C before use.

Preparation of test diets

The quantity of compound (mineral oil, wax or coconut oil) calculated to give a 10% mixture was weighed into a known quantity of diet and mixed gradually using an electric hand mixer. This was then blended with further diet using a paddle mixer to give a 2% mixture. The 0.2%, 0.02% and 0.002% diets were prepared by serial dilution. Each preparation was mixed in a mechanical blender for fifteen minutes.

To ensure homogeneity of coconut oil containing diets, this material was melted by heating to 40°C before mixing and the diet used to make the 10% coconut oil pre-mix was also warmed to 40°C prior to use to ensure even distribution of the test article whilst the coconut oil was still molten.

4.4. Efficiency of mixing mineral oils and waxes and coconut oil with rodent diet

Batches of diet were prepared to contain the test articles at the lowest and highest concentrations intended for use. Six samples taken from various parts of each mixture were analysed for the concentration of test article.

4.5. Stability of mixing mineral oils and waxes and coconut oil with rodent diet

For storage stability studies, samples of the diets prepared to contain test article at the lowest and highest concentrations intended for use were stored in closed metal containers at room temperature and the test article concentration measured after 3, 7 and 14, 15 or 16 days. Samples of the same diets were also placed in animal feed pots and exposed to the atmosphere in an animal room. They were analysed for test article after 1 and 4 days.

4.6. Preparation of study diets

Diet mixtures were prepared weekly. At approximately monthly intervals duplicate samples of study diets were taken for analysis. Diet mixtures were stored at room temperature in sealed metal containers prior to use.

4.7. Observations during the study

Daily records were kept of the humidity and maximum and minimum temperature of the animal room. Each animal was examined daily in its cage and any variation in its appearance, the appearance of its excreta or of its behaviour was noted. Once weekly a more detailed examination was carried out at the time of a weighing.

Body weight

The rats were weighed individually three or four days before treatment, on the first day of treatment and then twice weekly until killed.

Food intake

Food intake for each cage of rats was measured over the intervals between body weight measurements.

Ophthalmological examination

All high dose and control animals were examined during the week preceding treatment and during the last week of treatment. Both eyes were examined by direct and indirect ophthalmoscopy. The examination included the lids, conjunctivae, cornea, anterior chamber, iris, lens, vitreous body and fundus.

4.8. Necropsy examination

Main study and reversal study animals

The main study examinations were phased over four days for each sex from each batch of animals. The reversal examinations were phased over three days for each sex. On each day the rats from the various groups were examined in random order. Prior to necropsy the rats were deprived of food overnight, with water available. On the day of necropsy each animal was weighed and then killed by exsanguination from the dorsal aorta under barbiturate anaesthesia. During the necropsy any abnormalities were noted.

The following organs were weighed from those animals scheduled for full necropsy:

- adrenal glands
- brain
- caecum (with and without contents)
- heart
- kidney
- liver
- ovaries
- spleen
- testes
- thymus

Samples of the following tissues were retained in 10% neutral buffered formalin:

- adrenal glands
- artery (aorta)
- bladder
- brain
- caecum
- colon
- cervix uteri
- diaphragm
- duodenum
- epididymis
- extra orbital lachrymal glands
- eye
- femur
- Harderian gland
- heart
- ileum (including Peyer's patches)
- jejunum
- kidneys
- liver (representative samples from each lobe)
- lungs (with main stem bronchi)
- lymph nodes (axillary, cervical and mesenteric)
- mammary gland (inguinal region)
- nasal bones
- nerve (sciatic taken together with surrounding muscle)
- oesophagus
- ovaries
- pancreas
- perirenal fat
- pinnae (retained for identification only)
- pituitary

- prostate
- rectum
- salivary gland
- seminal vesicles
- skeletal muscle
- skin (inguinal region)
- spinal cord
- spleen
- sternum
- stomach
- testes
- thymus
- thyroid/parathyroid glands (retained on trachea)
- tongue
- trachea
- uterine horns
- vagina
- vein (posterior vena cava)

In addition samples of the following tissues from high dose and control animals only were retained in formol calcium:

- liver
- spleen
- small intestine
- mesenteric lymph nodes

Tissue level study and tissue level reversal study animals

Animals designated to provide tissues for analysis were killed by exsanguination under barbiturate anaesthesia and the following tissues weighed and taken for analysis:

- liver (random samples from periphery of all lobes)
- mesenteric lymph nodes (all tissue)

- kidney (1 kidney)
- spleen (approximately half)
- perirenal fat (random sample)

4.9. Haematology

Blood samples were collected from the aorta of all animals on the main and reversal studies at necropsy and examined for:

- total erythrocyte count
- total leucocyte count
- haemoglobin concentration
- mean cell volume
- haematocrit (by calculation)
- platelet count
- differential leucocyte count
- reticulocyte count
- prothrombin time

4.10. Clinical chemistry

Serum was separated from blood collected at necropsy from the main and reversal study animals and analysed for:

- glucose concentration
- urea concentration
- total protein concentration
- albumin concentration
- alkaline phosphatase activity
- alanine aminotransferase activity
- aspartate aminotransferase activity
- albumin/globulin ratio
- creatinine
- calcium
- phosphorus (as phosphate)
- chloride

- total bilirubin
- sodium
- potassium
- gamma glutamyl transferase

4.11. Tissue analysis for mineral hydrocarbon content

Samples of up to approximately 1 g of tissue were homogenised in 70% potassium hydroxide solution (1.5-5 ml) using an Ultraturrax single-blade homogeniser. The homogenate was sonicated for 10 minutes in an ultrasonic bath maintained at 60°C. Carbon tetrachloride (10 or 20 ml) was added to each sample and sonicated for 30 minutes at 60°C, mixing occasionally by hand. The layers were separated using centrifugation if necessary. Extraction columns were prepared by weighing 3-5 g deactivated Florisil into sintered glass filter tubes (one for each extract to be processed). An aliquot of the lower, organic phase was poured onto the extraction column, the eluate collected and the column washed with carbon tetrachloride to a known final volume. The infra-red absorbance, in the C-H stretching region, of the eluate was measured against a carbon tetrachloride background using a Fourier Transform infra-red spectrometer. The concentration of mineral hydrocarbon in the tissue was calculated by comparison with appropriate standards.

4.12. Vitamin E analysis

Plasma was separated from the blood collected at necropsy from the animals designated to provide tissues for analysis and analysed for vitamin E (α-tocopherol). Samples were saponified, extracted with hexane and analysed by HPLC using fluorimetric detection.

4.13. Histological examination of tissues

A microscopic examination was made of haematoxylin and eosin stained sections prepared from wax embedded samples of all the preserved tissues from the control group, the high dose group and from lung, liver, kidney,

spleen, small intestine and mesenteric lymph nodes of all other groups. All lung sections were examined for evidence of infection.

4.14. Analysis of data

The continuous variable data from the control and test groups were tested for normality using the Kolmogorov-Smirnov (K.S.) test and homogeneity of variance using Bartlett's test. Statistical significance was determined to be at $p<0.05$ in a K.S. test and at $p<0.01$ in a Bartletts test. If both tests were non-significant, the control and test groups were compared using analysis of variance followed by the least significant difference (L.S.D.) test.

If either test produced a significant result, a suitable transformation was attempted. If the transformed data resulted in a non-significant Bartlett's test but a significant K.S. test, the Wilcoxon Mann-Whitney test was used. If the transformed data resulted in a non-significant K.S. test but a significant Bartlett's test, an appropriate t-test was used, based on whether a pooled variance was suitable or not.

If no suitable transformation could be made, one of the above tests was selected as the most appropriate based upon the nature and distribution of the data.

Where levels of significance are reported in the tables for transformed data the means and standard deviations are reported for the untransformed data.

The results of the Mann-Whitney and t-tests were compared with the L.S.D. test. In most cases, the L.S.D. test was reported. However, if large differences between tests were evident, other test results were reported as appropriate unless the data was deemed to be highly variable and there was no evidence to justify the removal of outliers.

Incidence data from the histopathological examination was tested for differences between treated and control animals using Fisher's exact test. Mann-Whitney tests were performed on incidence data graded by severity.

In all test comparisons, a probability level of $p<0.05$ in a two-sided test was taken to indicate statistical significance.

5. RESULTS

5.1. Homogeneity and stability studies

Preliminary investigations demonstrated that the method of test article analysis was insufficiently precise, particularly at lower dietary concentrations of test article, to support the protocol criteria for acceptability of the mixing procedure (mean concentration of 90-110% of expected, and a coefficient of variance of the six samples of less than 10%). All 2% diets did have a coefficient of variance of less than 10%, except for the low melting point wax where the value was 11.9% and all test diets at the 2% level had a mean analysed concentration between 80 and 120% of nominal. These results were considered adequate confirmation of homogeneity of the 2% test diets and of a satisfactory method of mixing within the limitations of the analytical method. At the 0.002% level the analytical method was not capable of a precision better than ± 50%. The results generally fell within these limits and suggest the dilution procedure was satisfactory (Appendix 3). Analysis of study diets confirmed that the mixing procedure was adequate (see Section 5.3.). The stability studies were similarly constrained by the limitations of the analytical method on on occasion scheduled analyses were not performed. From Appendix 4 it is, however, apparent that there was no obvious loss of test article from the diet on storage in either open (4 days) or closed (14 days) containers and the data are considered adequate to confirm stability of the test diets under conditions of use. The method of analysis employed in the study measured total mineral hydrocarbon and would probably not have detected any change in the nature of the material.

5.2. Environmental conditions

The temperature and percentage relative humidity recorded in the animal rooms are shown in Appendices 5-8. Temperature and percentage relative humidity were slightly outside protocol limits on a number of occasions during the study. These minor deviations are not considered to have affected the outcome of the study.

5.3. Analysis of study diets

On five occasions during the study, test diets were analysed for test article concentration as a check of correct preparation. The results are shown in Appendix 9. Results were often variable and on a number of occasions mean values of replicate analyses are reported. However, in general, within the limitations of the analytical method (2% diet ± 0.4%, 0.2% diet ± 0.04%, 0.02% diet ± 0.004% and 0.002% diet ± 0.001%) most study diets analysed were shown to contain the nominal concentration, further confirming that the method of mixing was adequate.

On occasions during the study samples of diet from batches which had been analysed prior to feeding were taken from the food pot at the end of the feeding period for analysis as a check on the stability of the test article/diet mixtures. These values are shown in Appendix 9. These results confirm the stability of the test article/diet mixtures on storage and during use.

5.4. Observations of condition and behaviour

There were occasional abnormal observations of condition including occasional fur loss, red staining around eyes, overgrown teeth and very occasional staining of genital area. These findings are considered normal in animals of this age and strain and no findings were considered to be treatment related (Appendices 10 and 11).

5.5. Body weights

Body weights for the main study groups are shown in Tables 1 and 5, for the reversal study in Tables 2 and 6, for the tissue level study in Tables 3 and 7 and for the tissue level reversal study in Tables 4 and 8.

Body weights for some groups showed occasional periods when the values were statistically significantly different from control, however generally they did not vary by more than 10%. These differences were not consistent between the sexes on the various studies and were not dose-related.

5.6. Food intakes

There were four cages of animals per group on the main study (twelve cages of controls) and the results for these groups are shown in Tables 9 and 13. There were two cages of animals per group on the reversal study (six cages of controls) and the results for these groups are shown in Tables 10 and 14. There was one cage of animals per group on the tissue level and tissue level reversal studies thus statistical analysis on these groups could not be performed. The individual values for each of these cages are shown in Tables 11 and 15 (tissue level study) and 12 and 16 (tissue level reversal study).

During the first month of the study, the only consistent statistically significant effect on food intake in male animals was an increase in food intake by animals receiving white oil N70 (A) at 2% in the diet. Subsequently, a statistically significant increase in food intake in male animals was a common finding in the high dose test article groups and in the coconut oil treated group. In the second and third months of the study males receiving the highest dose of all test articles including coconut oil generally consumed more food than did controls. The difference was frequently statistically significant but generally did not differ by more than 10%. There was evidence for a similar effect in female animals but the effect was less pronounced.

In general, statistically significant differences in food intakes between treated groups and controls disappeared during the reversal period.

5.7. Calculated intakes of test article

The intakes of each test article for the main, reversal, tissue level and tissue level reversal studies were calculated as mg/kg bodyweight/day for each cage of rats over each food intake interval. Intakes were calculated on the basis of the nominal concentration of test article in the diet. The mean intakes per group are shown in tables 17-24. The average intake during the whole study for each test article for each separate study is shown in the following tables.

Mean calculated intakes of test articles over 90-day feeding period

MALE

TREATMENT	DOSE LEVEL (% IN DIET)						
	MAIN				REVERSAL	TISSUE LEVEL	TISSUE LEVEL REVERSAL
	0.002	0.02	0.2	2.0	2.0	2.0	2.0
White oil N15 (H)	1.677	17.96	175.7	1814	1787	1837	1792
White oil N70 (H)	1.696	17.80	181.4	1832	1882	1875	1910
White oil N70 (A)	1.652	17.61	180.7	1866	1874	1888	1854
White oil P15 (H)	1.664	17.70	176.8	1831	1854	1886	1898
White oil N10 (A)	1.723	17.77	175.0	1816	1856	1813	1761
White oil P100 (H)	1.679	17.88	176.4	1813	1809	1844	1803
Low melting point wax	1.702	17.78	180.0	1793	1855	1816	1816
High melting point wax	1.662	17.59	177.6	1837	1815	1816	1810
High sulphur wax	1.679	17.61	177.8	1821	1853	1871	1861
Coconut oil				1817	1777	1772	1780

FEMALE

TREATMENT	DOSE LEVEL (% IN DIET)						
	MAIN				REVERSAL	TISSUE LEVEL	TISSUE LEVEL REVERSAL
	0.002	0.02	0.2	2.0	2.0	2.0	2.0
White oil N15 (H)	2.037	19.35	187.7	1946	1950	1923	1951
White oil N70 (H)	2.019	19.01	193.6	1967	2011	1966	1939
White oil N70 (A)	1.990	18.61	188.0	2025	1959	2004	1962
White oil P15 (H)	1.967	18.93	187.7	1952	1925	1952	1935
White oil N10 (A)	2.056	18.59	182.9	1914	1926	1910	1883
White oil P100 (H)	1.960	18.98	186.3	1951	1956	1991	2004
Low melting point wax	1.998	18.81	191.3	1869	1901	1949	1836
High melting point wax	1.958	19.14	190.4	1952	1988	1970	1976
High sulphur wax	1.946	18.68	190.9	1934	1932	1922	2006
Coconut oil				1992	1915	1864	1943

Values shown are in mg/kg body weight/day
Data derived from Tables 17-24

During the early part of the study animals received approximately 25% more than the mean figure and during the later weeks of the study approximately 25% less than the mean figure.

5.8. Ophthalmological observations

Occasionally, abnormalities were found both prior to and following treatment. However, there were no findings that were indicative of a treatment related effect.

5.9. Organ weights

The weights of adrenals, kidneys, testes/ovaries, thymus, heart, brain, liver, spleen and full and empty caecum were measured for animals on the main and reversal studies (Tables 25-32). For animals on the tissue level and tissue level reversal studies only liver, kidney, spleen, mesenteric lymph node and perirenal fat were weighed (Tables 33-40). The organ weight data for each of the studies are considered below on an organ by organ basis. Statistically significant findings were not considered to be treatment related unless a dose-related trend was apparent.

Adrenals

There were occasional statistically significant findings but none that were considered to be treatment related.

Kidneys

There were a number of significant findings and these are summarised in the following tables.

Both male and female animals receiving the highest dose of white oils N15 (H), P15 (H) and N10 (A) and females only receiving N70 (H) had higher kidney weights than controls. The differences were also present when these weights were expressed relative to body weight.

Following the reversal period, there were no statistically significant differences between kidney weights of control and treated females. A

MALE: KIDNEYS

TREATMENT	DOSE LEVEL (% IN DIET)													
	MAIN								REVERSAL		TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	0.002		0.02		0.2		2.0		2.0		2.0		2.0	
	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL
White oil N15 (H)							6↑	6↑				7↑		
White oil N70 (H)		3↑												
White oil N70 (A)									10↑					
White oil P15 (H)		4↓					5↑	6↑			10↑	9↑		
White oil N10 (A)					4↑		6↑	7↑	6↑	4↑		6↑		
White oil P100 (H)									6↑	4↑				
Low melting point wax									5↑	8↑				
High melting point wax					5↑	4↑								
High sulphur wax									6↑					
Coconut oil														10↓

FEMALE: KIDNEYS

TREATMENT	DOSE LEVEL (% IN DIET)													
	MAIN								REVERSAL		TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	0.002		0.02		0.2		2.0		2.0		2.0		2.0	
	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL
White oil N15 (H)							5↑	6↑				11↑		
White oil N70 (H)							4↑	4↑						
White oil N70 (A)								4↑				9↑		
White oil P15 (H)							5↑	7↑						
White oil N10 (A)		3↑					5↑	7↑				9↑		
White oil P100 (H)														
Low melting point wax														
High melting point wax														
High sulphur wax				3↓										
Coconut oil														

ABS = Absolute organ weight; REL = Relative organ weight
Data represent % increase (↑) or decrease (↓) compared with control
Data summarised from Tables 25-40

number of male reversal groups showed a statistically significant difference but these were, with the exception of the N10 (A) group, in the groups which had shown no effect in the main study.

The animals on the tissue level study, in general, showed similar kidney weight increases to animals on the main study. A tendency for these groups to show lower levels of significance reflects the inherently lower statistical sensitivity of the smaller group size.

Testes

There were occasional small but statistically significant changes in testis weight. The only treatment that produced an effect in the high dose group was the low melting point wax where both absolute and relative organ weights were higher than controls. Relative testis weight (but not absolute) was also higher than controls in the reversal group of the same treatment.

Ovaries

There were occasional small but statistically significant changes in relative ovary weight. These findings are not considered to be treatment related.

Thymus

There were a number of small but statistically significant changes in thymus weight but none that were considered to be treatment related.

Heart

There were a number of small but statistically significant changes in heart weight but none that were considered treatment related.

Brain

There were occasional statistically significant findings but none that were considered to be treatment related.

Liver

There were a number of statistically significant findings and these are summarised in the following table.

At the highest dose, four treatments resulted in higher liver weights in both sexes (white oils N15 (H), P15 (H), N10 (A) and the low melting point wax). In addition, higher weights were found in high dose females given N70 (H) and N70 (A). Particularly in females these differences were also present at lower dose levels of the same treatments, however, the lowest dose (0.002%) showed no evidence of this.

Animals in the reversal groups generally showed an overall decrease in the magnitude of the effect but liver weight was still increased at the end of the reversal period in male animals receiving low melting point wax and in female animals receiving white oils N15 (H), N70 (H), N70 (A) and P15 (H) and low melting point wax.

The animals on the tissue level and tissue level reversal studies, in general, showed similar liver weight increases to animals on the main and reversal studies. A tendency for these groups to show lower levels of significance reflects the inherently lower statistical sensitivity of the smaller group size.

Spleen

There were a number of statistically significant findings and these are summarised in the following table.

Relative spleen weights were higher than control in both sexes given 2% white oils N15 (H), N70 (H), N70 (A), P15 (H), N10 (A) and in groups receiving low melting point wax at the 2% and 0.2% levels with the differences being much more marked in the female groups. The male coconut oil treated group had statistically significantly decreased relative spleen weights.

At the end of the reversal period the only group where a difference between treated males and controls was apparent was in the group receiving low melting point wax. Relative spleen weight was still statistically significantly increased in the reversal female groups that

MALE: LIVER

TREATMENT	DOSE LEVEL (% IN DIET)													
	MAIN								REVERSAL		TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	0.002		0.02		0.2		2.0		2.0		2.0		2.0	
	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL
White oil N15 (H)				5↑			10↑	10↑		6↓		11↑		
White oil N70 (H)		3↑		4↑		4↑								
White oil N70 (A)									8↑			4↑		
White oil P15 (H)				3↑	6↑	5↑	7↑	7↑			14↑	13↑		
White oil N10 (A)					8↑	6↑	11↑	12↑			13↑	14↑		
White oil P100 (H)														
Low melting point wax					5↑	7↑	13↑	13↑	8↑	11↑	28↑	27↑		6↑
High melting point wax					4↑	3↑								
High sulphur wax				4↑		3↑			7↑					
Coconut oil														5↓

FEMALE: LIVER

TREATMENT	DOSE LEVEL (% IN DIET)													
	MAIN								REVERSAL		TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	0.002		0.02		0.2		2.0		2.0		2.0		2.0	
	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL
White oil N15 (H)				4↑	8↑	8↑	21↑	23↑	8↑	6↑	16↑	27↑		9↑
White oil N70 (H)							8↑	8↑	7↑	9↑		8↑		
White oil N70 (A)			4↑	5↑	5↑	6↑	8↑	10↑	8↑			11↑		
White oil P15 (H)			8↑	6↑	10↑	11↑	22↑	24↑	7↑	6↑	12↑	21↑		
White oil N10 (A)					6↑	8↑	21↑	23↑			21↑	24↑		7↑
White oil P100 (H)														
Low melting point wax					10↑	12↑	30↑	27↑	14↑	16↑	18↑	25↑	18↑	16↑
High melting point wax														
High sulphur wax		5↓												
Coconut oil														

ABS = Absolute organ weight; REL = Relative organ weight
Data represent % increase (↑) or decrease (↓) compared with control
Data summarised from Tables 25-40

MALE: SPLEEN

TREATMENT	DOSE LEVEL (% IN DIET)													
	MAIN								REVERSAL		TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	0.002		0.02		0.2		2.0		2.0		2.0		2.0	
	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL
White oil N15 (H)							5↑	5↑						
White oil N70 (H)							5↑	5↑						
White oil N70 (A)								5↑						
White oil P15 (H)					5↑		5↑	5↑						
White oil N10 (A)								5↑						
White oil P100 (H)														
Low melting point wax					12↑	13↑	23↑	23↑	71↑	74↑	15↑	14↑	25↑	23↑
High melting point wax														
High sulphur wax														
Coconut oil								5↓						

FEMALE: SPLEEN

TREATMENT	DOSE LEVEL (% IN DIET)													
	MAIN								REVERSAL		TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	0.002		0.02		0.2		2.0		2.0		2.0		2.0	
	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL	ABS	REL
White oil N15 (H)							21↑	22↑	8↑	6↑		17↑		12↑
White oil N70 (H)							7↑	7↑	8↑	10↑				
White oil N70 (A)							9↑	11↑						
White oil P15 (H)	5↓				6↑	6↑	17↑	18↑	11↑	10↑		18↑	14↑	
White oil N10 (A)							17↑	19↑		7↑		18↑	16↑	15↑
White oil P100 (H)														
Low melting point wax					18↑	20↑	50↑	47↑	39↑	42↑		37↑	52↑	48↑
High melting point wax		5↓			5↓									
High sulphur wax														
Coconut oil														

ABS = Absolute organ weight; REL = Relative organ weight
Data represent % increase (↑) or decrease (↓) compared with control
Data summarised from Tables 25-40

showed an effect in the main study with the exception of the females receiving white oil N70 (A) where there was no statistically significant difference from controls.

Caecum Full

A few very small but statistically significant increases in organ weight (absolute and relative) were observed in some of the high dose main study groups. Both absolute and relative organ weights were statistically significantly increased in males treated with 2% white oil P 15(H) both at 90 days and following the reversal period.

Caecum Empty

There were occasional statistically significant findings but none that were considered to be treatment related.

Mesenteric lymph node

There were a number of statistically significant findings and these are summarised in the following table.

Since mesenteric lymph nodes were only weighed in the tissue level and tissue level reversal groups the group size is small (5 per group) and there is no information on treatments other than at the highest dose. However, there were substantial and statistically significant increases in both absolute and relative organ weight in male and female animals receiving white oils N15 (H), P15 (H) and N10 (A) or low melting point wax at 2% in the diet.

The effect was still apparent in the male animals in the reversal group treated with white oils P15 (H) and N10 (A) or the low melting point wax and in the reversal females treated with white oils N15 (H), P15 (H) and N10 (A) or low melting point wax and additionally white oils N70 (A) and N70 (H) (not significant at the end of the 90-day treatment period). There

MALE : MESENTERIC LYMPH NODE

TREATMENT	TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	2.0%		2.0%	
	ABS	REL	ABS	REL
White oil N15 (H)	120↑	127↑		
White oil N70 (H)				
White oil N70 (A)				
White oil P15 (H)	400↑	399↑	116↑	114↑
White oil N10 (A)	224↑	224↑	93↑	82↑
White oil P100 (H)				
Low melting point wax	210↑	208↑	139↑	135↑
High melting point wax				
High sulphur wax				
Coconut oil				

FEMALE : MESENTERIC LYMPH NODE

TREATMENT	TISSUE LEVEL		TISSUE LEVEL REVERSAL	
	2.0%		2.0%	
	ABS	REL	ABS	REL
White oil N15 (H)	234↑	259↑	185↑	186↑
White oil N70 (H)			59↑	51↑
White oil N70 (A)			89↑	84↑
White oil P15 (H)	235↑	263↑	214↑	206↑
White oil N10 (A)	220↑	226↑	195↑	194↑
White oil P100 (H)				
Low melting point wax	261↑	279↑	215↑	207↑
High melting point wax				49↑
High sulphur wax				
Coconut oil				

ABS = Absolute; REL = Relative. Data represent % increase (↑) compared with control. Data are summarised from Tables 33-40.

was a small but statistically significant increase in relative organ weight only, in reversal females receiving high melting point wax.

Perirenal Fat

There were occasional statistically significant findings but none that were considered to be treatment related.

5.10. Haematology

The haematology results are presented in Tables 41-44. A number of haematological parameters were affected by treatment. These findings for the main study are summarised in the following tables. Occasional statistically significant findings that are not considered to be treatment related are not included in these summary tables.

At the highest dose of many of the test articles, females had a very small but statistically significant decrease in red blood cell count with a concomitant reduction in haemoglobin concentration and haematocrit. Similar changes were also seen in the 0.2% female group for white oils P15 (H) and N10 (A). In the female 2% low melting point wax group the effect was accompanied by an increased reticulocyte count. Similar differences in red cells were not seen in the male groups.

An increase in white blood cell count was also present in many of the high dose female groups. This was generally characterised by increased neutrophil and monocyte counts, often associated with increased eosinophils and basophils. Similar changes were also seen at the 0.2% level for the females given low melting point wax. Occasionally similar changes were seen in male groups but the effects were less severe.

The reticulocyte count was still elevated in the female low melting point wax reversal group along with the white blood cell count. White blood cell count was also elevated in the white oils P15 (H), N15 (H) and P100 (H) reversal female groups.

Summary of haematological findings considered to be treatment related : Males (Main study)

Treatment	Dose (% in the diet)	Hb	MCH	WBC	N	L	M	E	B	Platelets
White oil N15 (H)	2.0			17↑	52↑		36↑			5↑
White oil N70 (H)										
White oil N70 (A)	2.0	2↑								
White oil P15 (H)	2.0			20↑	46↑		44↑			
White oil N10 (A)	2.0				41↑		28↑		200↑	
White oil P100 (H)										
Low melting point wax	0.2	2↓	2↓		22↑					7↓
	2.0	2↓	2↓		23↑					13↓
High melting point wax	2.0	2↑								
High sulphur wax	2.0	2↑								
Coconut oil	2.0	2↑								

Data represent % increase (↑) or decrease (↓) compared with control
Data summarised from Table 41

Summary of haematological findings considered to be treatment related : Males (Reversal study)

Treatment	Dose (% in the diet)	Hb	MCH	MCHC	WBC	N	L	M	E	B	Platelets
White oil N15 (H)	2.0					31↑		29↑			7↓
White oil N70 (H)											
White oil N70 (A)	2.0						23↓				
White oil P15 (H)	2.0		2↑								
White oil N10 (A)											
White oil P100 (H)											
Low melting point wax	2.0	2↓	2↓								9↓
High melting point wax											
High sulphur wax	2.0								44↑		
Coconut oil	2.0			2↑							

Data represent % increase (↑) or decrease (↓) compared with control
Data summarised from Table 42

Summary of haematological findings considered to be treatment related : Females (Main study)

Treatment	Dose (% in the diet)	RBC	Retics	Hb	HCT	WBC	N	L	M	E	B	Platelets
White oil N15 (H)	2.0	4↓		3↓	3↓	22↑	83↑		41↑			
White oil N70 (H)	2.0	3↓		2↓								
White oil N70 (A)	2.0	2↓										
White oil P15 (H)	0.2	2↓		1↓								
	2.0	3↓		2↓	3↓	22↑	72↑		57↑	72↑	↑*	
White oil N10 (A)	0.2	2↓		2↓								
	2.0	3↓		3↓		23↑	75↑		51↑	38↑		
White oil P100 (H)												
Low melting point wax	0.02							21↑				
	0.2					26↑	45↑	18↑	35↑		↑*	14↓
	2.0	4↓	43↑	6↓	4↓	48↑	89↑	29↑	103↑	41↑	↑*	16↓
High melting point wax												
High sulphur wax	0.2											8↓
	2.0					23↑		25↑	30↑	22↑		9↓
Coconut oil	2.0	2↑		2↑								

* Control value = 0

Data represent % increase (↑) or decrease (↓) compared with control

Data summarised from Table 4.3

Summary of haematological findings considered to be treatment related : Females (Reversal study)

Treatment	Dose (% in the diet)	RBC	Retics	Hb	MCH	WBC	N	L	M	E	B	Platelets
White oil N15 (H)	2.0					33↑		34↑	65↑			
White oil N70 (H)	2.0	4↑		2↑			30↑		35↑	33↑		
White oil N70 (A)	2.0								32↑			
White oil P15 (H)	2.0			2↑		24↑	29↑					
White oil N10 (A)	2.0		38↑									
White oil P100 (H)	2.0					37↑	53↑	31↑				
Low melting point wax	2.0		69↑	4↓	3↓	55↑	39↑	57↑	87↑			18↓
High melting point wax												
High sulphur wax												
Coconut oil	2.0									30↓		

Data represent increase (↑) or decrease (↓) compared with control
Data summarised from Table 44

5.11. Clinical Chemistry

The clinical chemistry results are presented in Tables 45-48. A number of parameters were affected by treatment. These findings for the main study are summarised in the following tables. Other occasional statistically significant findings that are not considered to be treatment related are not included in these summary tables.

Raised serum liver enzyme levels were seen with white oils N15 (H), N70 (A), P15 (H), P100 (H) and N10 (A) and the low melting point wax in the female groups and low melting point wax only in the males. There was a slight but statistically significant decrease in alkaline phosphatase in a number of the treatment groups. A lower albumin : globulin ratio seen in some groups generally reflected decreased total protein and albumin levels, thus only the ratio is included in the summary tables. Glucose levels were often slightly but statistically significantly higher than control in all but the highest dose group of many of the female treatment groups. Males showed a much more limited range of differences than females.

Reversal animals of both sexes given low melting point wax had statistically significantly increased levels of alanine aminotransferase, aspartate aminotransferase and γ-glutamyl transferase. γ-Glutamyl transferase was also higher than control in the female N10 (A) group after the reversal period.

Alkaline phosphatase was significantly raised in the female low melting point wax reversal group and significantly reduced in the male reversal groups receiving white oils N15 (H), P15 (H), N10 (A) and P100 (H) and low melting point wax. Glucose remained statistically significantly increased in the reversal female white oils N15 (H) and N10 (A) groups and also in the female reversal group receiving low melting point wax. The albumin: globulin ratio was significantly reduced in all the reversal female white oil groups apart from the P100 (H) group and in the male and female reversal low melting point wax group.

Summary of clinical chemistry findings considered to be treatment related : Males (Main study)

Treatment	Dose level (% in diet)	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Alb/Glob ratio
White oil N15 (H)	0.2	5↓				
White oil N15 (H)	2.0	8↓				
White oil N70 (H)						
White oil N70 (A)						
White oil P15 (H)	0.2	8↓				
White oil P15 (H)	2.0	9↓				
White oil N10 (A)	0.2	5↓				
White oil N10 (A)	2.0	8↓				
White oil P100 (H)						
Low melting point wax	0.2		99↑	55↑	105↑	
Low melting point wax	2.0	9↓	117↑	69↑	219↑	10↓
High melting point wax						
High sulphur wax						
Coconut oil						

Data represent % increase (↑) or decrease (↓) compared with control
Data summarised from Table 45

Summary of clinical chemistry findings considered to be treatment related : Females (Main study)

Treatment	Dose level (% in diet)	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Glucose mmol/l	Bilirubin µmol/l	Alb/Glob ratio
White oil N15 (H)	0.002					8↑		
White oil N15 (H)	0.02					16↑		
White oil N15 (H)	0.2	14↓				10↑		
White oil N15 (H)	2.0	14↓		19↑	102↑		24↓	8↓
White oil N70 (H)	0.002					10↑		
White oil N70 (H)	0.02					9↑		
White oil N70 (H)	0.2					13↑		
White oil N70 (A)	2.0							6↓
White oil P15 (H)	0.002					9↑		
White oil P15 (H)	0.02					11↑		
White oil P15 (H)	0.2							7↓
White oil P15 (H)	2.0	14↓			75↑			10↓
White oil N10 (A)	0.2	12↓						
White oil N10 (A)	2.0	13↓		12↑	91↑			8↓
White oil P100 (H)	0.002					11↑		
White oil P100 (H)	2.0			10↑				
Low melting point wax	0.002					7↑		
Low melting point wax	0.02					9↑		
Low melting point wax	0.2		102↑	58↑	55↑	11↑		10↓
Low melting point wax	2.0		140↑	90↑	226↑		35↑	19↓
High melting point wax	0.002					13↑		
High melting point wax	0.2					10↑		
High melting point wax	2.0					8↑		
High sulphur wax	0.002					9↑		
High sulphur wax	0.02					8↑		
High sulphur wax	0.2					11↑		
High sulphur wax	2.0	8↑						
Coconut oil								

Data represent % increase (↑) or decrease (↓) compared with control

Data summarised from Table 47

Summary of clinical chemistry findings considered to be treatment related (Reversal study)

Males

Treatment	Dose level (% in diet)	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Alb/Glob ratio
White oil N15 (H)	2.0	8↓				
White oil N70 (H)						
White oil N70 (A)						
White oil P15 (H)	2.0	8↓				
White oil N10 (A)	2.0	10↓				
White oil P100 (H)	2.0	12↓				
Low melting point wax	2.0	8↓	82↑	60↑	361↑	4↓
High melting point wax						
High sulphur wax	2.0		19↑			
Coconut oil						

Females

Treatment	Dose level (% in diet)	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Glucose mmol/l	Bilirubin µmol/l	Alb/Glob ratio
White oil N15 (H)	2.0					14↑		6↓
White oil N70 (H)	2.0							6↓
White oil N70 (A)	2.0							4↓
White oil P15 (H)	2.0							7↓
White oil N10 (A)	2.0					10↑		7↓
White oil P100 (H)								
Low melting point wax	2.0	18↑	56↑	76↑	[illegible]	10↑		11↓
High melting point wax	2.0		24↑					
High sulphur wax								
Coconut oil								

Data represent increase (↑) or decrease (↓) compared with control
Data summarised from Tables 46 & 48

5.12. Tissue Analysis

Tissue levels of mineral hydrocarbon were measured using a carbon tetrachloride extraction and infra-red detection technique. The exact nature of the material measured and its similarity to the test article cannot therefore be precisely defined. The material is, however, almost certainly mineral hydrocarbon material of some kind. The results for male and female animals are shown in Table 50.

Kidney

The only animals showing appreciable levels of mineral hydrocarbon were the females receiving white oil N70 (H). Elevated levels of mineral hydrocarbon material were also present in the kidneys of the reversal animals receiving this treatment. Several other treatment groups showed small but statistically significant increases in mineral hydrocarbon content.

Liver

Mineral hydrocarbon material was detected in male groups treated with white oil N15 (H) and with low melting point wax. There was also an indication of mineral hydrocarbon material present in the livers of male animals receiving white oils N70 (H), N70 (A),P15 (H), N10 (A) and P100 (H). Substantially more mineral hydrocarbon material was present in the livers taken from the female animals. Mineral hydrocarbon material was detectable in the female low melting point wax group and in all female white oil groups except for white oil P100 (H). There was evidence in both sexes for a lowering of levels after the one month reversal period but there was still a substantial amount of mineral hydrocarbon material present in all groups where mineral hydrocarbon material was detectable at the end of the 90-day period.

Spleen

A marked deterioration of the spleen tissue occurred on storage. Desiccation of the tissue occurred to some extent in almost all of the

samples and the degree of desiccation varied considerably. Thus the results shown in Appendices 56 and 57 cannot be considered as an accurate indication of the concentration of mineral hydrocarbon in the fresh tissue. No attempt has been made to express these results in tabulated form. From inspection of the individual data there is very little evidence of appreciable accumulation of mineral hydrocarbon material in the spleen of either sex.

Mesenteric lymph node

Very substantial amounts of mineral hydrocarbon material were detectable in the animals receiving the low melting point wax and in those receiving all white oils with the exception of P100 (H). There was very little indication of any reduction in mineral hydrocarbon levels following the reversal period.

Perirenal Fat

There was evidence of a small accumulation of mineral hydrocarbon material in perirenal fat particularly in the white oils N15 (H), P15 (H) and N10 (A) groups and in the low melting point wax group, in both sexes. There was some evidence for a reduction in mineral hydrocarbon levels following the reversal period but elevated levels of mineral hydrocarbon were still present in many of the groups.

5.13. Vitamin E analysis

Serum concentrations of vitamin E were measured in the animals on the tissue level and tissue level reversal studies. The treated groups received test article at the 2% level only. The results are shown in Table 49. Serum concentrations of vitamin E were statistically significantly reduced (to between approximately 30 and 75% of control) in all groups treated with white mineral oils. Serum vitamin E was statistically significantly increased in males and females receiving low melting point wax and in female animals receiving coconut oil (to approximately 130% of control). Males receiving

high melting point wax showed a statistically significantly lower serum vitamin E level than controls.

The only groups to show an effect of treatment after the four week reversal period were the male groups treated with white oils N10 (H) and N10 (A) where serum vitamin E levels still remained statistically significantly reduced.

5.14. Histopathological examination of tissues

Details of the histopathological findings are presented in Tables 51-54. Histopathological lesions were present in a number of tissues. Many of these were of a nature or severity expected in animals of this age and strain and most are not considered further. All findings with incidences that were statistically significant or considered to be treatment related and of biological relevance are described below on a tissue by tissue basis.

Liver

Liver lesions comprised microgranuloma and granuloma. These focal lesions consisted of collections of macrophages, some with necrotic cells, surrounded by inflammatory cells and variable fibrosis. These are similar to lesions described by MacSween (1979). The granuloma were characterized as microgranuloma or granuloma depending on the size, the essential histological features of the two were similar. Lesions were classified as microgranuloma if the average diameter was less than 25% of the average hepatic lobule or as granuloma if larger. For each animal bearing granulomatous lesions an estimate was recorded of the number of lesions present, and scored as either few or many. The granuloma were not evenly distributed between lobes or even within one lobe, frequently being concentrated in a limited area, with the caudal lobe often the most severely affected. Granulomas were larger and more abundant around the portal areas. In contrast, the smallest lesions were small collections of macrophages (3 to 5) with a few lymphocytes at the periphery. In Tables 51-54 the incidences of microgranuloma and granuloma have been compared with the control incidence.

The only male groups showing a statistically significantly increased incidence of microgranuloma or granuloma were those receiving low melting point wax at the top two dose levels. The severity of the lesion increased with dose and at the highest dose centrilobular vacuolation was also present. A few microgranuloma were also found in one rat receiving white oil N70 (A).

Granulomas were found in the livers of females given white oils N15 (H), N70 (H), N70 (A), P15 (H) and N10 (A) at the highest dose and in the low melting point wax group at the top two dose levels. A granulomatous lesion was seen in a single animal given high melting point wax. The most severely affected females were in the group given low melting point wax. This was reflected both in the number of lesions/rat and in the size of lesions.

A number of other lesions were seen in the liver of treated animals at incidences which were occasionally statistically significantly higher than in the control group. Since the lesions were generally those which occurred frequently in controls these occasional differences are considered unlikely to be an effect of treatment.

In general, one month after cessation of treatment granulomas were present in the livers of animals from the groups in which lesions were seen at the end of the 90 days treatment. The histological appearance of the lesions seen at the end of the reversal period was similar to that observed immediately after the end of treatment. Females treated with N70 (A) and N70 (H) showed an increased incidence of microgranuloma but no change in the severity of the lesion. Females treated with N10 (A) and N15 (H) and low melting point wax showed no change in incidence but a decrease in severity while females treated with P15 (H) showed an increased incidence with a suggestion that the severity was less. Male animals receiving low melting point wax showed the same incidence of granulomatous lesions but there was an indication of a reduction in the severity of the lesion.

Mesenteric lymph node

The lymph node lesions comprised focal collections of macrophages, often in the cortical region. The macrophages were lightly vacuolated, giving a

slightly foamy appearance to their cytoplasm. Some macrophages had a yellowish-brown pigmentation of varied intensity. The focal collections of macrophages were classified as histiocytosis and were scored "minimal", "mild", "moderate" or "marked" on the basis of size and abundance.

The foci of histiocytosis were not homogeneously distributed but were often restricted to one node or even to part of one node, with some areas severely affected and others relatively free of any effect. Since the histiocytosis was unevenly distributed this observation appears to be subject to chance variation related to selection of tissue and sectioning. Indeed, the lymph nodes from high dose and control animals were divided into two samples at necropsy and these were processed separately for conventional histopathology and for special fat stain. This reduced the amount of tissue available for histopathological examination in these groups and may have led to under-reporting of the incidence of lesions.

Histiocytosis was occasionally found in the mesenteric lymph nodes of control rats, but this was generally restricted to isolated foci and was always classified as "minimal".

Histiocytosis was increased compared with controls in males given white oils N10 (A), N70 (A) and N70 (H) at dose levels down to 0.2%, P15 (H) and low melting point wax at dose levels down to 0.02%, and in those given white oil N15 (H) at dose levels down to 0.002%. Histiocytosis was seen in females given white oils N15 (H), N70 (A), N70 (H), P15 (H), and N10 (A) at dose levels down to 0.02% and in those given low melting point wax at all dose levels. In each case the severity increased with dose and the effect was much more severe in the females compared with the males. High sulphur wax, high melting point wax and white oil P100 (H) were indistinguishable from controls at any dose level in either sex.

A statistically significantly increased incidence of pigmented macrophages was a frequent finding in many of the female treatment groups. Statistical significance was almost invariably confined to the intermediate dose groups and there was no apparent increase in the severity of the finding compared with controls. Thus, it is likely that this observation is a consequence of under-reporting in the high dose and control groups and is not a treatment related effect.

Histiocytosis was found in the lymph nodes one month after cessation of treatment in all groups in which lesions were seen at the end of 90 days. Following a 28-day reversal period, a slight reduction in the incidence of histiocytosis was observed in the female N15 (H) group while in the male treatment groups there was, in general, an increase in incidence. The severity of the lesion was increased in males and females receiving N70 (A) and N70 (H) but decreased in males and females receiving low melting point wax and in females only receiving N10 (A), P15 (H) and N15 (H).

Ileum and Jejunum

A statistically significantly increased incidence of macrophage accumulation in Peyer's patches was observed in both male and female animals receiving low melting point wax at the top two dose levels. A significant increase in macrophage infiltration of the lamina propria was observed in the high dose female low melting point wax group while significantly increased vacuolation of the lamina propria was seen in the female high dose white oil N10 (A) group.

Heart

Focal inflammatory lesions were observed within the cusps of the mitral valve. The lesion was characterised by an increased cellularity of the valve with destruction of the fibrous core. The increased cellularity was composed of a mixed population of macrophages, plasma cells and lymphocytes. Pyknotic nuclei and cell debris were scattered throughout the lesions. In many lesions mitotic figures could be identified.

In the high dose low melting point wax group 11/20 male and 11/20 female animals were observed to have the lesion. Subsequent to the observation of the lesion in the high dose group the 0.2, 0.02 and 0.002% low melting point wax groups were examined. The only statistically significantly increased incidence of the lesion was observed in the female 0.2% group (5/20 animals). The lesion was present in 1/60 male control animals and in occasional males from the high dose treatment groups. The

lesion was not observed in any of the female controls or other female treatment groups.

Following a 28-day reversal period there was still a statistically significantly increased incidence of the heart lesion in both male and female animals treated with low melting point wax although the incidences were lower than at the end of the treatment period.

6. DISCUSSION

The purpose of this study was to examine the effects of feeding a range of mineral oils and waxes. The samples used were selected to allow a study of the influence of the crude type, processing method and viscosity on possible biological effects of the oils. The waxes were selected to allow a comparison between a low and a high melting point wax and also a clay-treated wax.

A problem arose in the study which related to the measurement of test material in the diet, particularly since the concentrations of hydrocarbon at the lower dose levels were near the limit of sensitivity of the analytical method used. This was confounded further by the natural occurrence of hydrocarbon at levels of 10-70 ppm in rodent diet. However, within these limitations, there is no reason to believe that the animals did not receive diets containing test article at or close to the intended concentration.

There was no evidence that animals fed diets containing either the highest viscosity oil, P100 (H), or the two waxes, high melting point wax and high sulphur wax were affected by treatment.

All the remaining oils and the low melting point wax caused effects which were qualitatively similar. The effects, however, differed in magnitude depending on the nature of the material tested. In general effects, when observed, were of a greater magnitude in females than in males.

Effects in the mesenteric lymph node comprised focal histiocytosis, increased organ weight and the presence of measurable amounts of mineral hydrocarbon material. Focal histiocytosis is a common non-specific reaction in lymph nodes resulting from the accumulation of non-degradable, often particulate, material within macrophages (Henry and Farrer-Brown, 1981; Gopinath, Prentice and Lewis, 1987). It is probable therefore that the increased weight of the mesenteric lymph nodes found in this study (only recorded in animals used for tissue analysis) is caused by the presence of histiocytosis resulting from the accumulation of mineral hydrocarbon

material. Histiocytosis of the type seen has been previously described following treatment with lipids and with phospholipids and vacuoles present within the macrophages have been shown to contain lipid material when stained with oil red O (Gopinath, Prentice and Lewis, 1987).

Effects on the liver comprised an increase in organ weight, the formation of granuloma and the presence of measurable amounts of mineral hydrocarbon material. In general the larger the granuloma the greater the lymphocytic component. The liver lesion, where observed, always consisted of an inflammatory granuloma in contrast to the lymph node where the vast majority of lesions comprised focal histiocytosis, the inflammatory component being absent.

At the high doses, the small increase in serum levels of aspartate aminotransferase, alanine aminotransferase and γ-glutamyl transferase and reduction in the activity of alkaline phosphatase are indicative of relatively mild hepatic damage (Benjamin and McKelvie,1978) and are consistent with the degree of histological change. An increase in organ weight was often apparent at dose levels lower than those at which granulomatous lesions were identified. The reason for this was unclear.

An inflammatory lesion of the mitral valve of the heart was observed in the 2.0% (male and female) and 0.2% (female only) low melting point wax groups. There was no significant incidence in animals receiving any of the other treatments. The lesion was confined to the mitral valve and was not associated with focal inflammatory lesions of the myocardium. The toxicological significance of this unusual lesion is not known.

Kidney weight was increased following treatment with a number of the test materials. However, the increase in the weight relative to body weight was never more than 108% of the control value and was not associated with any histopathological findings. As detectable amounts of mineral hydrocarbon material were only found in female animals given white oil N70 (H) this increase in kidney weight cannot be accounted for by accumulation of mineral hydrocarbon material. Since there were no

changes in any of the clinical chemistry parameters associated with kidney function these findings are considered to have little toxicological significance.

The reason for the increase in splenic weight in a number of the treated groups is unclear as there were no concomitant histopathological changes and while difficulties were encountered in the analysis of spleen samples there appeared to be no appreciable accumulation of mineral hydrocarbon material in the tissue. There is, therefore, no indication of a primary cause for the organ weight differences. However, it is possible that the differences seen are secondary to other changes induced by treatment and must therefore be considered as treatment related.

All haematological effects observed appear to be related to the histopathological findings in the lymph node and liver and are typical of a relatively mild inflammatory reaction (Howarth *et al.*, 1991). Reduced red blood cell count may have been due to either red cell destruction or reduced haemopoiesis. However, the reticulocytosis seen in female rats given the low melting point wax suggests an unimpaired haemopoietic capacity. The slight reduction in red cell number may therefore be due to an increased red blood cell loss. This may have resulted from an increased non-specific activity of the reticuloendothelial system. This finding is, however, considered to be of limited toxicological significance since the reduction in the red blood cell count was never more than 4%.

Serum glucose levels were often raised in a number of female treatment groups, in particular in the low dose and intermediate dose groups. The effect was never more than 116% of the control value and such a value is well within the range given for fasting glucose in a number of rat strains (Ringler and Dabich, 1979). Such an increase is therefore considered to be of little clinical significance, and of limited relevance to the toxicological assessment.

There appeared to be a very small effect of treatment on full caecum weight but not on empty caecum weight indicating an effect on caecum

contents. This finding is considered to be of limited toxicological significance.

As an additional part of the study serum vitamin E levels were measured in animals receiving test article at the top dose level only. Serum vitamin E levels were reduced in all white oil treated groups including those receiving white oil P100 (H). Since levels were increased in the low melting point wax treated group there can be no simple direct relationship between serum vitamin E levels and the major effects seen during the study. The depletion of serum vitamin E in the oil treated animals may be a consequence of the preferential solubility of the vitamin in the white oils with a consequent reduction in its bioavailability.

Almost without exception, the effects seen during the study were much more severe in females than in males. Since the test articles were fed at a constant concentration in the diet to the two sexes the female animals did indeed receive approximately 10% more test article than the male animals. It seems unlikely that an increase in intake of this magnitude is solely responsible for the difference in effects seen. Levels of mineral hydrocarbon material in the liver and mesenteric lymph node were considerably greater in female animals than in males and this probably accounts for the increased severity of the effects in these organs in females. Why there should be a greater accumulation of mineral hydrocarbon material in these tissues in females compared with males is less clear.

In animals receiving control diet for 28 days following the 90 days of treatment there was evidence for a reduction in severity of some of the effects (e.g. organ weight increases, haematological findings). However while there appeared to be a slight reduction in severity of the histological changes seen in the mesenteric lymph node and liver with some test articles others seemed to be unchanged or worse at the end of the reversal period. There was no clear evidence of a substantial reversibility of the effect within 28 days and a study with a longer reversal would be required to resolve this question.

The various test articles examined in the study varied in their biological effects. In general the materials causing most effects were the low viscosity white oils N10 (A), P15 (H) and N15 (H) and the low melting point wax. The white oils N70 (A) and N70 (H) also produced a spectrum of effects but, in general, these were of a lower magnitude. The two microcrystalline waxes and the highest viscosity white oil, P100 (H), appeared to be without effect. These results would suggest that as far as the white oils are concerned viscosity (which is in turn related to the molecular type) may play a role in determining the biological effects of these materials. From these results it is not possible to determine whether crude source or refining process are influential on biological effects.

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8. ABBREVIATIONS

acc	- accumulation
ALAT	- alanine aminotransferase
Alb/Glob	- albumin/globulin
ALKP	- alkaline phosphatase
ASAT	- aspartate aminotransferase
ass	- associated
B	- basophils
CL	- centrilobular
CV	- coefficient of variation
cort/med	- corticomedullary
deg	- degeneration
diaph	- diaphragmatic
E	- eosinophils
eosin	- eosinophilic
gamma-GT	- gamma-glutamyl transferase
gl	- glandular
gran	- granuloma
Hb	- haemoglobin
HCT	- haematocrit
ICN	- individual cell necrosis
infil/infilt	- infiltration
inflam	- inflammatory
L	- lymphocytes
l	- lamina
lg	- large
lt	- left
M	- monocytes
mac	- macrophages
mar	- marked
MCH	- mean cell haemoglobin

MCHC	- mean cell haemoglobin concentration
MCV	- mean cell volume
mes	- mesenteric
mod	- moderate
MZ	- midzonal
N	- neutrophils
peribil	- peribiliary
PP	- periportal
PT	- prothrombin time
RBC	- red blood cells
retics	- reticulocytes
SD	- standard deviation
secs	- seconds
seros	- serosal
sev	- severe
sl	- slight
subcaps	- subcapsular
tub	- tubular
vac	- vacuolated
ven	- ventricle
WBC	- white blood cells
w/w	- weight for weight

Table 1. continued

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0.2% White oil N70 (A)	20	69.6 (7.76)	90.5 (7.96)	106.7 (8.27)	127.7 (9.22)	140.1 (9.74)	159.8 (11.05)	173.4 (12.24)	191.6 (13.24)	202.1 (13.80)
2% White oil N70 (A)	20	70.7 (8.39)	91.3 (8.36)	106.9 (9.32)	124.9 (11.16)	139.9 (10.68)	161.3 (13.24)	174.4 (13.66)	194.0 (15.61)	205.3[19] (15.74)
0.002% White oil P15 (H)	20	70.5 (8.44)	91.9 (9.04)	108.1 (8.97)	126.8 (8.64)	142.1 (7.07)	161.4 (8.00)	175.6 (8.61)	194.5 (10.25)	206.1 (10.60)
0.02% White oil P15 (H)	20	70.1 (8.14)	90.9 (9.49)	107.2 (9.93)	126.8 (10.96)	141.3 (10.87)	161.8 (12.24)	175.4 (12.86)	194.9 (13.70)	206.1 (14.14)
0.2% White oil P15 (H)	20	69.6 (7.12)	89.7 (7.81)	105.4 (7.49)	125.7 (7.33)	139.4 (7.48)	159.6 (8.38)	173.6 (8.17)	192.4 (10.20)	204.4 (11.29)
2% White oil P15 (H)	20	70.4 (8.54)	91.6 (9.38)	106.9 (10.37)	127.6 (10.66)	140.9 (11.53)	162.1 (13.18)	176.1 (14.26)	196.2 (15.55)	207.4 (15.79)
0.002% White oil N10 (A)	20	69.3 (8.19)	90.5 (9.74)	107.5 (10.72)	122.2* (14.48)	138.1 (12.62)	157.6 (14.17)	170.5* (14.91)	189.6* (16.60)	199.6* (17.37)
0.02% White oil N10 (A)	20	69.8 (7.77)	91.7 (8.99)	109.3 (10.55)	126.7 (11.54)	141.8 (10.04)	162.5 (11.55)	175.4 (11.73)	194.7 (13.16)	205.3 (13.74)
0.2% White oil N10 (A)	20	70.4 (8.65)	92.3 (9.22)	109.3 (10.44)	128.9 (11.62)	143.6 (12.12)	163.9 (15.04)	176.0 (15.47)	195.6 (17.39)	207.1 (17.81)
2% White oil N10 (A)	20	70.3 (7.00)	90.5 (7.66)	107.1 (8.45)	123.4 (11.41)	140.6 (10.62)	160.8 (11.54)	173.9 (12.71)	193.8 (14.44)	205.1 (14.83)

continued....

Table 1. Body weights (g) of male rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0% Control	60	70.3 (8.34)	91.8 (9.40)	107.7 (9.98)	127.9 (10.56)	142.5 (10.34)	162.9 (12.20)	177.2 (12.39)	196.4 (13.05)	208.1 (14.07)
0.002% White oil N15 (H)	20	72.4 (8.21)	94.1 (9.34)	110.8 (9.08)	132.5 (9.24)	145.9 (9.48)	166.9 (9.53)	180.9 (9.56)	199.5 (10.50)	210.7[19] (11.57)
0.02% White oil N15 (H)	20	70.3 (7.53)	93.0 (9.35)	109.8 (10.25)	129.9 (10.33)	144.3 (11.61)	164.1 (13.94)	177.9 (13.44)	198.0 (15.08)	208.4 (15.15)
0.2% White oil N15 (H)	20	70.2 (9.66)	91.9 (10.30)	108.9 (11.56)	126.4 (11.74)	141.4 (11.89)	161.8 (12.70)	175.8 (13.60)	195.6 (12.93)	208.3 (13.83)
2% White oil N15 (H)	20	70.1 (8.07)	91.2 (9.86)	106.5 (10.68)	125.7 (13.03)	139.4 (13.01)	159.1 (14.94)	173.8 (15.28)	191.6 (16.27)	203.8 (17.59)
0.002% White oil N70 (H)	20	70.9 (9.41)	91.9 (11.16)	107.8 (12.29)	127.2 (14.80)	140.3 (15.73)	160.0 (17.25)	172.4 (18.81)	190.4 (19.87)	201.6 (20.76)
0.02% White oil N70 (H)	20	68.9 (8.53)	90.3 (10.19)	105.8 (11.06)	126.5 (11.99)	139.0 (13.01)	158.6 (14.45)	172.5 (15.03)	190.6 (15.75)	200.9* (16.45)
0.2% White oil N70 (H)	20	69.9 (8.05)	91.7 (9.66)	108.5 (10.52)	128.2 (10.89)	141.6 (11.70)	161.4 (13.69)	174.1 (14.46)	191.9 (15.43)	201.4 (15.72)
2% White oil N70 (H)	20	70.7 (8.65)	91.7 (8.86)	107.9 (8.51)	123.6 (11.47)	140.8 (9.08)	162.5 (10.65)	176.8 (10.65)	197.3 (11.67)	209.7 (11.54)
0.002% White oil N70 (A)	20	69.8 (8.45)	92.1 (8.64)	108.1 (9.36)	128.3 (9.79)	141.9 (10.10)	160.8 (11.94)	175.5 (12.55)	193.8 (12.87)	205.9 (12.32)
0.02% White oil N70 (A)	20	68.8 (9.08)	91.2 (9.38)	107.2 (9.30)	127.4 (10.11)	141.4 (10.11)	160.7 (12.30)	174.0 (12.41)	193.1 (14.86)	205.1 (14.94)

continued....

Table 1. continued

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0.2% High melting point wax	20	69.4 (7.40)	90.3 (7.98)	108.2 (8.87)	127.2 (9.75)	143.1 (9.38)	164.4 (10.87)	178.6 (10.94)	198.4 (12.20)	210.4 (12.22)
2% High melting point wax	20	70.1 (9.02)	90.8 (10.82)	107.6 (11.85)	124.3 (13.73)	139.2 (12.08)	159.1 (13.38)	172.3 (13.53)	191.6 (15.04)	203.7 (15.38)
0.002% High sulphur wax	20	69.3 (8.06)	91.4 (8.92)	108.2 (10.53)	128.2 (11.27)	143.2 (11.65)	162.8 (14.04)	176.4 (14.78)	195.3 (17.56)	208.4 (15.84)
0.02% High sulphur wax	20	69.3 (8.52)	90.5 (8.52)	107.2 (8.53)	123.2 (12.39)	139.8 (10.41)	159.6 (11.80)	172.4 (10.88)	192.4 (11.07)	204.1 (10.49)
0.2% High sulphur wax	20	69.3 (7.57)	91.6 (7.32)	108.5 (8.12)	127.8 (8.41)	143.1 (7.89)	163.9 (9.07)	176.9 (9.64)	197.4 (10.03)	207.9 (9.80)
2% High sulphur wax	20	69.2 (9.75)	90.3 (9.77)	106.9 (10.20)	123.8 (11.98)	139.6 (10.32)	160.6 (11.40)	173.3 (11.82)	192.4 (12.58)	203.1 (11.72)
2% Coconut oil	20	70.3 (9.18)	91.9 (9.86)	108.4 (10.40)	123.8 (14.71)	139.9 (14.20)	160.6 (14.86)	174.8 (15.23)	193.9 (16.86)	205.6 (17.25)

continued....

Table 1. continued

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0.002% White oil P100 (H)	20	70.4 (8.76)	92.3 (8.86)	108.3 (9.83)	124.8 (11.61)	139.5 (10.23)	159.8 (11.01)	171.8 (10.55)	190.4 (11.42)	202.2 (11.19)
0.02% White oil P100 (H)	20	69.3 (6.88)	90.6 (7.18)	107.3 (7.94)	122.7* (11.08)	138.1 (8.57)	158.4 (8.79)	170.8* (9.14)	189.1* (11.06)	199.8* (11.42)
0.2% White oil P100 (H)	20	69.7 (7.04)	91.9 (7.43)	109.4 (9.06)	124.7 (12.52)	140.1 (10.42)	160.6 (11.74)	173.6 (13.08)	191.6 (14.08)	204.0 (14.68)
2% White oil P100 (H)	20	70.0 (7.25)	90.6 (7.65)	106.5 (8.08)	122.5* (12.44)	138.4 (10.72)	158.8 (11.37)	172.6 (12.35)	191.7 (13.43)	204.7 (13.45)
0.002% Low melting point wax	20	70.6 (8.31)	91.3 (8.85)	108.7 (9.60)	126.6 (11.69)	141.0 (10.20)	160.1 (12.22)	173.6 (12.58)	191.8 (14.89)	203.5 (15.11)
0.02% Low melting point wax	20	69.9 (9.30)	91.4 (10.91)	108.2 (10.96)	123.8 (12.84)	139.9 (11.59)	159.6 (13.13)	172.3 (13.29)	191.1 (14.60)	203.4 (15.26)
0.2% Low melting point wax	20	70.8 (8.62)	92.1 (9.63)	109.2 (10.69)	126.4 (11.38)	140.3 (11.50)	159.1 (13.24)	171.6 (14.00)	188.9* (15.74)	200.1* (16.43)
2% Low melting point wax	20	70.3 (8.99)	91.6 (10.22)	107.3 (10.87)	126.0 (12.35)	141.1 (12.23)	160.6 (13.03)	173.9 (13.56)	193.8 (14.66)	205.1 (15.64)
0.002% High melting point wax	20	69.4 (8.85)	90.6 (9.48)	107.2 (10.20)	124.3 (11.65)	140.5 (11.22)	160.6 (11.70)	174.1 (11.94)	192.9 (12.97)	205.3 (13.18)
0.02% High melting point wax	20	69.8 (8.75)	92.1 (9.39)	109.3 (9.94)	127.8 (11.38)	143.6 (10.78)	164.2 (10.72)	177.9 (11.32)	197.3 (12.46)	209.4 (13.12)

continued....

Table 1. continued

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0.002% White oil N70 (A)	20	220.1 (12.53)	230.9 (11.87)	243.6 (11.92)	252.6 (12.57)	262.0 (12.51)	268.4 (12.24)	277.1 (12.50)	283.8 (13.38)	290.8 (13.45)
0.02% White oil N70 (A)	20	219.6 (15.76)	229.5 (16.36)	242.1 (17.66)	251.5 (17.65)	262.0 (18.75)	268.6 (19.01)	277.5 (20.36)	284.5 (19.90)	292.5 (20.96)
0.2% White oil N70 (A)	20	217.1 (15.38)	226.9 (15.91)	239.4 (16.97)	247.5 (16.49)	258.0 (17.48)	265.1 (17.21)	273.6 (17.27)	280.7 (18.01)	288.5 (18.26)
2% White oil N70 (A)	20	217.5 (16.86)	226.9 (17.00)	238.4 (18.01)	246.5 (16.84)	256.8 (17.26)	263.8 (16.80)	271.9 (16.88)	278.3 (17.73)	285.5 (17.50)
0.002% White oil P15 (H)	20	220.2 (12.02)	231.1 (12.88)	243.4 (14.01)	251.6 (14.23)	261.0 (13.92)	267.5 (14.16)	275.8 (13.64)	283.0 (13.99)	291.4 (13.24)
0.02% White oil P15 (H)	20	220.4 (14.82)	230.3 (14.89)	241.9 (15.66)	251.1 (15.74)	260.1 (15.99)	267.6 (16.25)	275.9 (16.83)	281.9 (17.36)	289.7 (17.66)
0.2% White oil P15 (H)	20	220.3 (11.91)	230.8 (12.70)	242.6 (13.86)	251.7 (14.67)	261.9 (15.21)	269.1 (16.62)	277.4 (16.83)	284.5 (17.18)	291.5 (16.94)
2% White oil P15 (H)	20	221.5 (15.38)	231.5 (15.64)	243.3 (15.96)	252.1 (16.06)	262.1 (17.23)	267.1 (16.77)	277.0 (17.07)	283.4 (18.49)	291.0 (18.84)
0.002% White oil N10 (A)	20	212.8** (18.28)	222.2** (18.00)	233.6* (18.61)	243.4* (20.20)	253.4* (22.24)	259.6* (21.70)	270.0 (23.20)	275.1 (22.81)	282.6 (23.07)
0.02% White oil N10 (A)	20	220.5 (13.23)	230.1 (14.13)	240.9 (15.28)	249.6 (16.03)	259.5 (15.87)	265.5 (16.42)	274.3 (17.18)	281.4 (16.84)	287.6 (18.39)
0.2% White oil N10 (A)	20	219.7 (18.64)	231.1 (18.54)	243.4 (18.89)	252.6 (18.22)	263.0 (19.53)	269.6 (19.36)	279.6 (19.14)	286.8 (19.14)	294.9 (18.26)

continued....

Table 1. continued

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0% Control	60	222.3 (14.94)	232.3 (14.94)	242.9 (15.58)	253.1 (15.69)	262.4 (16.22)	268.9 (16.57)	277.5 (16.89)	283.2 (17.40)	291.4 (17.87)
0.002% White oil N15 (H)	20	224.6 (10.89)	233.6 (12.37)	245.9 (12.49)	253.7 (12.07)	263.4 (13.02)	270.4 (13.60)	278.0 (14.28)	283.0 (14.42)	290.5 (15.48)
0.02% White oil N15 (H)	20	222.9 (15.35)	230.8 (16.28)	241.7 (15.80)	251.9 (16.58)	261.9 (15.99)	268.1 (17.13)	277.2 (18.05)	282.8 (18.01)	290.7 (18.84)
0.2% White oil N15 (H)	20	222.4 (13.34)	232.9 (14.75)	244.6 (15.40)	253.9 (15.52)	264.0 (16.42)	270.6 (16.63)	279.5 (17.36)	285.2 (17.80)	294.2 (18.33)
2% White oil N15 (H)	20	217.1 (18.05)	227.9 (18.54)	239.8 (19.63)	249.0 (19.88)	259.4 (19.45)	265.5 (20.53)	273.6 (21.06)	280.9 (21.55)	287.9 (22.17)
0.002% White oil N70 (H)	20	215.6 (21.10)	225.0 (21.23)	238.0 (22.85)	247.0 (22.79)	257.1 (22.45)	264.0 (22.28)	272.1 (24.44)	278.8 (24.24)	285.4 (26.10)
0.02% White oil N70 (H)	20	214.8* (17.23)	223.3* (17.31)	235.4 (17.43)	242.7** (18.44)	253.4* (18.72)	260.3* (18.58)	269.2 (18.97)	275.8 (18.99)	282.7 (20.05)
0.2% White oil N70 (H)	20	215.3 (16.87)	225.3 (16.63)	236.9 (17.61)	246.4 (17.86)	256.5 (17.85)	262.0 (17.74)	271.6 (18.63)	277.5 (19.07)	286.3 (18.91)
2% White oil N70 (H)	20	222.9 (12.34)	234.0 (12.59)	245.7 (11.89)	254.8 (11.99)	264.2 (12.75)	270.4 (12.97)	279.1 (13.93)	286.4 (14.34)	293.5 (14.21)

continued....

Table 1. continued

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0.2% High melting point wax	20	224.8 (12.37)	234.9 (12.82)	247.1 (13.27)	256.2 (13.34)	266.5 (13.24)	273.0 (13.88)	283.3 (14.92)	290.5 (15.33)	296.7 (15.22)
2% High melting point wax	20	218.4 (16.15)	229.1 (15.62)	241.8 (16.85)	249.8 (16.95)	260.5 (17.66)	266.2 (18.16)	276.3 (17.48)	283.5 (18.55)	290.3 (18.16)
0.002% High sulphur wax	20	223.1 (14.19)	233.6 (13.62)	245.3 (14.90)	254.4 (14.91)	263.9 (14.70)	271.3 (15.08)	279.9 (17.38)	284.4 (19.25)	292.5 (17.70)
0.02% High sulphur wax	20	218.1 (10.30)	228.4 (10.84)	240.3 (10.83)	249.0 (11.77)	259.7 (11.97)	265.9 (12.33)	276.0 (11.84)	283.2 (12.85)	290.0 (13.26)
0.2% High sulphur wax	20	222.1 (11.50)	232.6 (11.99)	244.4 (12.89)	252.8 (12.99)	262.6 (13.94)	269.2 (14.19)	277.5 (13.74)	284.4 (14.90)	290.8 (15.83)
2% High sulphur wax	20	217.8 (11.94)	227.6 (12.03)	240.1 (11.77)	248.3 (11.86)	258.4 (12.89)	264.5 (13.34)	273.5 (13.50)	279.4 (14.37)	285.5 (14.87)
2% Coconut oil	20	220.6 (17.66)	229.6 (18.16)	241.9 (18.61)	250.8 (18.91)	262.4 (18.41)	269.0 (19.43)	279.3 (19.47)	285.7 (19.71)	292.1 (20.37)

continued....

Table 1. continued

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
2% White oil N10 (A)	20	218.4 (14.74)	229.3 (15.12)	240.9 (16.74)	249.6 (16.40)	260.5 (17.39)	265.9 (17.37)	275.7 (19.76)	281.9 (20.15)	288.5 (19.86)
0.002% White oil P100 (H)	20	216.9 (11.92)	225.7 (12.04)	237.4 (13.62)	245.9 (13.67)	256.1 (14.80)	262.5 (14.25)	272.6 (14.94)	278.1 (15.43)	286.4 (16.52)
0.02% White oil P100 (H)	20	212.6** (12.58)	223.9* (12.35)	234.1* (13.29)	236.6*** (20.11)	251.9* (13.99)	258.1* (15.05)	268.8* (15.99)	275.4 (15.87)	282.7 (17.20)
0.2% White oil P100 (H)	20	218.3 (15.29)	229.1 (15.62)	241.5 (15.44)	249.8 (16.08)	261.0 (15.80)	267.5 (16.15)	276.3 (16.19)	282.8 (17.36)	289.5 (16.85)
2% White oil P100 (H)	20	219.1 (14.75)	229.9 (14.62)	242.4 (14.34)	250.9 (14.87)	260.5 (15.39)	268.0 (15.39)	277.0 (15.85)	284.0 (15.86)	290.7 (16.61)
0.002% Low melting point wax	20	217.9 (15.78)	228.9 (16.69)	239.9 (17.31)	249.4 (16.63)	259.8 (17.89)	266.2 (19.07)	276.7 (19.68)	283.2 (19.76)	289.8 (18.75)
0.02% Low melting point wax	20	218.2 (15.86)	228.7 (16.44)	240.4 (18.13)	248.5 (17.64)	258.6 (17.98)	264.8 (18.69)	274.9 (17.90)	281.2 (19.07)	288.4 (19.74)
0.2% Low melting point wax	20	214.1* (16.64)	224.9 (16.44)	235.8 (17.74)	244.5* (18.29)	254.9 (18.13)	261.9 (19.14)	271.0 (19.46)	277.3 (20.99)	285.4 (21.03)
2% Low melting point wax	20	220.1 (15.74)	230.6 (16.83)	243.1 (17.39)	252.2 (18.25)	262.8 (18.48)	269.0 (18.53)	279.6 (18.77)	285.0 (20.29)	292.2 (20.27)
0.002% High melting point wax	20	219.5 (12.30)	229.8 (12.07)	241.9 (13.26)	251.1 (13.59)	261.5 (15.43)	269.0 (15.67)	277.5 (15.09)	284.5 (15.44)	291.3 (15.82)
0.02% High melting point wax	20	223.7 (14.06)	233.8 (13.33)	245.3 (14.50)	254.4 (14.90)	264.0 (15.96)	270.6 (16.52)	281.1 (17.33)	286.6 (17.47)	294.3 (17.17)

continued....

Table 1. continued.

Group	n	Study days 59	63	66	70	73	77	80	84	87	90
0.2% White oil N70 (A)	20	294.8 (19.06)	301.3 (17.92)	307.2 (19.47)	312.9 (18.90)	317.0 (19.24)	323.8 (19.42)	327.8 (19.53)	333.2 (19.14)	337.2 (19.40)	339.0 (20.06)
2% White oil N70 (A)	20	291.3 (18.78)	297.1 (19.06)	302.6 (18.77)	309.6 (20.38)	313.4 (20.60)	320.4 (20.13)	326.0 (21.03)	330.4 (20.05)	332.5 (22.09)	333.0 (21.90)
0.002% White oil P15 (H)	20	297.1 (13.13)	303.6 (12.79)	309.6 (12.86)	315.7 (14.21)	321.0 (14.08)	327.9 (13.85)	331.5 (13.27)	337.5 (13.16)	342.1 (13.70)	341.3 (14.10)
0.02% White oil P15 (H)	20	295.3 (18.07)	301.2 (18.30)	308.3 (18.09)	315.0 (19.27)	319.4 (18.97)	325.3 (19.72)	329.8 (20.40)	335.7 (19.46)	338.4 (19.75)	339.9 (20.32)
0.2% White oil P15 (H)	20	297.1 (17.74)	303.1 (17.69)	310.3 (17.88)	316.1 (17.71)	320.8 (19.03)	328.5 (19.62)	333.9 (19.74)	338.2 (20.08)	341.1 (19.60)	343.4 (19.88)
2% White oil P15 (H)	20	297.0 (19.17)	304.0 (20.11)	309.4 (20.17)	316.0 (21.35)	320.4 (21.69)	327.6 (21.96)	332.3 (21.21)	338.1 (20.99)	338.9 (23.66)	338.3 (24.64)
0.002% White oil N10 (A)	20	288.8 (23.48)	295.3 (25.00)	301.0 (24.83)	307.3 (24.97)	312.6 (25.56)	318.4 (26.29)	323.0 (25.99)	328.8 (26.56)	333.8 (25.63)	334.6 (27.07)
0.02% White oil N10 (A)	20	293.5 (18.87)	300.0 (18.15)	306.4 (18.93)	313.0 (18.72)	316.1 (19.08)	323.1 (19.40)	327.4 (19.59)	332.6 (19.54)	338.0 (19.88)	338.4 (20.31)
0.2% White oil N10 (A)	20	300.0 (18.02)	307.9 (18.26)	314.0 (18.41)	320.5 (18.69)	326.1 (18.94)	331.0 (18.20)	335.7 (18.30)	341.9 (18.69)	346.6 (19.18)	346.6 (18.91)
2% White oil N10 (A)	20	295.3 (20.27)	302.3 (20.10)	307.8 (20.35)	314.4 (20.95)	319.3 (21.75)	324.8 (21.67)	330.3 (22.32)	336.9 (22.60)	337.0 (25.15)	337.0 (26.61)
0.002% White oil P100 (H)	20	292.0 (16.06)	300.6 (16.89)	305.5 (17.62)	312.4 (17.24)	318.0 (18.06)	324.6 (18.84)	328.9 (18.22)	334.4 (19.23)	341.1 (19.34)	341.5 (20.44)

continued....

Table 1. Continued.

Group	n	Study days 59	63	66	70	73	77	80	84	87	90
0% Control	60	297.3 (18.12)	303.6 (18.16)	308.7 (18.33)	315.1 (19.29)	320.0 (19.11)	326.7 (19.19)	331.0 (19.16)	336.1 (19.30)	340.0 (19.88)	339.7 (20.79)
0.002% White oil N15 (H)	20	297.0 (16.31)	303.0 (15.92)	308.4 (16.72)	315.8 (16.77)	320.0 (17.60)	327.9 (18.11)	331.6 (18.36)	336.3 (18.77)	340.6 (18.76)	341.3 (19.54)
0.02% White oil N15 (H)	20	296.4 (20.21)	301.9 (18.96)	307.6 (19.69)	314.0 (19.88)	318.2 (20.27)	325.6 (20.98)	329.4 (21.02)	334.5 (21.01)	338.5 (21.53)	339.5 (22.75)
0.2% White oil N15 (H)	20	299.9 (20.21)	306.1 (19.85)	312.0 (20.18)	317.7 (20.50)	323.3 (20.98)	328.8 (20.46)	333.9 (20.13)	339.9 (20.83)	344.4 (21.61)	345.1 (21.26)
2% White oil N15 (H)	20	294.7 (23.40)	301.5 (23.41)	307.3 (23.26)	314.2 (23.22)	318.9 (23.22)	325.4 (22.07)	329.8 (22.39)	333.5 (23.24)	337.2 (23.24)	337.6 (24.76)
0.002% White oil N70 (H)	20	291.9 (26.00)	298.9 (26.17)	303.6 (27.29)	309.6 (28.45)	315.3 (28.32)	322.1 (29.65)	325.9 (30.16)	331.8 (29.87)	335.5 (30.84)	336.8 (31.82)
0.02% White oil N70 (H)	20	289.1 (21.07)	296.3 (20.53)	301.0 (20.97)	307.5 (20.10)	312.5 (20.12)	319.5 (20.52)	324.9 (20.44)	329.9 (20.62)	333.9 (21.29)	334.5 (21.02)
0.2% White oil N70 (H)	20	291.4 (18.90)	298.7 (19.46)	304.2 (19.49)	310.7 (20.76)	314.5 (21.77)	322.8 (21.47)	325.9 (22.08)	331.7 (22.77)	335.5 (21.71)	336.3 (22.28)
2% White oil N70 (H)	20	299.5 (16.39)	305.8 (15.85)	311.0 (15.24)	317.5 (15.44)	323.4 (16.04)	329.7 (15.51)	334.6 (16.61)	338.4 (16.54)	341.3 (16.42)	342.0 (15.83)
0.002% White oil N70 (A)	20	296.8 (13.83)	303.4 (14.11)	308.9 (13.50)	315.1 (13.19)	321.5 (14.00)	326.4 (13.74)	332.4 (14.50)	336.9 (14.11)	341.3 (14.89)	342.1 (16.92)
0.02% White oil N70 (A)	20	298.3 (20.60)	304.8 (20.71)	309.8 (21.22)	315.3 (21.92)	320.5 (22.14	325.6 (21.51	331.4 (22.60)	336.9 (22.84)	340.6 (22.48)	342.9 (23.19)

continued....

Table 1. continued.

Group	n	Study days 59	63	66	70	73	77	80	84	87	90
0.002% High sulphur wax	20	298.9 (18.72)	305.5 (18.95)	311.5 (17.76)	317.1 (19.06)	322.6 (18.47)	328.9 (17.73)	332.6 (17.34)	338.7 (18.28)	343.4 (18.11)	344.5 (18.98)
0.02% High sulphur wax	20	295.7 (13.30)	302.4 (13.59)	308.5 (13.24)	313.5 (13.31)	318.3 (14.09)	324.1 (13.82)	328.5 (13.97)	334.5 (13.46)	338.9 (14.54)	339.8 (14.48)
0.2% High sulphur wax	20	297.8 (16.04)	303.0 (17.21)	309.0 (16.91)	313.1 (17.67)	318.8 (18.42)	325.5 (18.70)	329.3 (19.38)	335.7 (20.08)	340.1 (19.68)	339.8 (20.41)
2% High sulphur wax	20	292.4 (14.88)	299.5 (14.43)	304.9 (14.15)	310.5 (15.05)	315.6 (14.62)	320.9 (14.89)	327.1 (15.37)	331.3 (14.68)	335.7 (16.16)	335.5 (15.94)
2% Coconut oil	20	299.6 (20.69)	307.0 (19.99)	313.3 (20.62)	318.5 (20.35)	323.8 (20.62)	329.2 (20.84)	333.8 (19.84)	339.2 (20.12)	344.3 (20.87)	344.2 (20.24)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscript indicates the sample size (n) when it is different from that given.
Individual data reported in Appendices 12, 13, 16 and 17

Table 1. continued.

Group	n	Study days 59	63	66	70	73	77	80	84	87	90
0.02% White oil P100 (H)	20	288.9 (17.20)	295.0 (17.10)	301.2 (17.65)	307.1 (18.75)	312.1 (19.66)	317.5 (20.96)	322.0 (19.97)	327.6 (21.08)	332.0 (21.54)	332.0 (22.71)
0.2% White oil P100 (H)	20	295.5 (16.06)	302.1 (17.43)	308.2 (17.63)	314.2 (17.88)	318.5 (17.16)	325.4 (17.90)	331.4 (18.23)	336.0 (17.98)	340.9 (17.69)	341.1 (17.77)
2% White oil P100 (H)	20	296.6 (16.00)	304.5 (16.26)	310.0 (16.90)	316.4 (17.28)	321.0 (16.20)	327.1 (16.34)	332.1 (16.17)	339.1 (17.78)	342.7 (18.25)	342.8 (17.92)
0.002% Low melting point wax	20	296.5 (19.45)	302.6 (20.12)	308.9 (19.83)	314.4 (21.72)	321.0 (21.96)	327.7 (22.03)	331.3 (21.93)	336.7 (22.75)	340.9 (24.36)	342.0 (23.82)
0.02% Low melting point wax	20	294.2 (19.84)	300.0 (19.26)	306.3 (19.81)	312.6 (20.54)	317.7 (20.74)	324.2 (20.91)	328.3 (21.58)	334.6 (22.71)	338.3 (21.57)	338.5 (21.92)
0.2% Low melting point wax	20	290.6 (20.60)	296.6 (21.85)	302.6 (22.43)	308.7 (22.98)	313.1 (22.58)	319.7 (22.92)	325.0 (23.39)	330.4 (22.87)	335.1 (24.37)	335.5 (23.00)
2% Low melting point wax	20	298.5 (20.42)	305.3 (20.33)	310.9 (21.01)	317.5 (19.81)	321.6 (20.38)	326.5 (22.08)	331.0 (21.65)	336.5 (21.91)	340.2 (22.46)	340.5 (23.40)
0.002% High melting point wax	20	297.1 (16.29)	304.1 (16.32)	309.5 (16.39)	315.2 (16.44)	320.2 (17.37)	327.0 (17.52)	331.7 (18.25)	336.9 (18.23)	343.0 (19.87)	342.3 (18.84)
0.02% High melting point wax	20	300.5 (17.96)	307.0 (16.93)	313.5 (18.12)	319.9 (18.73)	323.8 (17.89)	328.9 (18.75)	333.2 (19.06)	339.4 (19.77)	345.1 (19.51)	345.7 (20.03)
0.2% High melting point wax	20	303.6 (15.90)	310.2 (15.93)	316.3 (15.94)	321.6 (16.35)	326.8 (16.55)	332.2 (16.67)	337.4 (16.70)	342.8 (16.32)	347.6 (16.23)	348.5 (15.98)
2% High melting point wax	20	296.9 (19.46)	302.9 (18.26)	308.1 (19.30)	315.0 (18.67)	319.8 (19.71)	326.4 (19.69)	331.0 (20.12)	337.0 (19.85)	340.8 (20.34)	341.6 (20.82)

continued....

Table 2. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0% Control	30	218.0 (14.42)	228.0 (14.87)	239.8 (15.17)	248.4 (15.18)	256.7 (15.08)	265.3 (15.88)	273.1 (15.66)	279.6 (16.57)	289.0 (16.62)
2% White oil N15 (H)	10	221.9 (16.30)	231.9 (16.80)	245.4 (16.76)	253.5 (16.39)	262.4 (16.85)	270.3 (16.81)	279.3 (16.89)	284.9 (17.74)	295.1 (17.57)
2% White oil N70 (H)	10	218.8 (8.12)	226.8 (8.07)	240.4 (9.23)	248.1 (8.39)	258.3 (8.83)	264.8 (9.95)	274.9 (9.60)	280.4 (10.32)	290.6 (11.83)
2% White oil N70 (A)	10	228.5* (11.88)	239.5* (12.29)	253.2* (12.72)	260.5* (12.76)	272.5** (14.06)	280.9** (12.21)	287.5* (14.91)	298.5** (15.30)	307.8** (14.18)
2% White oil P15 (H)	10	214.4 (13.70)	223.8 (14.30)	238.1 (15.69)	244.7 (15.91)	253.8 (17.24)	262.9 (15.29)	272.0 (15.21)	279.9 (15.13)	288.3 (16.00)
2% White oil N10 (A)	10	223.2 (19.95)	233.3 (19.55)	245.8 (20.14)	254.7 (20.77)	266.4 (22.06)	273.4 (20.72)	284.1* (21.00)	290.9* (22.01)	298.1 (21.02)
2% White oil P100 (H)	10	221.5 (13.64)	232.6 (14.83)	245.4 (14.68)	254.6 (14.63)	264.7 (16.04)	273.0 (16.25)	284.2* (15.86)	291.6* (16.58)	297.6 (18.07)
2% Low melting point wax	10	217.3 (14.38)	227.0 (15.02)	239.6 (14.06)	247.4 (14.03)	258.0 (14.70)	265.7 (13.86)	275.2 (15.15)	282.4 (15.03)	288.1 (15.84)
2% High melting point wax	10	219.9 (19.38)	229.2 (18.88)	241.4 (16.95)	251.0 (17.81)	259.9 (18.09)	267.8 (18.83)	279.1 (18.99)	286.2 (19.19)	291.6 (19.49)
2% High sulphur wax	10	222.3 (10.91)	233.3 (10.14)	245.8 (10.28)	254.4 (9.30)	265.3 (8.63)	273.0 (8.35)	285.6* (9.16)	290.8 (7.97)	298.7 (8.19)
2% Coconut oil	10	218.7 (5.27)	229.8 (6.84)	244.1 (7.77)	253.1 (8.85)	262.7 (9.76)	269.6 (10.52)	280.8 (12.00)	286.9 (11.07)	294.9 (12.07)

continued....

Table 2. Body weights (g) of male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0% Control	30	72.0 (7.57)	92.4 (8.59)	108.2 (9.22)	127.6 (10.68)	140.9 (11.15)	160.4 (12.39)	175.3 (12.76)	193.9 (13.99)	204.9 (14.10)
2% White oil N15 (H)	10	76.1 (8.50)	96.0 (10.19)	111.5 (10.21)	130.9 (11.53)	144.3 (12.90)	165.1 (15.58)	179.0 (18.25)	196.8 (20.50)	208.4 (17.68)
2% White oil N70 (H)	10	71.5 (5.15)	92.5 (6.96)	108.3 (5.56)	127.7 (6.24)	141.4 (6.22)	160.8 (7.57)	175.8 (7.79)	193.7 (7.53)	205.7 (6.86)
2% White oil N70 (A)	10	72.1 (8.63)	94.2 (9.16)	110.0 (8.91)	130.2 (8.46)	144.5 (9.48)	166.4 (11.45)	181.5 (10.78)	201.5 (11.07)	213.7 (12.20)
2% White oil P15 (H)	10	70.5 (7.21)	90.9 (7.49)	105.9 (7.06)	124.1 (8.28)	137.2 (10.56)	155.6 (10.89)	170.3 (11.96)	188.5 (13.29)	200.1 (13.49)
2% White oil N10 (A)	10	72.4 (7.89)	94.3 (9.18)	111.6 (11.79)	128.8 (12.84)	144.1 (14.55)	163.9 (17.49)	179.6 (18.85)	195.4 (19.66)	209.5 (20.58)
2% White oil P100 (H)	10	71.6 (7.44)	93.9 (7.89)	110.3 (8.03)	128.5 (7.95)	142.9 (8.62)	162.5 (9.56)	177.4 (10.00)	196.4 (11.34)	207.0 (12.61)
2% Low melting point wax	10	71.6 (8.93)	92.7 (9.39)	108.9 (8.77)	126.0 (8.77)	140.1 (10.15)	159.4 (12.42)	174.8 (13.21)	191.9 (14.07)	202.8 (13.69)
2% High melting point wax	10	71.6 (8.07)	93.2 (8.99)	110.7 (10.87)	127.9 (13.02)	140.8 (15.15)	162.1 (18.15)	177.2 (19.33)	195.1 (19.80)	205.9 (20.09)
2% High sulphur wax	10	71.4 (8.57)	93.0 (9.08)	112.0 (9.72)	130.8 (9.58)	146.5 (10.30)	165.5 (11.72)	180.3 (11.95)	198.8 (10.32)	208.6 (10.15)
2% Coconut oil	10	72.9 (6.89)	93.2 (7.41)	109.2 (7.04)	125.8 (6.21)	141.0 (6.60)	162.0 (7.02)	176.9 (8.61)	192.7 (4.97)	204.6 (6.11)

continued....

Table 2. continued.

Group	n	Study days								
		91	94	98	101	105	108	112	115	118
0% Control	30	343.3 (18.11)	346.5 (17.99)	348.1 (19.32)	352.5 (18.81)	355.1 (19.09)	358.7 (18.05)	361.1 (17.89)	363.8 (17.87)	365.7 (17.88)
2% White oil N15 (H)	10	350.3 (16.28)	355.4 (16.16)	357.4 (15.61)	362.4 (16.65)	364.3 (15.99)	367.2 (15.52)	368.2 (16.25)	371.0 (16.57)	372.5 (16.73)
2% White oil N70 (H)	10	345.7 (13.57)	349.0 (14.65)	351.0 (14.27)	355.0 (16.34)	357.1 (15.35)	360.1 (16.42)	362.4 (17.08)	364.0 (17.56)	366.5 (17.81)
2% White oil N70 (A)	10	367.9*** (17.53)	369.2*** (17.52)	374.3*** (18.22)	377.9*** (18.54)	381.5*** (18.48)	384.8*** (19.54)	387.9*** (19.99)	390.3*** (20.20)	391.2*** (21.06)
2% White oil P15 (H)	10	343.1 (21.18)	346.6 (22.26)	350.6 (21.42)	354.9 (21.45)	357.2 (20.76)	361.4 (22.02)	362.4 (20.60)	365.4 (21.27)	366.8 (20.21)
2% White oil N10 (A)	10	352.2 (23.35)	356.3 (24.51)	358.6 (24.91)	364.2 (24.48)	366.7 (26.48)	370.2 (26.02)	372.6 (23.19)	375.8 (24.57)	376.8 (24.19)
2% White oil P100 (H)	10	349.3 (19.75)	353.2 (18.27)	357.4 (17.75)	362.1 (18.95)	365.1 (16.99)	369.3 (17.80)	371.9 (18.91)	374.1 (18.14)	376.4 (18.41)
2% Low melting point wax	10	335.3 (16.45)	339.5 (17.08)	341.1 (17.86)	345.3 (18.78)	347.9 (18.11)	350.2 (17.83)	352.5 (16.49)	354.7 (16.89)	357.2 (15.82)
2% High melting point wax	10	346.4 (20.34)	348.1 (21.77)	352.7 (20.59)	355.7 (20.25)	358.9 (20.94)	358.9 (20.95)	361.8 (19.51)	363.8 (19.96)	366.1 (18.39)
2% High sulphur wax	10	357.9* (6.51)	361.6* (6.35)	364.1* (7.46)	368.3* (7.36)	370.4* (9.20)	372.1* (7.34)	374.6* (8.14)	376.8* (8.31)	377.5 (8.51)
2% Coconut oil	10	350.1 (14.08)	353.6 (13.17)	356.9 (13.54)	359.2 (13.58)	361.0 (14.25)	364.0 (13.90)	366.2 (14.94)	367.0 (14.52)	368.7 (13.47)

continued

Table 2. continued.

Group	n	Study days								
		59	63	66	70	73	77	80	84	87
0% Control	30	295.8 (16.74)	301.9 (16.90)	308.6 (17.24)	315.4 (17.35)	319.6 (17.12)	324.8 (17.94)	330.4 (17.50)	335.1 (17.75)	339.2 (18.30)
2% White oil N15 (H)	10	301.1 (18.16)	307.9 (17.16)	313.7 (16.65)	322.2 (16.87)	326.2 (15.78)	332.6 (16.98)	337.2 (16.55)	342.4 (16.64)	346.1 (17.14)
2% White oil N70(H)	10	293.4 (11.14)	301.7 (11.42)	308.2 (12.64)	315.9 (11.63)	320.4 (12.10)	326.3 (13.05)	330.3 (12.64)	334.7 (12.35)	340.3 (12.56)
2% White oil N70 (A)	10	313.8** (15.32)	321.0** (16.10)	327.6** (16.16)	335.6** (15.97)	339.6** (15.03)	347.0*** (15.22)	352.4*** (16.88)	356.1** (17.23)	362.3*** (17.10)
2% White oil P15 (H)	10	294.2 (16.50)	300.7 (16.96)	306.1 (18.21)	312.3 (17.90)	316.7 (18.60)	323.4 (20.39)	326.7 (20.51)	332.1 (19.96)	339.2 (20.87)
2% White oil N10 (A)	10	303.9 (22.10)	313.6 (24.35)	317.9 (22.40)	325.0 (23.30)	328.4 (24.30)	333.0 (24.36)	336.8 (24.43)	343.2 (24.43)	349.8 (23.75)
2% White oil P100 (H)	10	303.4 (17.65)	311.9 (17.93)	317.1 (17.27)	323.0 (17.17)	325.9 (18.02)	330.2 (17.74)	334.5 (18.12)	339.7 (18.52)	346.1 (18.82)
2% Low melting point wax	10	293.6 (15.83)	302.1 (15.62)	305.8 (16.09)	311.8 (16.01)	314.3 (15.71)	319.0 (14.96)	322.7 (15.57)	326.5 (17.02)	332.9 (16.11)
2% High melting point wax	10	297.2 (21.03)	307.8 (21.25)	312.6 (21.21)	318.9 (20.47)	323.2 (20.74)	327.2 (21.00)	333.2 (20.56)	337.2 (19.92)	343.5 (20.59)
2% High sulphur wax	10	303.8 (7.94)	314.4* (8.98)	319.6 (6.40)	327.8* (5.83)	331.9* (6.44)	336.9 (7.43)	342.1 (7.09)	347.5 (7.09)	354.3* (6.78)
2% Coconut oil	10	299.1 (12.24)	309.2 (13.12)	315.1 (13.36)	323.6 (12.62)	327.4 (12.93)	332.7 (14.21)	335.7 (12.53)	340.8 (13.64)	346.0 (14.84)

continued....

Table 3. Body weights (g) of male rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Study days						
		-4	0	3	7	10	14	17
0% Control	5	66.8 (5.45)	87.8 (5.81)	101.6 (6.99)	122.6 (7.23)	135.2 (7.46)	154.8 (8.26)	168.4 (10.29)
2% White oil N15 (H)	5	67.4 (5.94)	87.6 (7.30)	101.2 (8.47)	120.4 (8.71)	133.4 (8.26)	151.4 (7.33)	166.2 (8.11)
2% White oil N70 (H)	5	70.4 (2.51)	90.4 (3.78)	106.0 (5.00)	125.0 (4.58)	138.6 (4.83)	157.8 (2.28)	169.6 (1.82)
2% White oil N70 (A)	5	65.0 (7.07)	85.4 (9.15)	101.8 (8.38)	123.8 (8.58)	136.6 (9.02)	155.6 (10.95)	168.4 (12.22)
2% White oil P15 (H)	5	68.0 (10.07)	86.8 (12.03)	103.0 (12.63)	125.2 (11.65)	138.2 (10.89)	158.2 (11.82)	174.6 (11.26)
2% White oil N10 (A)	5	68.6 (8.14)	89.2 (8.23)	105.8 (9.52)	126.6 (12.92)	140.2 (13.31)	158.8 (15.74)	173.2 (16.07)
2% White oil P100 (H)	5	67.6 (5.13)	89.2 (7.85)	104.2 (6.72)	123.2 (5.67)	134.8 (6.57)	151.6 (7.33)	163.6 (8.35)
2% Low melting point wax	5	67.4 (5.32)	87.4 (7.06)	103.0 (7.42)	123.6 (8.47)	135.2 (9.60)	153.8 (11.19)	165.4 (10.21)
2% High melting point wax	5	68.0 (7.45)	89.2 (8.70)	102.6 (7.30)	124.2 (9.76)	136.0 (10.95)	155.4 (12.74)	168.4 (14.98)
2% High sulphur wax	5	67.0 (6.44)	88.8 (8.79)	104.0 (11.47)	125.8 (13.85)	137.8 (14.77)	155.8 (16.18)	168.8 (16.59)
2% Coconut oil	5	69.0 (8.19)	90.8 (9.12)	107.2 (10.38)	128.4 (10.92)	143.0 (11.42)	162.6 (11.93)	175.6 (12.42)

continued....

Table 2. continued.

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:- 21 day results of (p) two-sided pooled two sample t-tests, or (t) two-sided two sample t-tests.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Individual data reported in Appendix 18.

Table 3. (continued)

Group	n	Study days						
		45	49	52	56	59	63	66
0% Control	5	256.2 (10.94)	261.2 (10.52)	267.6 (12.05)	276.8 (12.38)	281.8 (13.61)	289.8 (12.17)	294.6 (15.21)
2% White oil N15 (H)	5	254.4 (9.76)	260.4 (10.01)	265.2 (10.71)	272.6 (11.08)	279.2 (12.83)	285.6 (12.14)	290.4 (11.30)
2% White oil N70 (H)	5	259.6 (5.32)	266.0 (6.63)	271.8 (4.97)	279.4 (5.27)	285.8 (5.63)	292.8 (4.60)	298.4 (3.78)
2% White oil N70 (A)	5	261.2 (8.14)	267.6 (8.05)	275.0 (10.00)	281.8 (8.20)	285.8 (8.56)	292.6 (8.91)	299.2 (10.57)
2% White oil P15 (H)	5	268.6 (15.04)	273.6 (14.03)	280.8 (13.77)	286.0 (15.44)	294.2 (14.96)	298.0 (14.63)	306.6 (14.98)
2% White oil N10 (A)	5	261.8 (15.83)	269.8 (16.45)	275.6 (17.73)	282.6 (17.50)	289.6 (18.12)	295.4 (19.46)	302.4 (19.01)
2% White oil P100 (H)	5	252.2 (12.79)	261.6 (12.36)	266.8 (14.48)	274.6 (15.76)	280.6 (15.44)	288.4 (16.12)	294.0 (16.76)
2% Low melting point wax	5	252.2 (12.62)	261.0 (13.17)	266.6 (13.92)	273.2 (14.25)	279.6 (14.54)	285.2 (14.79)	291.6 (16.04)
2% High melting point wax	5	260.2 (15.40)	268.4 (14.62)	274.4 (14.74)	281.2 (16.07)	285.8 (17.48)	293.0 (15.36)	299.0 (16.40)
2% High sulphur wax	5	259.8 (23.36)	268.4 (25.13)	273.6 (24.81)	282.0 (26.64)	284.0 (27.36)	289.8 (27.00)	295.2 (29.35)
2% Coconut oil	5	272.2 (14.17)	280.6* (15.18)	286.8* (15.83)	291.6 (16.65)	298.2 (19.04)	306.6 (19.62)	312.2 (19.75)

continued

Table 3. continued

Group	n	Study days						
		21	24	28	31	35	38	42
0% Control	5	186.4 (10.62)	197.4 (10.64)	211.8 (12.62)	221.6 (12.52)	229.8 (12.03)	239.6 (10.83)	249.0 (12.00)
2% White oil N15 (H)	5	183.2 (7.22)	194.4 (8.02)	205.6 (7.99)	219.0 (7.71)	229.4 (7.33)	237.2 (7.66)	248.6 (8.65)
2% White oil N70 (H)	5	186.6 (1.52)	198.4 (2.19)	210.8 (2.49)	224.4 (4.34)	234.6 (4.22)	243.0 (3.08)	253.0 (6.75)
2% White oil N70 (A)	5	188.2 (11.39)	200.4 (11.97)	213.0 (9.30)	225.0 (9.75)	234.6 (9.13)	244.2 (10.03)	254.2 (7.50)
2% White oil P15 (H)	5	193.8 (11.67)	207.8 (10.38)	218.6 (10.31)	232.6 (10.99)	241.8 (12.50)	252.2 (12.70)	260.2 (14.08)
2% White oil N10 (A)	5	190.8 (15.56)	202.2 (15.56)	215.6 (14.66)	225.4 (15.52)	236.4 (15.82)	245.6 (15.92)	254.4 (15.08)
2% White oil P100 (H)	5	179.4 (9.63)	191.8 (11.43)	205.0 (13.34)	216.0 (12.75)	227.0 (12.08)	236.4 (12.40)	244.2 (12.48)
2% Low melting point wax	5	182.4 (10.60)	194.6 (10.78)	208.0 (9.90)	217.4 (9.69)	231.4 (11.80)	237.0 (13.64)	246.6 (13.69)
2% High melting point wax	5	186.8 (17.25)	199.2 (16.54)	214.4 (14.69)	226.0 (16.11)	236.2 (15.11)	241.8 (15.16)	252.8 (14.70)
2% High sulphur wax	5	188.6 (18.47)	201.2 (19.41)	215.2 (20.57)	225.0 (20.36)	235.0 (20.35)	241.0 (21.41)	252.0 (24.11)
2% Coconut oil	5	195.0 (12.29)	208.8 (12.09)	222.4 (12.50)	234.0 (13.40)	245.8 (12.44)	254.4 (12.99)	263.6 (13.01)

continued....

Table 3. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Individual data reported in Appendix 14.

Table 3. (continued)

Group	n	Study days						
		70	73	77	80	84	87	90
0% Control	5	302.0 (13.08)	307.6 (11.93)	315.2 (14.02)	321.0 (13.47)	327.4 (12.18)	331.2 (15.45)	330.8 (12.85)
2% White oil N15 (H)	5	296.8 (12.05)	300.0 (11.11)	307.2 (12.68)	312.4 (12.70)	317.4 (11.91)	321.6 (13.41)	322.8 (11.88)
2% White oil N70 (H)	5	303.0 (5.39)	309.6 (3.44)	315.8 (4.66)	320.4 (5.18)	325.6 (2.41)	332.6 (3.21)	335.2 (1.79)
2% White oil N70 (A)	5	303.6 (9.81)	307.6 (10.83)	314.0 (8.40)	321.0 (9.72)	326.6 (9.91)	330.4 (8.96)	332.6 (8.56)
2% White oil P15 (H)	5	314.0 (17.44)	317.6 (18.20)	326.0 (18.57)	328.2 (17.48)	335.8 (19.41)	339.0 (18.00)	340.8 (19.21)
2% White oil N10 (A)	5	307.6 (18.73)	313.6 (18.45)	318.2 (19.20)	324.2 (18.51)	328.8 (19.15)	333.0 (19.13)	332.2 (17.82)
2% White oil P100 (H)	5	297.6 (18.06)	303.4 (16.10)	309.2 (19.04)	314.6 (15.60)	323.4 (17.04)	327.0 (16.78)	327.0 (18.88)
2% Low melting point wax	5	295.6 (15.18)	302.2 (15.30)	306.4 (16.01)	312.2 (16.81)	319.6 (17.66)	323.0 (17.64)	322.2 (16.18)
2% High melting point wax	5	304.4 (15.18)	308.0 (17.18)	312.2 (15.01)	319.4 (16.62)	326.6 (17.27)	330.2 (15.71)	329.4 (16.82)
2% High sulphur wax	5	301.4 (30.19)	306.4 (30.32)	312.2 (31.14)	316.6 (31.22)	323.6 (32.17)	329.0 (33.13)	326.8 (31.51)
2% Coconut oil	5	319.2 (19.18)	324.2 (20.09)	331.0 (19.99)	335.6 (19.05)	343.2 (19.84)	347.4 (20.04)	346.8 (21.31)

continued

Table 4. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0% Control	5	211.0 (7.07)	222.8 (8.54)	230.4 (8.82)	240.2 (9.12)	248.2 (9.78)	252.6 (9.29)	261.0 (10.82)	268.4 (9.74)	275.4 (9.66)
2% White oil N 15 (H)	5	204.6 (10.55)	218.2 (9.52)	230.0 (9.67)	240.0 (8.97)	251.2 (9.20)	258.6 (10.45)	265.2 (10.85)	271.4 (11.72)	278.6 (13.01)
2% White oil N 70 (H)	5	203.2 (13.18)	218.0 (13.58)	226.8 (13.05)	235.8 (13.39)	246.2 (12.26)	253.0 (13.04)	258.6 (12.70)	266.0 (12.94)	273.0 (13.36)
2% White oil N 70 (A)	5	214.6 (11.48)	226.2 (11.71)	235.8 (11.76)	243.6 (11.72)	254.0 (12.02)	262.8 (12.28)	267.0 (12.75)	274.4 (11.72)	276.6 (13.13)
2% White oil P 15 (H)	5	213.6 (6.88)	228.4 (6.35)	237.8 (7.95)	247.8 (9.26)	259.0 (10.56)	263.8 (10.87)	268.0 (11.81)	277.0 (12.31)	282.0 (13.11)
2% White oil N 10 (A)	5	219.4 (12.14)	229.4 (11.89)	240.8 (12.48)	247.4 (13.16)	258.4 (14.15)	265.6 (15.09)	273.8 (13.01)	280.4 (14.77)	290.0 (12.00)
2% White oil P 100 (H)	5	212.2 (12.99)	221.8 (12.60)	233.8 (12.91)	243.0 (14.12)	251.0 (14.82)	259.8 (14.87)	269.2 (15.67)	274.0 (16.93)	281.2 (19.33)
2% Low melting point wax	5	219.8 (20.95)	230.4 (20.98)	241.8 (21.17)	248.4 (20.45)	259.0 (19.21)	267.0 (21.07)	275.8 (21.28)	282.0 (21.99)	291.2 (21.95)
2% High melting point wax	5	207.2 (4.60)	217.6 (6.35)	232.8 (7.69)	240.2 (7.95)	251.6 (11.19)	259.2 (11.95)	267.4 (12.48)	272.8 (12.56)	282.2 (13.10)
2% High sulphur wax	5	211.8 (18.95)	222.2 (19.69)	233.8 (22.06)	242.6 (21.76)	256.0 (23.02)	260.8 (22.66)	268.2 (25.19)	275.2 (25.44)	282.2 (27.09)
2% Coconut oil	5	223.6 (14.03)	235.2 (14.81)	247.0 (15.05)	255.2 (16.08)	263.2 (16.39)	272.2* (16.63)	278.4 (15.92)	286.6 (18.37)	291.2 (19.83)

continued....

Table 4. Body weights (g) of male rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0 %

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0% Control	5	68.6 (5.03)	91.0 (4.30)	107.4 (4.39)	128.8 (4.60)	139.8 (4.87)	158.2 (3.35)	171.4 (5.59)	187.4 (6.07)	198.4 (5.94)
2% White oil N 15 (H)	5	67.0 (5.61)	87.0 (6.20)	102.6 (6.50)	120.8 (5.72)	134.4 (4.72)	151.4 (5.59)	163.0 (6.60)	180.2 (8.79)	189.8 (9.42)
2%White oil N 70 (H)	5	64.4 (4.22)	84.6 (5.55)	99.2 (5.89)	119.2 (8.04)	130.8 (6.83)	147.0 (9.22)	162.8 (11.88)	178.6 (13.39)	191.0 (13.21)
2% White oil N 70 (A)	5	67.0 (6.00)	90.0 (7.65)	105.6 (8.71)	126.0 (9.30)	139.0 (11.31)	157.6 (13.05)	173.2 (12.50)	188.2 (12.38)	201.2 (11.56)
2% White oil P 15 (H)	5	66.8 (5.50)	87.8 (3.42)	102.8 (4.82)	125.4 (4.98)	138.2 (4.66)	155.6 (4.98)	171.0 (5.05)	188.0 (4.36)	201.0 (3.32)
2% White oil N 10 (A)	5	68.2 (5.59)	89.6 (7.33)	102.4 (8.26)	123.8 (8.76)	137.0 (10.65)	156.6 (9.42)	170.8 (9.39)	190.2 (7.66)	202.8 (8.70)
2% White oil P 100(H)	5	67.6 (6.99)	89.4 (8.20)	103.6 (8.68)	125.6 (9.07)	137.2 (9.88)	156.4 (11.19)	169.6 (12.34)	188.0 (13.25)	198.4 (13.24)
2% Low melting point wax	5	66.8 (6.06)	87.2 (8.76)	101.8 (8.87)	123.4 (12.18)	136.6 (13.01)	155.4 (15.27)	171.2 (17.38)	192.0 (19.04)	205.2 (20.05)
2% High melting point wax	5	69.2 (8.87)	89.6 (8.88)	104.0 (8.37)	124.6 (8.11)	135.4 (6.99)	152.0 (6.89)	164.4 (5.37)	178.2 (4.49)	190.6 (4.62)
2% High sulphur wax	5	69.0 (5.61)	89.8 (7.73)	104.4 (9.04)	126.6 (11.19)	138.2 (12.52)	157.0 (15.23)	168.8 (15.83)	185.0 (19.82)	196.4 (19.83)
2% Coconut oil	5	66.6 (5.73)	89.0 (8.00)	102.2 (8.11)	123.8 (8.61)	139.0 (9.27)	161.0 (11.07)	176.4 (12.18)	196.2 (12.48)	207.8 (13.29)

continued....

Table 4. continued.

Group	n	Study days								
		91	94	98	101	105	108	112	115	118
0% Control	5	334.6 (14.17)	336.8 (14.46)	343.2 (14.87)	345.6 (14.48)	347.0 (16.45)	350.8 (17.77)	354.0 (16.34)	356.8 (19.11)	357.4 (18.97)
2% White oil N 15 (H)	5	337.2 (15.71)	341.2 (15.39)	347.6 (14.91)	352.4 (15.39)	354.0 (15.05)	355.2 (17.34)	361.6 (18.45)	365.4 (18.27)	366.0 (19.76)
2% White oil N 70 (H)	5	333.8 (18.57)	336.2 (18.93)	342.2 (18.58)	346.2 (16.95)	345.6 (16.85)	349.2 (18.12)	350.6 (18.64)	353.6 (19.14)	352.4 (19.06)
2% White oil N 70 (A)	5	335.2 (14.69)	338.6 (12.18)	343.0 (12.71)	347.0 (13.47)	347.8 (12.52)	351.6 (15.14)	355.4 (14.64)	359.6 (14.67)	358.4 (14.31)
2% White oil P 15 (H)	5	340.6 (14.76)	343.0 (15.17)	347.4 (14.89)	352.4 (15.24)	352.8 (15.67)	355.2 (16.21)	358.8 (15.80)	361.6 (16.52)	363.2 (16.90)
2% White oil N 10 (A)	5	349.2 (18.69)	355.4 (17.64)	357.8 (19.15)	367.0 (15.91)	368.0 (17.20)	370.8 (16.89)	374.0 (19.13)	378.6 (21.58)	379.0 (19.90)
2% White oil P 100 (H)	5	336.4 (21.01)	339.4 (19.13)	343.0 (16.08)	347.8 (17.25)	347.6 (16.50)	352.0 (17.97)	356.8 (17.71)	358.8 (18.38)	359.6 (18.57)
2% Low melting point wax	5	348.4 (27.34)	349.6 (26.24)	353.2 (26.40)	355.8 (25.19)	354.6 (25.31)	357.6 (24.55)	361.6 (24.72)	361.8 (24.48)	362.0 (25.31)
2% High melting point wax	5	338.8 (18.39)	341.8 (20.10)	345.8 (18.75)	348.8 (18.75)	350.0 (19.30)	355.8 (20.18)	358.0 (19.30)	361.8 (18.73)	363.2 (18.58)
2% High sulphur wax	5	337.4 (33.90)	340.6 (32.85)	343.8 (33.43)	349.0 (33.14)	350.0 (34.53)	352.8 (33.10)	358.2 (34.88)	361.2 (33.45)	362.4 (34.78)
2% Coconut oil	5	349.0 (20.41)	354.4 (23.42)	358.8 (22.35)	362.8 (23.19)	363.6 (21.84)	368.0 (22.37)	368.8 (19.65)	369.8 (20.91)	371.2 (19.88)

continued....

Table 4. continued.

Group	n	Study days								
		59	63	66	70	73	77	80	84	87
0% Control	5	282.8 (9.20)	290.2 (10.76)	295.2 (11.76)	300.8 (12.07)	306.2 (11.73)	312.2 (14.87)	318.8 (15.22)	322.6 (15.37)	328.4 (15.24)
2% White oil N 15 (H)	5	284.0 (12.92)	292.6 (12.28)	299.4 (13.32)	303.2 (13.86)	311.0 (13.91)	317.0 (13.13)	323.2 (13.59)	328.0 (12.63)	332.6 (13.54)
2% White oil N 70 (H)	5	279.8 (13.85)	286.8 (13.29)	293.4 (15.32)	298.8 (14.65)	306.2 (16.30)	312.6 (15.31)	319.0 (16.69)	324.2 (16.36)	327.0 (18.10)
2% White oil N 70 (A)	5	283.4 (11.91)	290.8 (11.90)	297.2 (12.38)	303.4 (11.63)	309.8 (12.11)	316.6 (13.24)	323.6 (12.28)	327.4 (12.10)	331.2 (12.01)
2% White oil P 15 (H)	5	287.4 (14.10)	295.8 (13.54)	300.4 (13.78)	308.2 (14.81)	312.4 (14.67)	319.8 (14.65)	324.0 (15.10)	329.8 (14.25)	332.0 (14.71)
2% White oil N 10 (A)	5	296.8 (13.81)	303.4 (15.84)	310.8 (17.12)	315.2 (13.55)	321.6 (16.13)	327.4 (18.42)	333.0 (16.17)	341.0 (16.54)	345.4 (16.52)
2% White oil P 100 (H)	5	285.6 (19.09)	293.8 (19.43)	298.4 (19.45)	304.0 (18.89)	308.6 (19.22)	314.8 (20.05)	318.2 (20.72)	327.2 (21.23)	331.8 (20.22)
2% Low melting point wax	5	295.2 (22.69)	303.6 (24.20)	308.4 (24.90)	315.0 (24.88)	320.8 (25.87)	324.6 (27.95)	331.6 (26.60)	337.6 (27.41)	342.2 (26.41)
2% High melting point wax	5	288.2 (11.71)	294.4 (12.22)	300.6 (14.31)	308.2 (13.85)	313.6 (15.98)	318.0 (17.01)	324.2 (17.04)	330.4 (17.73)	334.8 (18.77)
2% High sulphur wax	5	290.0 (26.52)	295.0 (28.26)	299.2 (27.64)	304.2 (29.72)	311.4 (28.97)	314.2 (30.94)	319.8 (32.07)	329.0 (33.92)	332.8 (34.23)
2% Coconut oil	5	299.2 (19.64)	305.0 (20.17)	311.8 (20.97)	318.8 (20.77)	321.2 (22.16)	328.8 (22.03)	335.0 (21.89)	342.4 (22.57)	347.0 (22.27)

continued....

Table 5. Body weights (g) of female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0% Control	60	87.9 (7.42)	101.8 (6.69)	110.2 (7.04)	120.2 (7.27)	126.9 (7.41)	135.2 (7.47)	140.6 (7.35)	146.6 (7.55)	150.1 (7.69)
0.002% White oil N15 (H)	20	86.0 (7.03)	100.7 (6.37)	108.9 (7.02)	118.3 (6.66)	126.0 (6.42)	134.6 (6.67)	137.6 (6.73)	143.7 (7.31)	148.6 (6.91)
0.02% White oil N15 (H)	20	87.4 (6.73)	100.3 (5.71)	107.8 (6.96)	117.4 (6.89)	124.7 (6.68)	132.6 (6.50)	136.3* (7.14)	142.6* (7.89)	147.1 (6.68)
0.2% White oil N15 (H)	20	88.0 (7.39)	102.3 (7.37)	109.6 (6.65)	118.7 (7.24)	126.3 (8.49)	134.6 (8.48)	139.4 (9.18)	145.2 (9.57)	149.3 (9.35)
2% White oil N15 (H)	20	88.1 (6.19)	102.1 (6.71)	109.8 (6.70)	119.1 (7.19)	126.0 (7.27)	134.5 (6.69)	138.9 (6.89)	146.2 (7.03)	149.6 (7.54)
0.002% White oil N70 (H)	20	85.5 (5.29)	100.3 (5.53)	107.8 (5.83)	117.7 (6.61)	123.9 (6.61)	131.4* (6.07)	135.4** (6.66)	142.4* (6.62)	145.5* (7.09)
0.02% White oil N70 (H)	20	88.9 (6.51)	103.1 (5.22)	110.6 (5.62)	118.9 (5.57)	125.6 (6.24)	133.2 (6.70)	137.6 (5.67)	142.5* (6.07)	146.0* (6.53)
0.2% White oil N70 (H)	20	87.3 (5.38)	102.5 (5.71)	110.2 (5.59)	119.3 (5.63)	126.2 (5.70)	134.3 (6.96)	139.4 (7.67)	144.9 (8.19)	149.6 (8.02)
2% White oil N70 (H)	20	88.3 (7.59)	102.8 (8.57)	110.1 (8.55)	119.2 (8.04)	126.7 (8.34)	135.4 (7.89)	139.4 (8.02)	144.6 (7.49)	149.9 (8.25)

continued....

Table 4. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Individual data reported in Appendix 15.

Table 5. continued.

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
2% White oil N10 (A)	20	86.3 (5.36)	100.2 (4.79)	108.2 (4.34)	117.7 (4.76)	124.2 (3.98)	132.4 (4.78)	137.4 (4.21)	143.4 (5.13)	147.8 (5.02)
0.002% White oil P100 (H)	20	87.1 (6.02)	102.3 (5.85)	109.8 (5.52)	119.1 (5.82)	126.3 (6.22)	132.9 (6.04)	138.0 (4.95)	145.4 (5.82)	149.1 (6.00)
0.02% White oil P100 (H)	20	88.7 (7.09)	102.3 (6.34)	109.7 (7.78)	119.3 (7.02)	125.2 (7.04)	132.3 (6.66)	137.5 (7.75)	143.8 (8.28)	146.9 (7.82)
0.2% White oil P100 (H)	20	86.6 (7.57)	100.7 (7.07)	109.0 (7.15)	119.1 (7.77)	125.3 (7.35)	133.7 (7.28)	137.8 (7.34)	145.5 (6.96)	149.8 (6.64)
2% White oil P100 (H)	20	85.9 (7.69)	99.3 (7.03)	107.6 (7.40)	117.4 (7.00)	124.6 (7.82)	132.5 (7.25)	136.8* (7.17)	143.7 (8.27)	148.8 (8.56)
0.002% Low melting point wax	20	87.8 (6.53)	100.8 (6.58)	108.3 (6.58)	117.3 (6.81)	125.3 (6.82)	132.9 (7.48)	136.9* (6.66)	143.0 (6.78)	147.9 (7.41)
0.02% Low melting point wax	20	87.3 (6.27)	100.3 (5.22)	108.1 (5.77)	116.5* (5.90)	122.9* (6.12)	130.2** (6.41)	133.9*** (6.62)	142.1* (8.03)	144.9** (7.03)
0.2% Low melting point wax	20	86.5 (7.00)	99.8 (6.79)	108.0 (7.16)	116.3* (7.07)	123.6 (7.80)	130.0** (6.80)	135.4** (7.34)	140.6** (7.67)	144.8** (7.67)
2% Low melting point wax	20	88.5 (6.05)	103.1 (6.01)	112.1 (5.68)	121.3 (6.40)	128.1 (6.80)	136.9 (6.80)	141.0 (6.77)	147.6 (7.45)	152.6 (6.61)
0.002% High melting point wax	20	88.1 (7.46)	103.1 (6.13)	110.9 (7.03)	119.5 (7.34)	127.3 (7.23)	134.7 (7.19)	139.6 (7.89)	146.4 (7.84)	150.8 (7.61)
0.02% High melting point wax	20	86.7 (4.92)	100.8 (5.32)	109.2 (5.54)	118.8 (6.41)	126.6 (6.70)	133.9 (7.32)	137.6 (7.46)	144.8 (8.29)	148.6 (8.09)
0.2% High melting point wax	20	87.2 (6.66)	100.5 (6.05)	108.6 (5.86)	117.1 (5.61)	124.6 (5.53)	132.1 (5.98)	136.1* (6.27)	142.9 (6.87)	147.6 (7.43)

continued....

Table 5. continued.

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0.002% White oil N70 (A)	20	87.3 (4.96)	100.3 (4.81)	108.4 (5.20)	117.9 (5.55)	123.7 (6.77)	132.5 (6.56)	136.3* (7.03)	142.6* (7.44)	147.0 (7.12)
0.02% White oil N70 (A)	20	86.6 (8.19)	100.6 (7.69)	108.6 (8.79)	118.1 (7.69)	125.1 (9.04)	134.2 (9.87)	139.6 (11.00)	146.3 (12.46)	148.6 (11.88)
0.2% White oil N70 (A)	20	87.6 (5.91)	101.2 (6.00)	109.2 (6.90)	119.1 (6.58)	125.2 (6.47)	133.6 (7.30)	137.8 (6.78)	144.6 (7.26)	148.6 (6.60)
2% White oil N70 (A)	20	87.2 (6.22)	101.6 (5.48)	108.7 (6.17)	117.7 (5.56)	124.3 (5.90)	132.4 (5.58)	137.6 (5.26)	143.1 (6.66)	147.4 (6.03)
0.002% White oil P15 (H)	20	86.1 (7.36)	99.6 (6.93)	106.8* (6.70)	116.3* (7.07)	124.2 (7.06)	133.1 (6.88)	136.9* (7.02)	143.1 (6.88)	148.1 (7.29)
0.02% White oil P15 (H)	20	87.5 (5.19)	102.5 (4.10)	110.4 (5.09)	119.7 (5.35)	126.7 (6.94)	136.1 (8.03)	140.2 (7.35)	146.5 (7.51)	150.1 (7.70)
0.2% White oil P15 (H)	20	87.2 (5.80)	101.3 (5.64)	109.6 (5.70)	119.3 (6.43)	125.0 (7.36)	134.9 (7.07)	139.4 (7.98)	145.0 (7.82)	149.4 (7.90)
2% White oil P15 (H)	20	85.8 (4.94)	100.7 (5.98)	107.7 (5.85)	117.0 (5.78)	123.6 (7.61)	132.9 (7.44)	136.4* (6.92)	143.6 (7.94)	147.9 (8.37)
0.002% White oil N10 (A)	20	86.6 (6.83)	101.4 (6.67)	109.4 (6.90)	118.9 (7.72)	127.1 (7.47)	133.8 (8.26)	137.7 (8.40)	144.7 (8.10)	148.9 (9.25)
0.02% White oil N10 (A)	20	87.4 (6.57)	102.1 (6.05)	110.0 (6.62)	119.9 (6.56)	126.4 (7.16)	134.0 (6.66)	138.4 (6.68)	144.6 (7.84)	149.3 (8.28)
0.2% White oil N10 (A)	20	86.7 (6.64)	101.0 (6.66)	108.9 (6.30)	118.0 (6.51)	124.1 (6.66)	132.3 (6.73)	136.9* (5.95)	143.4 (6.65)	148.4 (6.35)

continued....

Table 5. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0% Control	60	155.7 (7.91)	159.1 (7.62)	162.2 (7.90)	166.7 (8.17)	169.5 (8.48)	172.3 (8.42)	175.4 (9.35)	176.9 (9.18)	179.9 (9.40)
0.002% White oil N15 (H)	20	153.8 (7.64)	156.4 (7.45)	160.9 (7.52)	164.0 (7.88)	168.2 (8.97)	170.8 (9.04)	173.3 (9.31)	174.3 (9.26)	177.1 (10.24)
0.02% White oil N15 (H)	20	151.5* (7.87)	155.4 (7.04)	160.6 (7.12)	163.1 (7.57)	166.9 (7.59)	170.4 (7.74)	173.0 (7.97)	173.6 (8.59)	177.8 (9.03)
0.2% White oil N15 (H)	20	154.1 (9.46)	157.8 (11.48)	161.9 (10.74)	165.2 (10.15)	168.9 (10.49)	171.3 (10.72)	174.4 (11.65)	176.3 (11.71)	178.2 (11.03)
2% White oil N15 (H)	20	154.6 (7.30)	158.4 (7.13)	162.9 (8.76)	165.8 (9.05)	168.8 (8.30)	171.1 (8.63)	173.9 (8.54)	176.3 (7.85)	178.4 (8.00)
0.002% White oil N70 (H)	20	151.0* (7.37)	155.1* (8.08)	158.4 (7.44)	161.8* (7.21)	165.3* (7.80)	168.0* (7.58)	171.4 (8.20)	172.2* (8.10)	173.6** (7.84)
0.02% White oil N70 (H)	20	151.1* (6.58)	153.9** (6.61)	158.3 (6.81)	161.8* (6.09)	165.0* (7.74)	166.9* (7.46)	170.4* (7.80)	172.1* (7.21)	175.1* (7.32)
0.2% White oil N70 (H)	20	155.3 (8.35)	158.6 (8.73)	162.8 (9.48)	165.4 (8.27)	168.9 (8.98)	170.3 (9.36)	174.8 (10.95)	176.0 (10.32)	178.1 (10.31)
2% White oil N70 (H)	20	154.6 (9.05)	158.2 (9.24)	163.2 (8.65)	167.4 (9.08)	170.5 (9.95)	171.9 (9.37)	175.4 (9.60)	177.0 (10.09)	179.9 (10.32)
0.002% White oil N70 (A)	20	152.3 (8.66)	155.4 (8.53)	160.1 (9.03)	163.5 (8.99)	168.1 (9.56)	169.4 (9.84)	172.4 (9.16)	173.8 (9.88)	176.5 (10.61)
0.02% White oil N70 (A)	20	154.4 (10.63)	156.6 (10.29)	162.4 (9.53)	165.9 (8.32)	168.4 (9.92)	170.8 (9.90)	174.0 (9.68)	176.6 (9.68)	178.3 (11.31)

continued....

Table 5. continued.

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
2% High melting point wax	20	86.8 (7.56)	100.8 (6.71)	109.3 (6.85)	118.8 (6.58)	126.3 (7.91)	133.1 (6.90)	137.4 (6.45)	144.2 (6.82)	148.3 (7.14)
0.002% High sulphur wax	20	88.0 (7.62)	101.4 (8.22)	109.6 (8.16)	119.8 (8.74)	126.9 (8.19)	134.6 (7.88)	139.6 (8.53)	146.2 (9.88)	150.9 (9.36)
0.02% High sulphur wax	20	87.1 (6.51)	100.8 (6.43)	109.3 (6.56)	119.3 (7.52)	125.8 (10.25)	134.0 (8.01)	138.3 (8.12)	146.0 (7.55)	150.5 (8.62)
0.2% High sulphur wax	20	87.5 (6.98)	100.3 (6.15)	108.6 (7.05)	118.1 (6.09)	124.9 (6.42)	133.5 (5.98)	136.3* (6.31)	143.4 (7.83)	147.1 (7.13)
2% High sulphur wax	20	86.3 (6.05)	99.3 (5.75)	107.4 (6.09)	116.5* (6.48)	123.2* (7.18)	131.7* (7.17)	135.1** (7.07)	142.6* (7.56)	146.9 (7.04)
2% Coconut oil	20	87.3 (6.32)	101.3 (5.80)	109.1 (5.94)	118.9 (6.43)	125.1 (6.47)	134.1 (6.08)	138.6 (6.75)	146.1 (6.48)	151.2 (6.96)

continued....

Table 5. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0.002% White oil P100 (H)	20	155.0 (5.68)	158.1 (5.34)	163.6 (6.05)	166.7 (4.90)	170.0 (4.93)	171.9 (4.93)	175.1 (5.72)	176.6 (5.18)	178.6 (5.22)
0.02% White oil P100 (H)	20	152.8 (8.62)	155.9 (8.05)	160.8 (8.62)	164.1 (8.52)	166.8 (9.65)	170.3 (8.89)	172.1 (9.90)	173.9 (9.49)	176.3 (9.49)
0.2% White oil P100 (H)	20	156.2 (7.50)	158.2 (7.36)	162.8 (7.93)	166.9 (8.41)	169.8 (8.66)	172.1 (8.66)	175.4 (9.00)	176.7 (9.52)	178.9 (9.32)
2% White oil P100 (H)	20	153.8 (8.45)	157.9 (8.37)	161.9 (8.73)	164.6 (8.00)	167.1 (8.23)	170.1 (9.43)	171.7 (9.67)	173.4 (8.43)	176.0 (9.92)
0.002% Low melting point wax	20	153.6 (8.26)	157.2 (8.42)	161.3 (8.88)	164.4 (8.59)	166.4 (8.20)	171.6 (7.04)	172.4 (7.30)	174.1 (8.32)	176.8 (8.87)
0.02% Low melting point wax	20	149.9** (8.09)	153.7** (7.47)	159.5 (7.90)	160.9** (7.82)	164.8* (8.73)	167.8* (8.10)	170.6* (8.46)	172.3* (8.84)	175.1* (9.66)
0.2% Low melting point wax	20	150.4** (7.04)	154.3* (6.87)	159.6 (7.16)	162.1* (7.13)	164.7* (7.31)	168.6 (8.45)	170.7* (9.22)	172.4* (8.60)	174.8* (10.03)
2% Low melting point wax	20	157.2 (5.65)	161.0 (7.31)	165.4 (7.90)	168.7 (7.06)	173.3 (7.60)	174.6 (8.29)	177.9 (9.00)	180.4 (8.67)	182.8 (8.93)
0.002% High melting point wax	20	155.9 (8.48)	159.4 (8.34)	163.4 (7.92)	166.1 (8.91)	169.4 (9.08)	171.4 (8.62)	175.1 (8.85)	177.8 (10.02)	180.1 (9.78)
0.02% High melting point wax	20	154.6 (8.55)	158.1 (8.39)	162.5 (8.66)	165.4 (8.23)	169.1 (8.13)	172.9 (9.06)	174.9 (8.34)	176.1 (8.01)	178.9 (8.83)

continued....

Table 5. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0.2% White oil N70 (A)	20	153.9 (6.92)	157.6 (7.54)	161.6 (7.17)	165.1 (6.80)	168.2 (7.73)	171.6 (7.99)	173.6 (8.22)	175.4 (8.35)	177.8 (9.12)
2% White oil N70 (A)	20	152.6 (5.90)	155.9 (6.89)	160.4 (6.79)	163.3 (6.83)	166.6 (6.50)	169.8 (6.88)	173.3 (6.58)	174.1 (6.04)	176.4 (7.20)
0.002% White oil P15 (H)	20	151.7* (7.02)	155.9 (7.27)	160.5 (7.94)	163.6 (7.12)	167.2 (7.43)	169.4 (7.10)	172.6 (9.12)	174.1 (8.07)	176.4 (8.64)
0.02% White oil P15 (H)	20	154.9 (8.05)	158.1 (7.61)	162.9 (7.20)	166.4 (7.32)	170.9 (7.01)	173.1 (7.17)	176.9 (7.26)	179.1 (7.44)	180.9 (9.07)
0.2% White oil P15 (H)	20	154.9 (8.90)	158.4 (8.92)	162.6 (8.72)	165.6 (8.30)	170.4 (9.13)	172.1 (10.76)	176.1 (10.97)	177.5 (11.16)	178.6 (11.29)
2% White oil P15 (H)	20	153.2 (8.70)	156.8 (8.66)	160.8 (8.92)	163.7 (9.49)	166.4 (9.47)	169.8 (9.92)	172.8 (9.78)	173.6 (9.71)	177.3 (10.20)
0.002% White oil N10 (A)	20	154.6 (9.62)	157.6 (9.84)	161.8 (10.54)	165.1 (10.99)	169.1 (10.50)	171.9 (10.12)	174.5 (10.64)	175.3 (10.00)	178.1 (10.76)
0.02% White oil N10 (A)	20	155.4 (8.51)	157.9 (7.67)	161.9 (7.81)	163.8 (6.61)	168.3 (8.61)	171.9 (8.08)	174.4 (7.94)	176.4 (8.04)	179.1 (9.20)
0.2% White oil N10 (A)	20	153.4 (7.12)	156.9 (6.09)	161.4 (7.11)	164.4 (6.67)	167.8 (7.52)	169.9 (7.71)	172.8 (7.95)	174.3 (7.41)	176.4 (7.06)
2% White oil N10 (A)	20	154.4 (5.63)	156.8 (5.11)	162.0 (4.74)	164.1 (5.54)	168.4 (5.62)	170.4 (4.99)	173.2 (5.12)	175.2 (5.71)	177.3 (5.87)

continued....

Table 5. continued

Group	n	Study days 59	63	66	70	73	77	80	84	87	91
0% Control	60	180.8 (9.96)	183.8 (10.36)	185.1 (9.91)	187.0 (9.78)	189.3 (9.87)	191.4 (9.67)	193.0 (9.81)	194.9 (10.58)	194.3 (10.34)	196.3 (9.76)
0.002% White oil N15 (H)	20	178.6 (8.81)	181.1 (9.85)	182.1 (9.98)	185.4 (10.09)	186.8 (9.82)	188.8 (10.15)	189.9 (10.07)	193.6 (9.86)	193.1 (11.75)	195.4 (11.05)
0.02% White oil N15 (H)	20	178.6 (8.37)	180.5 (8.32)	182.8 (7.82)	185.1 (8.23)	185.5 (9.00)	188.4 (8.29)	190.3 (8.50)	191.6 (9.00)	191.1 (8.14)	195.2 (8.94)
0.2% White oil N15 (H)	20	179.6 (11.37)	182.5 (11.93)	183.6 (11.20)	185.6 (10.87)	188.4 (11.70)	190.6 (12.26)	191.4 (11.05)	194.4 (11.98)	194.8 (11.85)	198.1 (11.51)
2% White oil N15 (H)	20	179.3 (8.29)	181.6 (8.57)	183.9 (9.62)	186.1 (8.74)	187.5 (9.15)	190.1 (8.80)	191.1 (7.78)	193.1 (8.03)	193.1 (8.76)	195.5 (8.45)
0.002% White oil N70 (H)	20	174.9** (7.55)	178.2* (8.13)	179.4* (8.20)	182.1* (8.21)	184.4* (7.55)	186.6* (8.16)	187.9* (8.15)	190.8 (8.11)	190.6 (7.76)	191.3* (8.35)
0.02% White oil N70 (H)	20	176.6 (6.67)	180.1 (8.53)	180.3* (7.83)	182.9 (7.57)	184.8 (7.69)	187.1 (8.42)	188.2* (8.38)	190.6 (8.73)	189.9 (8.48)	191.9 (9.16)
0.2% White oil N70 (H)	20	179.4 (10.21)	182.1 (10.41)	183.3 (10.57)	185.4 (10.36)	188.4 (9.78)	189.7 (9.84)	190.9 (10.69)	193.1 (10.17)	193.5 (10.26)	195.6 (10.87)
2% White oil N70 (H)	20	181.4 (11.17)	184.0 (11.04)	185.6 (10.65)	188.4 (10.76)	189.8 (9.44)	191.9 (9.41)	193.8 (10.14)	195.4 (10.28)	195.3 (8.55)	197.8 (9.89)
0.002% White oil N70 (A)	20	176.8 (10.74)	179.2* (9.96)	181.3 (10.11)	182.4* (10.50)	184.9 (9.92)	186.5* (10.48)	188.3* (10.34)	189.8* (11.19)	189.2* (11.15)	192.6 (10.47)

continued....

Table 5. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0.2% High melting point wax	20	152.6 (7.51)	156.1 (6.80)	160.2 (7.40)	162.6* (8.10)	166.2 (8.07)	170.1 (8.31)	172.9 (9.06)	174.1 (9.57)	176.5 (8.68)
2% High melting point wax	20	153.4 (6.88)	157.8 (6.04)	162.4 (6.58)	165.4 (7.18)	168.6 (7.29)	171.0 (6.81)	174.6 (7.16)	175.4 (8.45)	178.4 (9.94)
0.002% High sulphur wax	20	156.4 (10.24)	159.9 (10.33)	163.8 (9.19)	166.6 (10.09)	170.6 (11.69)	173.2 (10.08)	175.6 (10.86)	177.8 (11.89)	180.9 (11.66)
0.02% High sulphur wax	20	155.6 (9.35)	160.0 (7.91)	162.9 (8.83)	167.6 (9.86)	170.8 (9.30)	172.6 (9.22)	174.4 (10.10)	177.6 (10.18)	180.1 (10.16)
0.2% High sulphur wax	20	152.4 (7.03)	155.9 (7.79)	160.0 (7.89)	162.8 (7.01)	167.4 (7.29)	169.9 (7.74)	171.6 (7.64)	174.0 (7.93)	176.1 (8.04)
2% High sulphur wax	20	152.6 (7.53)	155.2 (7.41)	158.3*[15] (8.03)	163.3 (7.79)	167.2 (7.05)	169.3 (8.19)	172.0 (7.37)	172.9 (7.56)	175.1* (8.93)
2% Coconut oil	20	155.1 (7.42)	158.6 (7.42)	162.9 (7.60)	165.8 (7.25)	170.4 (8.51)	174.6 (9.18)	175.1 (9.41)	176.6 (9.39)	179.6 (9.95)

continued....

Table 5. continued

Group	n	Study days 59	63	66	70	73	77	80	84	87	91
0.002% White oil P100 (H)	20	180.3 (6.16)	182.4 (6.44)	184.6 (6.57)	185.9 (6.41)	187.8 (6.49)	191.1 (7.63)	192.7 (6.62)	193.4 (7.54)	194.9 (7.02)	197.4 (6.99)
0.02% White oil P100 (H)	20	176.1* (10.37)	179.2* (10.66)	180.3* (10.41)	182.8 (9.58)	184.4* (9.41)	186.9 (9.63)	189.4 (9.44)	191.1 (10.29)	190.9 (9.40)	192.6 (9.15)
0.2% White oil P100 (H)	20	180.4 (9.36)	182.4 (10.09)	183.5 (10.06)	186.8 (9.42)	188.5 (9.57)	191.0 (9.08)	192.9 (10.18)	194.1 (10.06)	194.4 (10.30)	196.9 (10.77)
2% White oil P100 (H)	20	176.4* (10.06)	179.5 (10.10)	181.0 (10.37)	183.4 (11.44)	184.9 (9.93)	188.1 (10.83)	188.4 (9.92)	190.9 (10.12)	190.1 (10.11)	191.9 (10.34)
0.002% Low melting-point wax	20	178.6 (7.65)	180.3 (7.43)	182.3 (7.25)	184.5 (7.76)	185.7 (7.95)	187.6 (8.80)	189.7 (7.78)	191.4 (7.82)	191.9 (9.26)	193.0 (8.73)
0.02% Low melting point wax	20	176.6 (8.03)	179.6 (9.78)	180.4* (9.54)	182.8 (9.74)	185.4 (9.93)	187.6 (10.79)	188.6 (9.78)	190.4 (10.00)	191.4 (10.50)	193.4 (10.89)
0.2% Low melting point wax	20	176.1* (9.08)	178.6* (9.16)	181.1 (10.19)	183.4 (10.98)	183.7* (8.93)	186.3* (10.39)	188.4* (10.48)	189.3* (9.69)	190.1 (10.06)	192.6 (10.89)
2% Low melting point wax	20	183.7 (10.51)	186.1 (9.34)	187.9 (9.56)	190.5 (10.27)	191.8 (9.54)	194.3 (9.49)	194.9 (9.76)	197.5 (9.98)	197.9 (8.53)	200.3 (9.51)
0.002% High melting point wax	20	180.4 (9.02)	182.8 (8.82)	184.9 (9.78)	186.9 (8.77)	189.1 (9.92)	192.3 (9.78)	192.9 (8.95)	194.3 (8.80)	195.5 (10.50)	197.1 (10.08)
0.02% High melting point wax	20	180.6 (7.71)	181.9 (7.75)	184.3 (7.89)	185.9 (8.33)	186.5 (8.49)	189.3 (9.22)	191.9 (7.69)	193.5 (8.21)	192.0 (9.45)	195.1 (7.74)
0.2% High melting point wax	20	178.4 (10.01)	180.3 (9.36)	181.9 (8.49)	184.0 (8.41)	184.4* (9.03)	187.3 (9.02)	189.1 (9.68)	190.2 (9.83)	190.4 (9.93)	192.2 (9.87)
2% High melting point wax	20	179.9 (7.92)	181.2 (8.04)	182.3 (8.06)	184.9 (8.32)	186.8 (8.26)	189.4 (8.11)	190.4 (7.69)	192.1 (8.25)	191.0 (8.87)	193.0 (8.44)

continued....

Table 5. continued

Group	n	Study days 59	63	66	70	73	77	80	84	87	91
0.02% White oil N70 (A)	20	179.4 (10.60)	182.8 (11.81)	183.9 (11.22)	185.3 (11.17)	187.9 (11.63)	189.9 (11.42)	191.4 (11.76)	192.4 (12.32)	193.3 (11.19)	195.4 (11.09)
0.2% White oil N70 (A)	20	178.5 (8.57)	180.6 (9.17)	181.4 (8.25)	185.3 (8.62)	187.1 (8.77)	189.1 (8.25)	189.8 (9.09)	192.9 (9.53)	191.6 (9.32)	194.6 (8.58)
2% White oil N70 (A)	20	177.5 (7.22)	179.9 (7.75)	181.5 (8.00)	184.0 (8.87)	186.1 (7.77)	187.8 (8.49)	188.9 (9.30)	191.9 (8.93)	191.1 (9.46)	193.8 (9.33)
0.002% White oil P15 (H)	20	178.3 (8.47)	179.9 (8.68)	181.8 (8.00)	184.5 (8.12)	186.4 (8.83)	187.6 (8.44)	190.3 (8.41)	191.9 (8.22)	191.7 (8.16)	193.7 (9.04)
0.02% White oil P15 (H)	20	182.2 (8.25)	184.9 (8.29)	186.2 (8.02)	189.4 (7.89)	192.0 (7.56)	194.1 (8.20)	194.6 (7.98)	197.3 (8.40)	196.9 (9.05)	198.9 (8.61)
0.2% White oil P15 (H)	20	179.4 (11.88)	181.6 (12.21)	184.6 (11.24)	187.3 (11.06)	188.6 (11.56)	190.4 (11.03)	192.1 (10.66)	194.1 (12.19)	192.9 (12.09)	196.1 (11.94)
2% White oil P15 (H)	20	177.9 (10.29)	179.9 (11.31)	181.7 (10.38)	183.8 (9.83)	185.6 (10.86)	188.1 (11.55)	189.1 (11.61)	191.9 (12.05)	190.9 (11.91)	194.9 (11.27)
0.002% White oil N10 (A)	20	178.6 (10.79)	181.1 (10.15)	182.6 (9.86)	184.9 (9.78)	187.1 (10.02)	189.4 (9.20)	190.4 (10.43)	192.5 (10.34)	193.3 (10.16)	198.5 (12.66)
0.02% White oil N10 (A)	20	180.4 (7.83)	182.8 (8.66)	184.7 (9.44)	186.6 (8.50)	189.3 (9.14)	191.0 (9.58)	192.8 (9.06)	195.6 (8.91)	194.3 (9.74)	196.4 (9.32)
0.2% White oil N10 (A)	20	177.4 (7.41)	179.6 (7.95)	180.9 (7.68)	183.3 (8.61)	185.8 (8.19)	187.7 (6.94)	189.8 (7.69)	191.8 (8.05)	191.3 (7.61)	193.5 (8.00)
2% White oil N10 (A)	20	178.1 (4.35)	181.0 (5.07)	181.9 (5.26)	184.5 (4.86)	186.1 (4.79)	188.8 (5.28)	190.4 (4.73)	191.3 (5.26)	192.5 (5.34)	195.1 (4.72)

continued....

Table 6. Body weights (g) of female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0% Control	30	91.5 (6.28)	103.5 (6.07)	112.1 (6.27)	119.3 (6.89)	126.8 (6.34)	133.5 (6.54)	139.0 (5.81)	145.3 (5.41)	148.2 (5.99)
2% White oil N15 (H)	10	92.6 (6.20)	103.3 (6.11)	111.8 (6.20)	119.5 (6.13)	126.3 (5.74)	133.6 (6.82)	138.3 (5.62)	145.6 (7.01)	148.5 (7.09)
2% White oil N70 (H)	10	88.6 (5.54)	100.2 (4.87)	108.1 (5.09)	114.3* (5.98)	122.6 (5.40)	128.4* (5.64)	134.4 (6.93)	140.7 (6.48)	144.3 (5.46)
2% White oil N70 (A)	10	91.7 (6.31)	104.9 (5.69)	113.4 (6.43)	121.1 (6.12)	129.9 (7.78)	136.3 (8.08)	140.6 (8.28)	148.3 (10.15)	151.0 (8.52)
2% White oil P15 (H)	10	91.1 (7.49)	102.6 (8.06)	110.4 (8.67)	117.9 (9.09)	125.9 (10.10)	133.5 (9.97)	136.0 (10.15)	148.1 (10.38)	147.9 (9.23)
2% White oil N10 (A)	10	88.3 (6.15)	98.1* (6.05)	105.4** (6.47)	113.1* (7.40)	120.5* (7.52)	128.5 (7.32)	132.8* (6.73)	141.1 (6.87)	143.0* (6.98)
2% White oil P100 (H)	10	89.1 (6.61)	99.4 (6.59)	107.5 (7.11)	117.0 (7.59)	124.0 (8.86)	130.3 (8.12)	136.1 (8.17)	144.1 (8.54)	145.8 (8.07)
2% Low melting point wax	10	89.5 (3.03)	101.0 (3.20)	108.7 (3.16)	118.0 (3.77)	126.2 (4.02)	132.3 (3.68)	137.6 (4.53)	145.5 (4.77)	147.2 (4.89)
2% High melting point wax	10	88.0 (7.38)	98.5* (8.30)	106.5* (9.88)	117.0 (7.70)	124.3 (7.97)	129.3 (7.06)	135.1 (8.10)	144.4 (8.47)	146.0 (8.12)
2% High sulphur wax	10	90.3 (5.33)	100.5 (5.19)	108.9 (5.65)	119.2 (6.16)	126.1 (6.62)	131.5 (7.20)	135.7 (7.36)	147.1 (7.26)	147.2 (7.96)
2% Coconut oil	10	88.9 (4.68)	99.0* (3.74)	106.9* (3.93)	116.3 (5.17)	123.5 (5.93)	129.5 (5.50)	135.7 (6.78)	145.3 (6.68)	148.1 (8.10)

continued....

Table 5. continued

Group	n	Study days 59	63	66	70	73	77	80	84	87	91
0.002% High sulphur wax	20	181.6 (11.24)	183.6 (11.65)	186.3 (10.98)	188.9 (10.77)	189.1 (11.09)	192.0 (12.46)	193.4 (11.85)	194.9 (11.96)	195.9 (11.92)	197.9 (11.65)
0.02% High sulphur wax	20	180.1 (11.30)	182.9 (10.07)	184.8 (10.45)	185.6 (9.67)	187.9 (9.98)	191.4 (9.51)	192.4 (10.53)	193.4 (10.73)	194.6 (9.65)	196.3 (9.57)
0.2% High sulphur wax	20	177.8 (8.06)	178.9* (8.67)	180.3* (6.90)	183.4 (8.05)	185.5 (7.85)	187.4 (8.12)	189.1 (8.16)	191.4 (8.05)	191.9 (7.77)	192.9 (7.72)
2% High sulphur wax	20	176.1* (7.44)	179.4 (8.08)	179.9* (8.80)	182.0* (8.35)	184.1* (8.11)	185.9* (7.68)	187.9* (8.04)	189.1* (8.18)	189.3* (8.46)	191.0* (8.65)
2% Coconut oil	20	181.4 (9.63)	183.4 (10.37)	184.6 (10.64)	187.1 (10.71)	189.3 (10.41)	191.4 (11.14)	193.1 (10.95)	194.0 (10.90)	193.8 (9.85)	195.9 (11.05)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Superscript indicates the sample size (n) when it is different from that given.
Individual data reported in Appendices 19, 20,23 and 24.

Table 6. continued.

Group	n	Study days								
		59	63	66	70	73	77	80	84	87
0% Control	30	182.1 (8.58)	184.8 (7.62)	185.6 (7.73)	187.9 (8.02)	188.1 (8.44)	191.3 (8.18)	193.7 (8.25)	194.4 (8.60)	194.3 (7.70)
2% White oil N15 (H)	10	181.9 (6.17)	185.2 (6.75)	186.4 (6.75)	187.4 (7.99)	189.1 (7.59)	192.9 (8.21)	193.2 (8.19)	194.3 (6.82)	195.0 (6.45)
2% White oil N70 (H)	10	175.3* (7.94)	179.0 (9.73)	181.0 (10.03)	180.7* (10.36)	184.5 (9.97)	184.9* (10.58)	187.5 (11.40)	187.6* (10.35)	188.7 (10.25)
2% White oil N70 (A)	10	186.3 (12.22)	189.4 (12.08)	190.8 (11.37)	190.9 (13.23)	193.1 (11.77)	196.4 (11.66)	198.7 (13.00)	198.0 (12.23)	199.1 (11.80)
2% White oil P15 (H)	10	180.3 (10.80)	184.3 (9.83)	185.2 (8.79)	186.0 (10.03)	186.7 (8.21)	188.5 (7.63)	191.3 (10.49)	191.4 (9.94)	193.1 (8.31)
2% White oil N10 (A)	10	173.9* (6.69)	175.2** (7.15)	175.7** (6.90)	179.0** (6.60)	179.2** (6.07)	181.4** (6.54)	183.5** (7.50)	184.4** (7.14)	184.0** (7.32)
2% White oil P100 (H)	10	179.8 (8.80)	182.0 (9.55)	184.2 (8.28)	186.6 (7.72)	185.9 (6.47)	189.2 (7.41)	189.8 (9.05)	190.6 (7.63)	192.7 (9.10)
2% Low melting point wax	10	179.6 (6.52)	181.9 (5.20)	183.3 (4.72)	185.4 (5.68)	185.9 (5.00)	188.2 (5.45)	189.8 (7.04)	191.1 (5.69)	191.4 (6.11)
2% High melting point wax	10	177.9 (9.69)	181.4 (8.92)	180.7 (10.68)	183.4 (9.11)	184.3 (9.96)	186.1 (9.90)	186.2* (10.64)	187.8* (9.09)	189.5 (10.58)
2% High sulphur wax	10	180.4 (9.56)	182.8 (10.01)	183.9 (9.09)	187.2 (10.40)	186.8 (10.12)	189.2 (10.54)	190.0 (10.65)	191.3 (10.52)	192.5 (10.05)
2% Coconut oil	10	184.0 (10.01)	186.8 (9.39)	187.8 (9.07)	191.2 (9.72)	191.1 (9.96)	193.3 (10.71)	195.4 (9.96)	196.2 (10.82)	197.5 (9.56)

continued....

Table 6. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0% Control	30	152.9 (6.05)	157.3 (6.04)	161.1 (6.24)	163.6 (6.62)	170.0 (6.70)	173.3 (6.84)	176.0 (7.62)	177.1 (7.18)	179.9 (7.98)
2% White oil N15 (H)	10	154.2 (6.58)	157.5 (7.43)	161.8 (8.69)	164.8 (7.45)	171.7 (8.10)	173.2 (7.24)	176.0 (7.15)	177.7 (6.48)	180.6 (6.17)
2% White oil N70 (H)	10	149.5 (6.57)	152.4 (5.62)	157.1 (6.76)	160.6 (7.07)	164.7 (7.09)	167.5* (7.11)	169.6* (8.25)	172.9 (9.62)	174.6 (9.61)
2% White oil N70 (A)	10	155.9 (9.35)	162.1 (11.37)	165.9 (10.28)	167.2 (10.56)	173.8 (10.34)	176.6 (11.58)	178.3 (13.74)	179.2 (12.58)	184.2 (13.81)
2% White oil P15 (H)	10	154.5 (10.14)	157.6 (9.52)	162.4 (8.26)	164.3 (8.87)	169.4 (8.87)	171.9 (9.68)	176.7 (10.40)	176.5 (7.91)	178.3 (10.34)
2% White oil N10 (A)	10	147.3* (8.08)	151.6* (6.98)	154.0* (7.53)	157.4* (6.40)	162.7* (6.60)	165.9* (6.12)	167.6** (6.35)	168.8** (6.83)	171.5* (6.79)
2% White oil P100 (H)	10	151.4 (8.29)	156.1 (7.80)	160.0 (9.08)	162.3 (10.19)	167.5 (9.44)	170.9 (8.29)	172.8 (8.52)	175.7 (8.87)	178.2 (8.66)
2% Low melting point wax	10	150.9 (4.65)	155.2 (5.49)	160.6 (5.42)	162.8 (4.96)	168.4 (4.72)	172.2 (5.12)	173.8 (5.96)	174.1 (5.20)	177.8 (4.71)
2% High melting point wax	10	149.1 (7.72)	153.1 (7.89)	158.5 (8.64)	159.3 (8.63)	165.8 (9.27)	169.3 (9.53)	171.6 (9.52)	172.3 (10.15)	176.0 (11.79)
2% High sulphur wax	10	152.0 (8.69)	158.0 (7.87)	161.6 (7.97)	163.3 (9.38)	168.7 (8.53)	172.5 (8.89)	173.8 (9.32)	176.8 (9.13)	178.9 (9.77)
2% Coconut oil	10	152.6 (8.30)	159.2 (8.60)	163.5 (7.29)	164.9 (6.89)	170.2 (9.07)	175.7 (8.67)	176.4 (8.59)	178.2 (9.07)	183.3 (9.13)

continued....

Table 6. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 25.

Table 6. continued.

Group	n	Study days								
		91	94	98	101	105	108	112	115	119
0% Control	30	196.7 (7.99)	196.3 (8.44)	197.6 (7.85)	198.3 (7.99)	199.1 (8.10)	199.0 (7.77)	200.7 (7.35)	203.1 (7.56)	203.5 (8.50)
2% White oil N15 (H)	10	196.9 (7.55)	195.8 (6.99)	200.5 (6.38)	200.3 (6.52)	202.1 (7.42)	202.0 (6.11)	203.9 (7.85)	205.7 (8.00)	204.7 (7.12)
2% White oil N70 (H)	10	191.6 (10.27)	190.1 (9.29)	195.1 (11.98)	196.9 (10.39)	197.1 (11.01)	197.4 (12.00)	198.1 (11.72)	199.8 (10.72)	200.1 (9.98)
2% White oil N70 (A)	10	200.5 (13.87)	201.3 (13.58)	206.1** (12.14)	207.3** (12.04)	207.8* (13.79)	207.3* (13.85)	209.6** (13.24)	211.3* (15.12)	212.2* (15.01)
2% White oil P15 (H)	10	194.7 (8.39)	195.0 (9.40)	198.2 (8.60)	201.1 (9.24)	202.1 (9.77)	202.5 (9.02)	205.9 (9.35)	205.5 (11.59)	204.9 (11.13)
2% White oil N10 (A)	10	186.5** (6.79)	188.8* (5.75)	189.3* (4.99)	192.7 (7.87)	192.2* (6.66)	191.4* (5.32)	194.0* (6.38)	194.6* (6.92)	196.2* (6.80)
2% White oil P100 (H)	10	195.1 (8.48)	194.5 (8.50)	196.4 (8.71)	199.5 (8.11)	200.8 (8.09)	199.9 (8.67)	201.7 (7.60)	201.9 (9.01)	203.9 (8.21)
2% Low melting point wax	10	194.1 (6.95)	193.7 (6.33)	194.7 (6.98)	196.4 (7.99)	196.7 (7.66)	196.5 (6.02)	199.0 (5.87)	194.0*[9] (5.50)	196.9[9] (5.69)
2% High melting point wax	10	191.3 (11.16)	191.5 (10.01)	193.7 (9.42)	194.5 (11.51)	195.1 (11.26)	196.2 (10.44)	196.7 (9.89)	198.1 (10.42)	198.4 (10.15)
2% High sulphur wax	10	194.0 (9.73)	193.9 (11.04)	195.7 (11.15)	197.4 (9.59)	197.4 (9.59)	198.0 (11.24)	198.5 (10.81)	199.5 (10.64)	199.4 (10.92)
2% Coconut oil	10	198.7 (9.48)	198.2 (9.76)	202.6 (8.81)	204.2 (9.34)	203.8 (8.44)	205.9* (9.67)	206.7 (9.59)	206.1 (10.03)	204.9 (10.20)

continued....

Table 7. continued

Group	n	Study days						
		21	24	28	31	35	38	42
0% Control	5	144.0 (8.28)	148.2 (8.01)	152.6 (7.96)	158.8 (7.50)	164.2 (8.38)	167.0 (8.22)	168.8 (7.63)
2% White oil N15 (H)	5	138.8 (8.26)	142.4 (8.08)	145.8 (8.87)	149.2* (9.68)	154.0* (8.89)	156.4* (6.66)	159.0 (8.77)
2% White oil N70 (H)	5	138.4 (2.07)	142.4 (4.83)	147.4 (3.58)	151.8 (3.70)	156.6 (4.16)	158.6 (5.27)	159.6 (3.51)
2% White oil N70 (A)	5	135.0 (5.83)	141.6 (4.34)	145.8 (4.44)	151.6 (4.04)	156.2 (4.09)	158.6 (4.34)	160.4 (4.62)
2% White oil P15 (H)	5	130.6** (8.02)	135.8** (10.40)	140.8* (8.93)	144.6** (9.24)	149.4** (7.23)	154.2* (10.69)	156.0* (10.42)
2% White oil N10 (A)	5	138.6 (8.20)	144.8 (7.40)	147.8 (6.80)	151.4 (8.29)	156.2 (9.81)	160.0 (9.19)	165.0 (9.46)
2% White oil P100 (H)	5	145.0 (8.86)	149.6 (6.99)	155.0 (7.91)	160.8 (8.26)	163.0 (7.84)	166.4 (9.18)	171.0 (9.35)
2% Low melting point wax	5	136.4 (9.29)	141.4 (9.02)	146.4 (8.53)	149.4* (8.17)	153.2* (8.70)	156.8* (8.93)	160.6 (8.20)
2% High melting point wax	5	140.2 (6.02)	145.8 (5.26)	151.4 (5.86)	155.4 (6.02)	158.6 (4.77)	162.0 (5.70)	165.2 (5.63)
2% High sulphur wax	5	138.8 (3.49)	143.4 (4.04)	148.0 (5.24)	153.8 (4.38)	157.8 (5.45)	159.4 (5.03)	161.2 (4.87)
2% Coconut oil	5	145.2 (8.47)	150.2 (8.53)	155.4 (9.86)	159.0 (8.80)	163.4 (8.32)	167.4 (10.81)	171.0 (12.35)

continued....

Table 7. Body weights (g) of female rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Study days						
		-4	0	3	7	10	14	17
0% Control	5	87.2 (6.46)	101.8 (6.22)	107.2 (5.76)	116.6 (5.55)	124.6 (7.89)	133.0 (6.52)	137.2 (9.09)
2% White oil N15 (H)	5	85.6 (6.31)	99.2 (7.12)	103.6 (8.17)	112.6 (7.99)	117.2 (7.40)	127.4 (7.77)	131.4 (5.94)
2% White oil N70 (H)	5	83.4 (3.21)	97.2 (4.02)	102.6 (3.21)	113.2 (3.03)	118.6 (3.21)	127.6 (4.16)	132.6 (2.41)
2% White oil N70 (A)	5	82.4 (4.04)	96.0 (3.67)	101.2 (3.96)	111.4 (5.37)	118.2 (4.55)	127.8 (4.15)	131.4 (3.29)
2% White oil P15 (H)	5	81.0 (4.47)	92.2* (4.44)	96.6** (4.51)	107.0* (5.10)	112.2** (6.22)	122.6* (7.44)	124.4** (7.50)
2% White oil N10 (A)	5	84.4 (5.59)	97.4 (5.68)	104.2 (6.76)	110.4 (7.37)	116.8 (6.94)	129.0 (6.89)	132.6 (7.54)
2% White oil P100 (H)	5	88.2 (8.35)	103.4 (7.83)	110.4 (8.02)	117.0 (8.69)	124.2 (7.85)	133.2 (6.30)	139.2 (8.76)
2% Low melting point wax	5	83.8 (6.42)	94.6 (9.07)	102.4 (9.13)	109.4 (7.83)	116.0* (9.06)	124.8 (9.01)	129.6 (8.35)
2% High melting point wax	5	83.8 (4.66)	98.0 (3.39)	105.6 (4.34)	114.2 (3.19)	120.2 (5.22)	129.6 (5.03)	136.0 (3.81)
2% High sulphur wax	5	82.6 (4.34)	95.8 (5.07)	102.8 (5.17)	110.4 (6.19)	117.6 (4.67)	126.0 (4.42)	131.4 (4.34)
2% Coconut oil	5	86.6 (6.11)	99.6 (5.55)	109.0 (6.32)	118.0 (8.28)	123.6 (7.20)	134.4 (8.20)	139.6 (8.99)

continued....

Table 7. (continued)

Group	n	Study days						
		70	73	77	80	84	87	91
0% Control	5	187.2 (9.88)	188.8 (9.23)	193.2 (11.21)	194.8 (12.44)	196.0 (12.27)	196.8 (11.90)	201.0 (11.66)
2% White oil N15 (H)	5	177.2 (9.01)	179.0 (7.78)	181.0* (9.54)	183.0 (10.70)	183.8* (8.35)	185.0 (8.19)	186.4* (8.08)
2% White oil N70 (H)	5	178.2 (3.77)	180.4 (5.18)	183.0 (5.52)	184.8 (5.63)	187.2 (7.16)	188.0 (6.00)	190.8 (5.22)
2% White oil N70 (A)	5	180.6 (5.64)	184.4 (5.13)	185.2 (7.40)	190.4 (5.73)	191.6 (5.59)	190.8 (7.05)	194.0 (6.60)
2% White oil P15 (H)	5	175.4* (11.26)	177.8* (10.31)	179.4* (12.66)	183.0 (13.08)	183.2* (11.43)	185.0 (13.67)	187.4* (13.28)
2% White oil N10 (A)	5	182.2 (9.09)	186.2 (10.94)	188.8 (13.54)	191.0 (10.82)	192.2 (9.55)	191.8 (12.91)	194.8 (9.83)
2% White oil P100 (H)	5	187.4 (9.56)	191.2 (10.33)	194.8 (10.99)	198.0 (11.49)	199.6 (9.07)	202.2 (8.98)	203.4 (9.50)
2% Low melting point wax	5	177.8 (7.76)	180.2 (9.91)	184.2 (8.53)	185.2 (8.04)	186.8 (9.36)	187.6 (8.68)	189.8* (8.26)
2% High melting point wax	5	180.8 (7.69)	183.6 (6.47)	186.4 (6.58)	189.0 (7.75)	186.8 (7.40)	190.6 (7.70)	192.4 (8.50)
2% High sulphur wax	5	177.2 (6.38)	178.8 (6.30)	182.4 (5.18)	185.2 (6.98)	185.2 (5.89)	187.8 (6.14)	191.0 (6.63)
2% Coconut oil	5	186.6 (6.27)	189.0 (8.22)	191.8 (9.23)	194.0 (7.07)	193.0 (6.96)	196.0 (9.97)	198.8 (6.06)

continued....

Table 7. (continued)

Group	n	Study days						
		45	49	52	56	59	63	66
0% Control	5	171.8 (7.36)	172.0 (8.31)	174.8 (9.31)	177.4 (9.66)	177.4 (11.08)	177.8 (8.79)	184.2 (10.23)
2% White oil N15 (H)	5	162.2* (8.56)	166.6 (8.35)	167.2 (7.89)	168.4 (9.66)	170.4 (8.79)	170.8 (8.41)	174.6 (9.24)
2% White oil N70 (H)	5	162.6 (5.08)	167.4 (5.59)	166.2 (6.18)	169.2 (5.26)	170.0 (6.28)	171.2 (6.22)	176.0 (5.15)
2% White oil N70 (A)	5	164.4 (4.10)	168.0 (3.94)	167.2 (5.31)	170.8 (5.76)	173.0 (5.83)	173.0 (4.95)	177.0 (4.74)
2% White oil P15 (H)	5	159.0** (8.63)	163.2 (8.41)	163.4* (10.55)	165.4* (9.99)	166.0* (9.57)	168.6 (10.92)	171.0* (12.33)
2% White oil N10 (A)	5	166.8 (8.93)	169.4 (9.45)	171.2 (10.38)	173.0 (9.03)	174.8 (9.26)	176.2 (8.79)	178.2 (7.98)
2% White oil P100 (H)	5	174.0 (8.60)	175.2 (7.76)	177.6 (11.22)	181.4 (9.34)	182.6 (8.56)	182.8 (8.58)	186.4 (9.99)
2% Low melting point wax	5	164.2 (8.64)	166.6 (8.76)	167.0 (8.28)	170.6 (8.38)	172.8 (9.15)	173.6 (9.58)	176.4 (7.54)
2% High melting point wax	5	167.4 (7.02)	168.8 (6.34)	172.6 (6.73)	174.0 (7.38)	176.0 (6.32)	177.8 (7.56)	178.2 (6.83)
2% High sulphur wax	5	165.4 (4.51)	167.8 (4.32)	170.2 (5.63)	170.8 (5.89)	172.2 (4.82)	175.0 (5.79)	175.8 (5.50)
2% Coconut oil	5	172.6 (9.04)	175.2 (8.58)	179.6 (9.10)	181.6 (6.99)	182.6 (7.54)	184.2 (7.33)	184.4 (6.66)

continued

Table 8. Body weights (g) of female rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0 %

Group	n	Study days								
		-4	0	3	7	10	14	17	21	24
0% Control	5	86.6 (4.72)	98.8 (5.07)	103.8 (4.76)	113.4 (6.50)	119.8 (6.06)	127.2 (6.14)	131.8 (6.65)	135.4 (5.94)	141.4 (7.02)
2% White oil N 15 (H)	5	84.8 (5.45)	97.8 (5.76)	104.0 (5.92)	112.2 (7.12)	119.8 (6.69)	128.0 (8.28)	133.4 (6.66)	138.8 (7.76)	143.2 (7.50)
2% White oil N 70 (H)	5	84.8 (5.54)	97.2 (5.63)	105.4 (5.68)	115.8 (7.26)	119.6 (7.77)	130.2 (10.21)	136.8 (11.90)	142.0 (10.93)	145.6 (11.24)
2% White oil N 70 (A)	5	79.6 (6.47)	93.4 (6.27)	99.0 (5.39)	109.0 (4.47)	115.8 (5.97)	124.4 (4.83)	130.2 (5.97)	134.8 (6.76)	139.4 (7.20)
2% White oil P 15 (H)	5	86.2 (7.85)	102.0 (8.69)	105.8 (8.07)	117.0 (8.60)	122.4 (8.91)	131.0 (9.25)	136.0 (9.95)	141.8 (10.16)	146.6 (9.61)
2% White oil N 10 (A)	5	84.8 (6.76)	96.8 (6.98)	104.2 (6.76)	111.4 (7.57)	117.8 (6.14)	126.4 (5.81)	132.0 (6.04)	137.2 (5.36)	141.6 (4.28)
2% White oil P 100 (H)	5	82.0 (5.70)	95.2 (4.82)	102.0 (5.74)	109.0 (5.34)	116.8 (6.14)	125.4 (5.18)	131.8 (6.76)	135.0 (6.52)	140.8 (5.59)
2% Low melting point wax	5	82.8 (7.95)	96.8 (7.85)	106.2 (8.70)	113.6 (8.96)	122.0 (8.34)	132.0 (8.72)	137.6 (8.68)	145.2 (10.06)	149.4 (8.85)
2% High melting point wax	5	83.0 (2.92)	96.4 (4.98)	103.8 (3.96)	112.4 (4.98)	116.8 (4.38)	127.0 (4.36)	132.8 (3.56)	136.8 (2.77)	144.8 (4.44)
2% High sulphur wax	5	82.6 (4.83)	94.4 (5.55)	102.0 (6.28)	110.6 (7.23)	116.6 (7.13)	126.0 (8.57)	131.4 (9.50)	136.0 (9.46)	142.2 (9.34)
2% Coconut oil	5	86.8 (4.71)	100.0 (5.15)	107.6 (5.32)	117.8 (5.26)	124.8 (6.91)	134.8 (8.47)	141.2 (9.15)	147.2* (8.23)	152.2* (10.03)

continued....

Table 7. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Individual data reported in Appendix 21.

Table 8. continued.

Group	n	Study days								
		59	63	66	70	73	77	80	84	87
0% Control	5	169.4 (11.08)	171.2 (9.15)	173.0 (8.28)	176.2 (9.88)	178.6 (9.34)	180.2 (8.61)	182.4 (9.89)	184.2 (10.80)	186.4[P] (7.54)
2% White oil N 15 (H)	5	172.0 (10.77)	172.6 (12.36)	178.4 (11.46)	178.4 (10.31)	181.2 (12.44)	184.4 (11.87)	185.0 (11.31)	185.6 (11.97)	188.0[P] (14.28)
2% White oil N 70 (H)	5	177.4 (14.83)	180.4 (16.74)	181.6 (15.99)	185.4 (18.77)	187.2 (14.96)	189.4 (14.74)	191.8 (16.87)	193.8 (15.06)	195.2[P] (14.84)
2% White oil N 70 (A)	5	170.8 (5.54)	172.8 (6.38)	175.0 (6.04)	179.2 (7.05)	183.4 (7.23)	184.0 (5.70)	186.8 (6.53)	188.8 (4.82)	190.8[P] (8.17)
2% White oil P 15 (H)	5	176.6 (11.93)	177.8 (14.18)	182.2 (12.76)	183.4 (12.22)	187.8 (12.32)	191.0 (13.51)	191.4 (10.48)	193.6 (13.78)	195.2[P] (14.15)
2% White oil N 10 (A)	5	173.0 (3.94)	173.0 (5.92)	175.8 (3.83)	178.6 (3.65)	179.6 (2.97)	183.2 (2.68)	185.2 (2.77)	186.2 (2.39)	187.0[t] (1.00)
2% White oil P 100 (H)	5	173.4 (7.64)	175.8 (6.46)	179.4 (3.44)	179.8 (6.02)	183.0 (7.25)	185.6 (5.50)	188.0 (4.85)	188.6 (6.84)	189.6[P] (4.93)
2% Low melting point wax	5	181.2 (6.91)	182.8 (6.61)	183.8 (7.43)	186.0 (7.84)	189.0 (6.56)	192.0* (7.07)	193.4 (7.47)	193.4 (10.29)	192.6[P] (11.61)
2% High melting point wax	5	171.0 (2.35)	173.2 (2.95)	172.0 (2.35)	175.0 (2.00)	177.8 (2.59)	180.6 (3.05)	182.8 (3.56)	184.0 (4.06)	185.2[P] (4.27)
2% High sulphur wax	5	169.6 (11.52)	171.6 (9.24)	175.2 (10.66)	174.8 (9.83)	178.2 (12.28)	181.2 (11.17)	183.4 (9.79)	182.6 (11.59)	186.0[P] (12.23)
2% Coconut oil	5	186.2** (9.96)	188.4** (9.45)	190.2** (8.81)	192.6* (8.65)	193.8* (9.42)	197.6** (8.02)	202.0** (6.16)	203.8** (5.89)	203.8**[P] (6.72)

continued....

Table 8. continued.

Group	n	Study days								
		28	31	35	38	42	45	49	52	56
0% Control	5	144.4 (7.16)	149.2 (6.87)	155.0 (7.35)	158.4 (8.88)	159.8 (9.09)	163.4 (9.21)	166.6 (9.18)	167.6 (9.71)	168.0 (8.97)
2% White oil N 15 (H)	5	147.4 (10.33)	151.0 (8.09)	155.8 (8.32)	160.6 (10.16)	160.4 (11.55)	163.8 (11.32)	167.2 (10.03)	168.6 (12.30)	169.8 (11.01)
2% White oil N 70 (H)	5	151.2 (11.97)	156.0 (14.27)	161.6 (15.69)	165.6 (17.13)	166.4 (14.24)	168.2 (15.80)	173.2 (16.24)	172.8 (15.06)	174.2 (15.91)
2% White oil N 70 (A)	5	144.8 (8.47)	148.2 (7.09)	154.0 (6.96)	157.4 (6.27)	160.8 (7.40)	162.8 (8.11)	167.4 (7.27)	167.4 (5.77)	169.4 (6.35)
2% White oil P 15 (H)	5	151.8 (10.28)	156.2 (11.86)	161.4 (11.99)	165.8 (9.36)	165.8 (12.13)	170.2 (10.43)	174.0 (12.59)	174.0 (11.73)	173.6 (11.48)
2% White oil N 10 (A)	5	149.4 (5.59)	151.6 (4.51)	155.4 (5.68)	159.8 (4.44)	163.6 (6.11)	165.6 (4.67)	169.0 (4.36)	170.0 (4.47)	171.4 (2.70)
2% White oil P 100 (H)	5	146.0 (5.15)	150.0 (5.39)	154.4 (3.29)	158.4 (6.35)	161.2 (5.36)	164.8 (5.81)	166.8 (5.72)	171.2 (5.89)	170.6 (6.54)
2% Low melting point wax	5	154.4 (7.23)	158.0 (8.77)	161.0 (5.92)	164.4 (5.22)	169.0 (6.56)	170.4 (6.07)	172.2 (5.07)	177.2 (5.72)	177.4 (6.66)
2% High melting point wax	5	147.6 (3.05)	151.4 (3.29)	154.8 (2.05)	159.4 (2.30)	161.2 (2.68)	165.4 (2.61)	165.2 (3.35)	167.4 (2.70)	167.4 (2.19)
2% High sulphur wax	5	146.0 (8.75)	149.4 (9.34)	152.2 (9.42)	157.2 (11.32)	159.8 (11.65)	161.8 (10.13)	163.6 (10.48)	166.8 (9.88)	167.0 (10.61)
2% Coconut oil	5	158.8** (8.93)	163.8** (8.41)	167.4* (9.63)	170.0* (7.45)	174.4* (8.79)	176.0* (8.19)	178.4* (8.91)	181.8* (8.47)	185.0** (8.09)

continued....

Table 8. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Day 98 :- Results calculated from data transformed by $Log_e Y$
Day 87 :- Results of (p) two-sided pooled two sample t-tests, or (t) two-sided two sample t-tests.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Individual data reported in Appendix 22.

Table 8. continued.

Group	n	Study days								
		91	94	98	101	105	108	112	115	118
0% Control	5	187.8 (7.89)	187.0 (10.20)	186.4 (8.08)	188.8 (8.11)	188.6 (8.96)	190.6 (8.29)	193.4 (9.18)	189.6 (9.99)	194.4 (10.15)
2% White oil N 15 (H)	5	189.4 (12.12)	188.4 (12.22)	191.4 (13.48)	193.4 (12.44)	192.8 (13.37)	197.2 (14.62)	195.0 (15.36)	195.2 (13.72)	199.8 (14.52)
2% White oil N 70 (H)	5	197.6 (15.27)	197.8 (15.06)	197.4 (15.81)	200.8 (18.07)	202.8* (16.35)	203.4 (15.73)	201.6 (14.98)	202.6 (15.84)	206.0 (16.06)
2% White oil N 70 (A)	5	191.6 (5.73)	190.8 (6.02)	193.6 (3.85)	194.4 (6.07)	196.8 (5.22)	197.6 (6.66)	197.0 (7.00)	195.6 (7.64)	200.4 (6.69)
2% White oil P 15 (H)	5	196.4 (13.50)	194.6 (13.83)	197.2 (14.13)	198.0 (14.20)	199.8 (15.30)	200.6 (16.65)	199.6 (14.94)	200.6 (15.73)	204.0 (13.66)
2% White oil N 10 (A)	5	188.6 (1.67)	186.8 (2.28)	191.0 (1.87)	192.0 (3.46)	194.0 (4.53)	196.6 (2.88)	195.8 (4.44)	196.2 (4.32)	199.0 (2.83)
2% White oil P 100 (H)	5	190.0 (4.53)	190.6 (6.58)	193.8 (7.66)	193.8 (5.07)	196.4 (5.77)	197.0 (7.97)	198.0 (6.44)	198.2 (6.61)	202.2 (7.95)
2% Low melting point wax	5	195.6 (11.52)	197.6 (8.11)	200.6* (9.63)	199.4 (9.40)	201.0 (8.83)	202.0 (8.40)	200.8 (9.36)	200.4 (7.54)	203.8 (6.98)
2% High melting point wax	5	186.8 (5.12)	186.8 (4.60)	188.2 (3.42)	190.2 (5.26)	191.6 (5.22)	192.8 (4.87)	193.8 (6.22)	194.4 (5.77)	197.4 (5.81)
2% High sulphur wax	5	187.0 (12.63)	186.4 (13.46)	189.4 (11.26)	190.8 (11.17)	189.4 (10.31)	190.2 (11.86)	191.8 (12.56)	191.4 (10.83)	196.6 (12.30)
2% Coconut oil	5	207.6** (8.88)	206.2** (6.87)	209.4*** (6.27)	213.4*** (8.73)	213.8*** (9.65)	214.2** (8.79)	213.6** (9.42)	212.8** (9.55)	214.6** (8.88)

continued....

Table 9. continued.

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0.2% White oil N70 (A)	4	15.12* (0.287)	18.30 (0.432)	19.40 (0.808)	19.57 (0.650)	20.08 (0.714)	21.03 (0.472)	20.95 (0.823)	22.05 (1.248)	21.32 (0.457)
2% White oil N70 (A)	4	15.78 (0.591)	18.20 (0.841)	18.93 (1.531)	20.08 (0.925)	20.13 (0.943)	21.35 (1.427)	22.15* (1.507)	22.32 (1.261)	21.68 (1.396)
0.002% White oil P15 (H)	4	15.38 (0.377)	18.05 (0.619)	19.03 (0.763)	19.80 (0.825)	19.28 (0.512)	20.88 (0.873)	21.33 (1.053)	21.80 (1.023)	21.32 (0.932)
0.02% White oil P15 (H)	4	15.60 (0.577)	18.32 (0.310)	18.92 (0.472)	19.65 (0.645)	19.67 (1.087)	20.85 (0.957)	21.25 (0.545)	21.85 (0.676)	21.28 (0.685)
0.2% White oil P15 (H)	4	15.30 (0.698)	18.03 (0.998)	18.83 (0.954)	19.42 (0.922)	19.28 (0.618)	20.43 (0.519)	20.80 (0.770)	21.88 (0.556)	21.35 (0.289)
2% White oil P15 (H)	4	15.52 (0.943)	17.97 (1.135)	19.23 (0.695)	19.80 (0.942)	19.88 (0.531)	21.32 (0.888)	22.00* (0.872)	22.25 (0.551)	22.15* (0.332)
0.002% White oil N10 (A)	4	15.38 (0.275)	18.52 (0.709)	17.83 (2.238)	19.55 (0.835)	19.32 (0.585)	20.23 (0.754)	20.75 (1.038)	21.32 (0.624)	20.58 (0.759)
0.02% White oil N10 (A)	4	15.93 (0.585)	18.85* (0.379)	18.90 (1.304)	19.68 (0.727)	19.80 (1.499)	21.15 (1.702)	21.65 (1.666)	21.88 (1.109)	21.95* (1.771)
0.2% White oil N10 (A)	4	15.95 (0.759)	18.63 (0.869)	19.45 (1.173)	19.90 (0.762)	19.65 (0.975)	20.75 (1.708)	21.02 (1.605)	21.95 (1.248)	21.32 (1.636)
2% White oil N10 (A)	4	15.43 (0.330)	18.13 (0.359)	18.50 (1.421)	20.10 (1.178)	19.70 (0.783)	20.83 (1.513)	21.63 (1.855)	22.18 (1.181)	21.68 (1.276)
0.002% White oil P100 (H)	4	15.55 (0.332)	18.22 (0.957)	18.08 (1.184)	19.05 (1.261)	19.25 (0.661)	20.55 (1.072)	21.10 (0.841)	21.78 (0.499)	20.90 (1.010)
0.02% White oil P100 (H)	4	15.43 (0.222)	18.20 (0.141)	17.95 (1.662)	19.55 (0.759)	19.25 (0.676)	20.55 (0.656)	20.92 (1.135)	20.92 (0.991)	20.43 (1.075)

continued....

Table 9. Food intakes (g/rat/day) of female rats from batch 1 fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	12	15.79 (0.480)	17.84 (0.611)	18.62 (0.592)	19.34 (1.155)	19.03 (0.789)	20.43 (0.733)	20.72 (0.418)	21.33 (0.753)	20.83 (0.716)
0.002% White oil N15 (H)	4	15.98 (0.330)	18.72* (0.911)	19.50 (1.080)	20.15 (0.915)	20.07 (0.670)	21.12 (0.568)	21.40 (0.698)	22.20 (0.920)	21.53 (0.900)
0.02% White oil N15 (H)	4	16.05 (0.700)	18.55 (0.661)	19.60 (0.616)	19.70 (0.510)	19.85 (0.592)	21.03 (1.056)	21.58 (0.862)	21.73 (1.466)	21.05 (0.819)
0.2% White oil N15 (H)	4	15.42 (0.377)	18.20 (0.141)	18.40 (0.825)	20.07 (1.475)	19.78 (0.866)	20.82 (0.499)	21.08 (1.127)	21.80 (1.134)	21.38 (0.727)
2% White oil N15 (H)	4	15.45 (0.705)	17.97 (0.754)	18.75 (0.625)	19.35 (0.700)	19.50 (0.716)	20.92 (0.943)	21.22 (0.486)	22.00 (0.887)	21.57 (0.465)
0.002% White oil N70 (H)	4	15.70 (0.503)	18.15 (1.156)	18.82 (1.300)	19.13 (0.544)	18.82 (0.126)	20.45 (0.719)	20.67 (0.350)	20.92 (0.369)	20.30 (0.374)
0.02% White oil N70 (H)	4	15.10* (0.757)	17.90 (1.211)	18.73 (0.896)	19.03 (0.727)	19.28 (0.377)	20.60 (0.476)	20.67 (0.568)	20.77 (0.340)	20.35 (0.645)
0.2% White oil N70 (H)	4	15.70 (0.408)	18.50 (0.566)	19.23 (0.967)	19.60 (0.804)	19.68 (0.974)	21.10 (1.225)	21.00 (1.314)	21.20 (0.959)	20.88 (0.741)
2% White oil N70 (H)	4	15.40 (0.668)	18.20 (0.600)	18.17 (1.638)	20.33 (2.050)	20.30 (1.431)	21.95 (1.708)	22.13* (1.640)	22.95** (1.518)	22.32** (1.352)
0.002% White oil N70 (A)	4	15.72 (0.450)	18.20 (0.804)	18.88 (1.239)	19.13 (1.658)	19.15 (1.363)	20.73 (0.881)	20.67 (0.995)	21.88 (0.793)	20.45 (1.406)
0.02% White oil N70 (A)	4	15.82 (0.538)	18.22 (0.556)	19.50 (0.898)	19.87 (0.330)	19.78 (0.479)	20.85 (1.652)	20.95 (1.269)	21.63 (0.995)	20.95 (0.918)

continued....

Table 9. continued.

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0.2% High sulphur wax	4	16.03 (0.492)	18.47 (0.465)	19.65 (0.443)	19.88 (0.974)	19.60 (0.535)	21.00 (1.329)	21.70 (0.440)	22.07 (0.532)	21.88* (0.427)
2% High sulphur wax	4	15.60 (0.616)	18.68* (0.369)	19.00 (1.499)	19.65 (1.025)	20.05 (0.714)	21.03 (1.037)	21.70 (1.007)	21.92 (1.150)	21.78 (0.984)
2% Coconut oil	4	16.00 (0.216)	18.55 (1.025)	17.87 (2.478)	19.68 (0.544)	19.38 (0.340)	20.70 (0.712)	21.45 (0.785)	22.00 (1.111)	21.88* (0.834)

continued....

Table 9. continued.

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0.2% White oil P100 (H)	4	15.82 (0.359)	18.72* (0.665)	18.48 (1.801)	19.65 (1.389)	19.13 (0.556)	20.33 (1.266)	20.90 (1.023)	21.23 (0.608)	20.85 (0.465)
2% White oil P100 (H)	4	15.13* (0.222)	17.67 (0.532)	17.85 (2.062)	19.92 (0.858)	23.35*** (6.778)	15.90*** (10.133)	21.40 (0.748)	22.40 (0.702)	22.32** (0.660)
0.002% Low melting point wax	4	15.60 (0.648)	18.63 (0.395)	18.70 (1.553)	19.80 (1.361)	18.92 (0.499)	20.47 (0.568)	20.82 (0.411)	21.43 (0.763)	21.22 (0.974)
0.02% Low melting point wax	4	15.85 (0.772)	18.38 (0.780)	18.68 (1.443)	19.35 (1.038)	19.13 (0.411)	20.43 (0.885)	20.52 (0.550)	21.60 (1.152)	21.02 (0.377)
0.2% Low melting point wax	4	15.90 (0.497)	18.55 (0.342)	18.90 (0.726)	18.98 (1.357)	19.10 (0.796)	20.65 (1.112)	20.88 (1.066)	21.52 (1.533)	21.20 (1.467)
2% Low melting point wax	4	15.48 (0.768)	18.22 (1.044)	18.88 (0.954)	19.70 (0.938)	19.17 (0.299)	20.47 (0.492)	21.63 (0.750)	21.95 (0.656)	21.90* (0.356)
0.002% High melting point wax	4	15.30 (0.560)	18.15 (0.265)	18.70 (1.233)	19.22 (0.499)	19.07 (0.655)	20.58 (0.789)	21.45 (0.695)	22.20 (0.753)	21.17 (0.330)
0.02% High melting point wax	4	15.80 (0.762)	18.53 (0.640)	18.80 (1.169)	19.55 (0.695)	19.55 (0.580)	20.60 (0.716)	21.83 (0.818)	22.37 (0.608)	21.88* (0.974)
0.2% High melting point wax	4	15.43 (0.613)	18.38 (0.907)	19.30 (1.472)	20.05 (0.733)	19.88 (0.435)	21.47 (0.918)	21.85 (1.034)	22.57* (1.242)	21.83 (0.939)
2% High melting point wax	4	15.30 (0.432)	18.58 (0.377)	18.88 (1.118)	19.67 (1.184)	19.75 (0.597)	21.00 (1.010)	21.63 (0.574)	22.30 (0.952)	22.10* (0.658)
0.002% High sulphur wax	4	15.78 (0.525)	18.85* (0.500)	19.90 (0.638)	19.90 (0.632)	19.85 (0.835)	20.85 (1.482)	21.22 (1.981)	22.17 (1.360)	21.55 (1.212)
0.02% High sulphur wax	4	15.68 (0.150)	18.40 (0.770)	18.13 (1.684)	19.53 (0.810)	19.27 (0.709)	20.28 (1.144)	20.67 (1.350)	21.32 (0.465)	21.22 (0.556)

continued....

Table 9. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% White oil N70 (A)	4	22.70** (1.608)	22.65*** (0.827)	22.25 (0.957)	21.92*** (0.802)	22.72*** (1.132)	22.05*** (1.333)	22.27*** (1.318)	21.15** (0.723)	22.22*** (0.699)
0.002% White oil P15 (H)	4	20.78 (2.316)	21.30 (0.606)	21.00 (0.987)	20.30 (0.868)	21.30 (0.804)	20.65 (0.624)	21.03 (0.763)	20.30 (0.271)	20.90 (0.748)
0.02% White oil P15 (H)	4	21.70 (0.542)	21.15 (0.311)	21.82 (0.378)	20.85 (0.342)	21.45* (0.580)	20.40 (0.432)	21.32 (0.618)	20.40 (0.683)	20.80 (0.716)
0.2% White oil P15 (H)	4	21.70 (0.589)	21.42 (0.960)	21.57 (1.237)	20.97 (0.911)	21.20 (0.606)	20.68 (1.115)	21.28 (1.024)	20.42 (0.896)	20.52 (0.881)
2% White oil P15 (H)	4	22.30* (0.583)	22.43*** (0.574)	22.75** (0.473)	22.35*** (0.387)	22.20*** (0.529)	21.87*** (0.759)	22.02** (1.170)	20.88* (0.954)	22.25*** (0.904)
0.002% White oil N10 (A)	4	20.95 (0.580)	20.60 (0.572)	21.12 (0.472)	20.40 (0.673)	21.08 (1.127)	20.32 (0.750)	20.38 (0.714)	20.02 (0.618)	20.70 (0.864)
0.02% White oil N10 (A)	4	21.50 (1.449)	21.08 (1.650)	21.32 (1.887)	20.65 (1.041)	21.55* (1.182)	20.27 (0.896)	20.88 (1.357)	19.95 (0.742)	20.60 (1.227)
0.2% White oil N10 (A)	4	21.37 (1.486)	21.12 (1.473)	21.45 (1.054)	20.72 (0.929)	21.55* (0.695)	20.58 (0.991)	21.17 (0.702)	20.47 (0.499)	20.80 (0.572)
2% White oil N10 (A)	4	21.95 (1.226)	21.82* (0.854)	21.88 (0.793)	21.68** (0.479)	21.83** (0.650)	20.97 (1.106)	21.47* (0.544)	20.75* (0.961)	21.50* (0.993)
0.002% White oil P100 (H)	4	21.23 (0.618)	21.15 (0.342)	21.25 (0.507)	20.68 (0.096)	21.00 (0.271)	20.33 (0.640)	20.70 (0.408)	19.80 (0.294)	20.25 (0.238)
0.02% White oil P100 (H)	4	21.25 (0.640)	20.85 (0.580)	19.98* (2.396)	20.93 (1.078)	21.40* (0.821)	20.85 (0.957)	20.80 (0.931)	19.85 (1.100)	20.35 (1.201)
0.2% White oil P100 (H)	4	21.30 (0.258)	21.43 (0.665)	21.38 (1.094)	21.25 (0.714)	21.18 (0.395)	20.53 (0.750)	20.93 (0.386)	19.97 (0.359)	20.28 (0.206)

continued....

Table 9. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	12	20.95 (0.671)	20.76 (0.614)	21.29 (0.665)	20.44 (0.516)	20.52 (0.706)	20.03 (0.852)	20.29 (1.009)	19.86 (0.481)	20.27 (0.777)
0.002% White oil N15 (H)	4	21.58 (0.299)	21.60 (0.200)	21.47 (0.492)	21.15 (0.436)	21.40* (0.548)	20.40 (0.365)	20.75 (0.379)	20.10 (0.141)	20.88 (0.768)
0.02% White oil N15 (H)	4	21.70 (0.469)	21.88* (0.960)	21.97 (0.763)	21.30 (0.600)	22.03*** (0.427)	21.02 (1.554)	21.30 (1.488)	21.05** (1.819)	21.83** (1.882)
0.2% White oil N15 (H)	4	21.67 (0.263)	21.60 (0.200)	21.67 (0.222)	20.72 (0.613)	21.38 (0.763)	20.83 (0.685)	21.28 (1.218)	20.47 (0.665)	20.67 (0.150)
2% White oil N15 (H)	4	22.15* (0.971)	21.92* (0.126)	21.75 (0.526)	21.28 (0.330)	21.43* (1.159)	20.67 (0.984)	21.35* (1.139)	20.82* (0.704)	21.18 (1.005)
0.002% White oil N70 (H)	4	21.10 (1.273)	21.10 (0.913)	21.30 (0.594)	20.75 (0.520)	21.08 (0.435)	20.00 (0.837)	20.27 (0.665)	19.50 (0.560)	20.33 (0.435)
0.02% White oil N70 (H)	4	20.75 (1.411)	20.90 (0.949)	20.82 (0.826)	20.35 (0.768)	20.88 (0.624)	20.78 (0.822)	20.70 (0.860)	20.05 (0.557)	20.98 (0.550)
0.2% White oil N70 (H)	4	21.68 (1.367)	21.40 (1.278)	22.25 (0.823)	21.32* (0.499)	22.20*** (0.845)	21.43* (0.929)	21.65* (0.661)	21.22** (0.750)	21.73** (0.670)
2% White oil N70 (H)	4	22.38* (1.379)	22.13** (0.714)	22.60* (1.194)	22.17*** (0.925)	22.33*** (0.741)	21.53** (0.538)	22.10*** (0.833)	21.68*** (0.479)	22.38*** (0.580)
0.002% White oil N70 (A)	4	20.83 (0.943)	20.87 (0.435)	21.27 (0.450)	20.38 (0.222)	21.18 (0.512)	20.13 (0.695)	20.45 (0.545)	19.75 (0.569)	20.42 (0.340)
0.02% White oil N70 (A)	4	21.07 (1.090)	21.40 (0.627)	21.38 (0.954)	20.60 (0.876)	21.08 (0.907)	20.68 (1.106)	20.88 (0.988)	20.17 (0.597)	20.43 (0.998)
0.2% White oil N70 (A)	4	21.75 (0.551)	21.27 (0.562)	21.82 (0.680)	21.00 (0.622)	21.78** (0.499)	21.02 (0.222)	21.55* (0.839)	20.63 (0.921)	21.22 (0.640)

continued....

Table 9. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0.2% High sulphur wax	4	21.98 (0.862)	21.40 (0.712)	21.38 (0.690)	20.88 (1.274)	21.50* (0.542)	20.85 (1.370)	20.90 (0.673)	20.18 (0.618)	20.72 (0.918)
2% High sulphur wax	4	22.53** (0.785)	22.18** (0.465)	22.15 (0.551)	21.70** (0.997)	21.70** (0.616)	21.05 (0.866)	21.10 (0.668)	20.25 (0.676)	21.13 (0.150)
2% Coconut oil	4	22.30* (1.275)	21.90* (1.158)	22.32 (0.946)	21.93*** (0.512)	22.68*** (1.382)	21.65** (1.852)	22.65*** (1.370)	21.00** (0.707)	21.75** (1.634)

continued....

Table 9. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% White oil P100 (H)	4	22.43** (0.830)	22.03** (0.850)	22.42* (0.763)	21.63** (0.785)	22.13*** (0.741)	21.17* (0.675)	21.67** (0.479)	20.95* (0.526)	21.63** (0.670)
0.002% Low melting point wax	4	21.92 (1.212)	21.40 (1.490)	21.45 (1.318)	20.55 (1.207)	21.58* (0.330)	20.75 (1.358)	21.53* (1.047)	20.40 (1.627)	20.95 (0.839)
0.02% Low melting point wax	4	21.78 (0.512)	21.20 (0.927)	21.68 (1.315)	20.58 (0.634)	21.15 (0.500)	20.40 (0.983)	21.15 (0.443)	20.43 (0.544)	20.85 (0.719)
0.2% Low melting point wax	4	21.57 (0.885)	21.27 (0.974)	21.28 (1.179)	20.97 (1.109)	22.30*** (0.906)	20.93 (0.699)	21.37* (0.299)	20.67 (0.419)	20.82 (0.457)
2% Low melting point wax	4	22.22* (0.793)	21.82* (0.727)	21.75 (1.041)	21.50* (0.744)	21.95** (0.835)	21.35* (1.156)	21.78** (1.533)	20.67 (1.024)	21.18 (1.948)
0.002% High melting point wax	4	21.47 (0.435)	21.65 (0.238)	21.60 (0.663)	21.03 (0.369)	21.55* (0.719)	20.65 (0.874)	20.90 (0.913)	20.18 (0.457)	20.50 (0.589)
0.02% High melting point wax	4	22.15* (1.066)	21.38 (0.984)	21.48 (1.607)	21.07 (1.664)	21.47* (1.396)	20.80 (1.268)	21.38* (0.957)	20.90* (0.783)	20.97 (1.100)
0.2% High melting point wax	4	22.00 (0.294)	21.97** (0.512)	21.97 (0.925)	21.47* (0.785)	22.20*** (0.841)	21.13* (0.789)	21.90** (0.748)	20.85* (0.823)	21.53* (1.078)
2% High melting point wax	4	22.70** (0.455)	22.30*** (0.356)	22.12 (0.714)	21.95*** (0.835)	22.05*** (0.557)	21.50** (0.707)	22.12*** (0.556)	21.25** (0.265)	21.97*** (0.727)
0.002% High sulphur wax	4	21.75 (0.557)	21.75* (0.835)	21.53 (0.665)	20.75 (0.500)	21.57* (0.737)	20.70 (0.678)	20.27 (1.372)	20.10 (0.976)	20.90 (0.589)
0.02% High sulphur wax	4	21.35 (0.465)	21.15 (0.723)	21.05 (0.300)	20.78 (0.866)	21.68* (0.946)	20.17 (1.024)	20.75 (0.904)	20.17 (0.810)	20.87 (0.450)

continued....

Table 9. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
2% White oil N70 (A)	4	22.03*** (0.650)	22.30*** (0.898)	21.30*** (0.648)	22.05*** (0.661)	21.78*** (0.834)	22.05*** (0.742)	21.80*** (0.913)	21.60*** (1.501)	21.75*** (0.933)
0.002% White oil P15 (H)	4	20.38 (0.608)	20.83 (0.885)	19.68 (0.340)	20.25 (0.480)	19.77 (0.050)	20.43 (0.310)	19.72 (0.512)	20.03 (0.538)	19.95 (0.705)
0.02% White oil P15 (H)	4	20.10 (0.668)	20.67 (1.132)	19.73 (0.900)	20.23 (0.486)	19.20 (0.316)	20.15 (0.191)	19.75 (0.545)	20.00 (0.316)	20.22 (0.538)
0.2% White oil P15 (H)	4	20.23 (0.591)	20.85 (0.772)	20.00 (0.668)	20.42 (0.877)	20.35 (0.681)	20.75 (0.451)	20.47 (0.877)	20.53 (0.866)	20.65* (0.451)
2% White oil P15 (H)	4	21.85*** (0.733)	22.13** (0.866)	21.15*** (0.311)	21.85*** (1.533)	21.55*** (0.790)	22.30*** (0.796)	21.72*** (0.789)	20.78* (1.652)	20.55 (1.700)
0.002% White oil N10 (A)	4	20.45 (0.733)	20.97 (1.044)	20.60* (0.898)	20.33 (0.386)	20.32 (0.806)	21.22 (0.780)	20.47 (0.670)	20.25 (0.661)	20.87* (0.759)
0.02% White oil N10 (A)	4	19.97 (0.665)	20.55 (0.661)	19.80 (0.356)	20.05 (0.681)	20.00 (0.712)	20.93 (0.903)	19.80 (0.942)	19.85 (0.998)	20.05 (0.790)
0.2% White oil N10 (A)	4	21.05** (0.465)	21.35 (1.340)	20.72* (0.984)	20.45 (0.465)	20.35 (0.569)	21.40* (0.346)	20.43 (0.695)	20.33 (0.450)	20.83* (0.660)
2% White oil N10 (A)	4	21.63*** (0.699)	21.88** (1.452)	21.28*** (0.911)	21.38** (0.395)	21.22*** (0.714)	22.15*** (0.580)	21.22*** (0.929)	20.17 (1.668)	20.20 (2.045)
0.002% White oil P100 (H)	4	20.17 (0.624)	20.60 (1.134)	20.00 (0.753)	20.35 (0.661)	20.10 (0.606)	20.78 (0.737)	19.97 (0.427)	20.50 (0.529)	20.45 (0.827)
0.02% White oil P100 (H)	4	20.40 (0.821)	20.50 (1.036)	20.08 (0.978)	20.38 (0.741)	20.20 (0.658)	20.52 (0.263)	19.93 (0.435)	20.30 (0.787)	20.45 (1.196)
0.2% White oil P100 (H)	4	20.07 (0.222)	20.30 (0.327)	19.70 (0.365)	19.97 (0.574)	19.97 (0.403)	21.43* (0.907)	20.25 (0.208)	20.68* (0.574)	20.85* (0.755)

continued....

Table 9. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0% Control	12	19.91 (0.623)	20.37 (0.596)	19.78 (0.544)	20.16 (0.483)	19.77 (0.502)	20.51 (0.636)	19.84 (0.671)	19.57 (0.665)	19.51 (0.881)
0.002% White oil N15 (H)	4	20.58 (0.499)	20.68 (0.457)	20.38 (0.222)	21.05* (0.656)	20.45 (0.436)	21.22 (0.486)	20.35 (0.412)	20.53 (0.206)	20.27 (0.802)
0.02% White oil N15 (H)	4	21.40*** (1.627)	21.25 (1.603)	20.80** (1.306)	21.38** (1.554)	21.08** (1.680)	21.07 (1.297)	20.52 (1.050)	21.10** (0.938)	21.28** (1.207)
0.2% White oil N15 (H)	4	20.55 (0.443)	20.95 (0.661)	19.88 (0.519)	20.40 (0.346)	19.62 (0.556)	20.13 (0.911)	19.72 (0.714)	20.47 (0.574)	20.55 (1.237)
2% White oil N15 (H)	4	21.30*** (0.883)	21.30 (1.152)	20.65* (0.545)	21.25* (1.063)	21.35*** (0.866)	21.05 (0.645)	20.80* (0.535)	21.45*** (1.466)	21.63*** (1.063)
0.002% White oil N70 (H)	4	19.85 (0.173)	19.88 (0.386)	19.45 (0.404)	20.22 (1.037)	19.63 (0.386)	19.97 (0.900)	19.67 (0.275)	19.83 (0.275)	19.80 (0.424)
0.02% White oil N70 (H)	4	20.30 (0.356)	20.17 (0.936)	19.57 (0.359)	20.67 (0.435)	19.93 (0.250)	20.75 (0.370)	20.18 (0.574)	20.13 (0.419)	20.17 (0.222)
0.2% White oil N70 (H)	4	21.07** (0.386)	21.35 (0.545)	20.22 (0.780)	20.53 (0.608)	20.25 (0.545)	20.75 (0.500)	20.22 (0.403)	20.90** (0.400)	20.80* (0.622)
2% White oil N70 (H)	4	22.33*** (0.624)	22.50*** (1.175)	21.53*** (0.618)	22.03*** (1.087)	21.55*** (1.204)	21.98*** (1.100)	21.55*** (0.995)	21.05*** (1.193)	21.97*** (0.957)
0.002% White oil N70 (A)	4	19.75 (0.532)	20.25 (0.342)	19.63 (0.386)	19.90 (0.668)	19.58 (0.350)	20.35 (0.676)	19.68 (1.069)	20.17 (0.299)	19.97 (1.024)
0.02% White oil N70 (A)	4	19.67 (0.665)	20.45 (1.145)	19.52 (0.802)	20.63 (1.374)	19.63 (0.936)	20.35 (0.300)	19.92 (0.556)	20.27 (0.842)	20.35 (0.666)
0.2% White oil N70 (A)	4	20.90* (0.529)	21.38 (1.044)	20.00 (0.572)	20.53 (0.613)	20.32 (0.665)	21.05 (0.480)	20.7* (0.424)	20.95** (0.500)	20.55 (0.681)

continued....

Table 9. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0.2% High sulphur wax	4	20.43 (0.640)	20.93 (1.195)	20.45 (0.520)	21.08* (0.918)	20.70* (1.178)	21.07 (0.222)	20.23 (0.826)	20.50 (1.197)	20.70* (1.543)
2% High sulphur wax	4	20.90* (0.455)	20.63 (0.472)	20.22 (0.499)	20.75 (0.911)	20.53 (0.946)	20.85 (0.802)	20.22 (0.562)	20.55* (0.759)	20.95* (0.580)
2% Coconut oil	4	21.68*** (0.602)	22.60*** (1.858)	21.22*** (1.201)	21.80*** (0.762)	21.30*** (0.698)	22.35*** (1.261)	21.00** (0.956)	21.05** (0.719)	20.97* (1.399)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Apendices 26, 27, 28 and 29.

Table 9. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
2% White oil P100 (H)	4	21.03** (0.499)	21.52* (0.519)	20.95** (0.332)	21.48** (0.263)	21.07** (0.222)	21.32* (1.348)	21.95*** (1.103)	21.18** (0.785)	21.70*** (0.906)
0.002% Low melting point wax	4	20.45 (0.933)	20.72 (0.741)	20.25 (0.777)	20.72 (0.655)	20.53 (0.806)	21.02 (0.585)	20.30 (1.007)	20.55* (1.063)	20.72* (1.431)
0.02% Low melting point wax	4	20.20 (0.762)	20.80 (1.061)	20.20 (0.698)	20.52 (0.591)	20.25 (0.208)	20.43 (0.991)	19.97 (0.714)	20.48 (0.896)	20.88* (0.995)
0.2% Low melting point wax	4	20.22 (0.395)	20.50 (0.762)	19.95 (0.311)	19.95 (0.370)	20.10 (0.483)	20.42 (0.640)	20.20 (0.535)	20.53 (0.506)	21.07** (0.556)
2% Low melting point wax	4	20.90* (1.329)	21.68* (1.632)	20.53 (0.479)	20.60 (0.622)	20.52 (0.991)	21.07 (0.866)	20.12 (0.960)	20.63* (1.292)	21.00** (1.197)
0.002% High melting point wax	4	20.10 (0.408)	20.60 (1.160)	20.03 (0.670)	20.03 (0.499)	20.00 (0.000)	20.12 (0.320)	19.60 (0.523)	20.67* (0.685)	20.95* (1.170)
0.02% High melting point wax	4	20.72* (0.699)	21.15 (0.772)	20.25 (0.900)	20.58 (0.754)	20.07 (0.544)	20.20 (0.200)	19.58 (0.492)	20.52 (0.519)	20.88* (0.818)
0.2% High melting point wax	4	20.98** (0.737)	21.22 (1.053)	20.67* (0.665)	20.70 (0.566)	20.50 (0.770)	20.58 (0.640)	20.38 (0.634)	20.82* (0.499)	20.90* (0.952)
2% High melting point wax	4	21.30*** (0.408)	21.30 (0.535)	21.00** (0.529)	21.55** (0.759)	21.47*** (0.709)	21.47* (0.403)	20.82* (0.419)	20.80* (0.698)	21.35** (0.661)
0.002% High sulphur wax	4	20.43 (0.806)	20.75 (0.911)	20.20 (0.712)	20.53 (0.655)	20.35 (0.686)	20.53 (0.925)	19.87 (0.550)	20.07 (0.842)	20.45 (0.723)
0.02% High sulphur wax	4	20.45 (0.645)	20.88 (0.793)	19.85 (0.656)	20.22 (0.640)	20.17 (0.645)	20.60 (0.548)	19.75 (0.819)	19.75 (0.985)	20.15 (1.109)

continued....

Table 10. continued

Group	n	Study day 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	6	20.85 (1.091)	20.82 (0.857)	20.67 (0.873)	19.95 (0.848)	20.48 (0.845)	19.48 (0.631)	20.18 (0.608)	19.72 (0.319)	19.90 (0.623)
2% White oil N15 (H)	2	21.85 (0.212)	22.35* (0.636)	22.50* (0.566)	21.85** (0.495)	21.80* (0.424)	21.05** (0.212)	21.60* (0.141)	21.45*** (0.071)	22.20** (0.424)
2% White oil N70 (H)	2	22.85** (0.071)	24.40*** (0.283)	24.00*** (0.141)	23.30*** (0.005)	23.55*** (0.354)	22.20*** (0.004)	23.20*** (0.849)	22.45*** (0.071)	23.05*** (1.343)
2% White oil N70 (A)	2	26.15*** (1.344)	25.20*** (0.141)	24.10*** (0.849)	23.40*** (0.424)	23.90*** (0.283)	21.70*** (0.707)	23.90*** (0.141)	22.35*** (0.071)	23.45*** (0.778)
2% White oil P15 (H)	2	22.90** (0.283)	22.95** (0.071)	22.80** (0.707)	22.25** (0.919)	22.50** (0.566)	21.60*** (0.005)	22.65*** (1.768)	21.20*** (0.566)	22.55*** (0.071)
2% White oil N10 (A)	2	23.30** (0.566)	23.60*** (0.424)	23.50*** (1.131)	23.30*** (0.849)	23.10*** (0.283)	22.05*** (0.354)	23.15*** (1.202)	22.90*** (0.283)	22.55*** (0.919)
2% White oil P100 (H)	2	23.30** (0.283)	23.35*** (0.778)	23.25** (0.354)	23.15*** (0.919)	22.40** (0.707)	20.95** (0.212)	22.05** (0.071)	21.50*** (0.283)	21.90** (0.002)
2% Low melting point wax	2	23.45*** (0.778)	23.15*** (0.495)	23.05** (0.495)	23.15*** (0.495)	22.60*** (0.707)	21.55*** (0.636)	22.10** (0.283)	21.30*** (0.283)	21.70** (0.424)
2% High melting point wax	2	23.30** (0.142)	22.95** (0.071)	22.90** (0.283)	21.40* (0.141)	21.80* (0.141)	21.15** (0.778)	21.40 (0.707)	21.25*** (0.636)	21.20* (0.566)
2% High sulphur wax	2	24.95*** (0.212)	24.30*** (0.990)	23.75*** (0.354)	22.85*** (0.919)	22.50** (0.000)	21.90*** (0.002)	22.30** (0.141)	22.10*** (0.566)	22.20** (0.707)
2% Coconut oil	2	22.70* (0.003)	22.95** (0.778)	22.90** (1.697)	21.40* (0.004)	21.60* (0.707)	20.60* (0.283)	21.40 (0.283)	21.25*** (0.636)	21.45* (0.919)

Table 10. Food intakes (g/rat/day) of male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2%, one of three mineral waxes at a level of 2% or coconut oil at a level of 2%

Group	n	Study day								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	6	15.32 (0.757)	17.13 (0.755)	18.08 (0.757)	18.85 (0.987)	18.80 (0.764)	19.87 (0.709)	20.63 (0.814)	21.13 (1.035)	20.57 (0.931)
2% White oil N15 (H)	2	15.70 (0.283)	17.60 (0.141)	18.65 (0.071)	19.50 (0.000)	19.95 (0.354)	21.10* (0.707)	21.35 (1.202)	22.50 (0.566)	21.75 (0.919)
2% White oil N70 (H)	2	16.00 (1.273)	18.30* (1.131)	19.15 (1.343)	19.70 (0.424)	19.85 (0.919)	21.65** (0.354)	22.50** (0.000)	22.90* (0.566)	22.85** (0.212)
2% White oil N70 (A)	2	16.05 (0.212)	18.20 (0.707)	19.35 (0.778)	20.80** (0.424)	21.20** (0.141)	22.70*** (0.424)	23.70*** (0.990)	24.55*** (0.071)	23.85*** (0.778)
2% White oil P15 (H)	2	15.50 (0.000)	16.85 (0.354)	17.45 (0.778)	19.00 (1.273)	19.25 (0.354)	20.50 (0.283)	21.70 (0.005)	22.30 (0.283)	22.15* (0.212)
2% White oil N10 (A)	2	16.90* (0.002)	18.70* (0.141)	19.85* (0.919)	20.45* (0.354)	20.35* (0.919)	21.40* (0.707)	22.70** (1.131)	23.50** (1.556)	22.70** (1.131)
2% White oil P100 (H)	2	15.95 (0.636)	17.60 (0.424)	19.15 (0.919)	19.80 (0.707)	20.20* (1.697)	20.60 (0.990)	22.55** (0.778)	23.15* (0.919)	22.85** (1.343)
2% Low melting point wax	2	15.40 (0.707)	17.70 (0.566)	18.65 (0.354)	19.40 (0.141)	20.20* (0.283)	21.50** (0.000)	23.10** (0.424)	22.70* (1.131)	22.35* (0.919)
2% High melting point wax	2	15.85 (0.778)	18.85** (1.061)	19.40 (1.273)	19.35 (1.202)	19.95 (0.071)	20.90 (0.283)	22.60** (0.283)	22.80* (0.283)	22.55* (0.354)
2% High sulphur wax	2	15.90 (0.990)	19.05** (0.495)	20.55** (0.354)	20.70* (0.283)	20.50* (0.424)	21.40* (0.141)	23.40*** (0.141)	22.75* (1.061)	23.30** (0.707)
2% Coconut oil	2	15.45 (0.212)	17.50 (0.000)	17.95 (0.212)	19.05 (0.354)	19.15 (0.212)	21.50** (1.131)	22.20* (0.849)	21.30 (0.566)	21.25 (0.354)

Table 10. continued

Group	n	Study day 91-94	94-98	98-101	101-105	105-108	108-112	112-115	115-118
0% Control	6	19.37 (0.575)	19.23 (0.662)	19.25 (0.513)	18.30 (0.522)	18.53 (0.750)	18.42 (0.392)	18.53 (0.383)	18.67 (0.557)
2% White oil N15 (H)	2	20.70** (0.141)	21.55*** (0.212)	21.65** (1.061)	19.65* (0.071)	19.25 (0.495)	18.10 (0.002)	18.30 (0.005)	18.50 (0.141)
2% White oil N70 (H)	2	20.40* (0.707)	20.95** (0.495)	20.60* (1.273)	19.05 (0.636)	18.75 (0.071)	18.40 (0.005)	18.70 (0.003)	18.85 (0.071)
2% White oil N70 (A)	2	20.95** (0.071)	21.20*** (0.283)	20.35 (0.495)	19.80** (0.707)	20.05* (0.636)	19.50* (0.424)	19.75* (1.344)	19.40 (0.141)
2% White oil P15 (H)	2	19.90 (0.283)	21.00** (0.566)	21.00* (1.556)	19.45* (1.202)	19.60 (1.273)	18.55 (0.636)	18.70 (0.566)	18.95 (0.212)
2% White oil N10 (A)	2	21.40*** (0.707)	21.70*** (0.283)	21.25** (0.212)	19.95** (0.212)	19.75 (0.354)	19.10 (0.141)	18.70 (0.566)	19.05 (0.636)
2% White oil P100 (H)	2	20.40* (0.141)	21.40*** (0.424)	21.05* (0.636)	19.65* (0.212)	19.35 (0.778)	18.85 (0.778)	18.10 (1.131)	18.70 (0.566)
2% Low melting point wax	2	20.55* (0.778)	20.10 (0.849)	20.20 (0.707)	19.00 (0.283)	19.80 (0.707)	19.20 (0.990)	19.20 (0.990)	19.80* (1.131)
2% High melting point wax	2	19.55 (0.354)	19.15 (0.354)	19.00 (0.990)	17.75 (0.212)	18.35 (0.354)	17.70 (0.141)	18.25 (0.071)	18.45 (0.354)
2% High sulphur wax	2	20.25 (0.212)	20.35* (0.495)	20.30 (0.283)	19.10 (0.141)	19.30 (0.283)	19.10 (0.283)	18.95 (0.212)	19.10 (0.005)
2% Coconut oil	2	19.25 (0.636)	20.35* (0.354)	20.10 (0.283)	18.85 (1.202)	19.00 (1.273)	18.40 (0.566)	18.30 (0.283)	18.20 (0.849)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Apendix 30.

Table 10. continued

Group	n	Study day 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	6	19.92 (0.534)	20.48 (0.741)	19.30 (0.587)	19.30 (0.696)	19.30 (0.626)	19.50 (0.583)	19.27 (0.393)	19.28 (0.422)	18.73 (0.550)
2% White oil N15 (H)	2	21.95*** (0.071)	21.85* (0.636)	21.10** (0.424)	22.40** (0.141)	21.90*** (0.002)	20.85* (0.212)	20.55* (0.212)	22.25*** (0.071)	20.80*** (0.141)
2% White oil N70 (H)	2	23.10*** (0.283)	22.80*** (0.141)	20.95** (0.071)	21.95** (0.212)	21.80*** (0.424)	22.10*** (0.566)	21.80*** (0.707)	21.90*** (0.283)	20.85*** (0.354)
2% White oil N70 (A)	2	22.65*** (0.212)	23.20*** (0.006)	22.45*** (0.212)	24.45*** (0.212)	24.05*** (0.919)	23.25*** (0.636)	23.30*** (0.990)	23.65*** (0.778)	22.15*** (0.636)
2% White oil P15 (H)	2	22.10*** (0.849)	22.35** (1.202)	20.95** (1.344)	22.20** (2.404)	22.45*** (1.485)	22.30*** (1.131)	22.35*** (0.919)	21.75*** (1.626)	20.70** (0.566)
2% White oil N10 (A)	2	22.60*** (0.990)	22.35** (0.212)	22.65*** (0.212)	21.75* (1.061)	21.15** (1.202)	23.00*** (1.697)	22.70*** (1.131)	22.25*** (0.919)	21.85*** (1.202)
2% White oil P100 (H)	2	21.40** (0.004)	21.25 (0.919)	20.65** (0.495)	21.05 (0.212)	21.15** (0.212)	21.95** (0.495)	21.50*** (0.283)	21.05** (0.636)	21.05*** (0.636)
2% Low melting point wax	2	21.10* (0.424)	20.60 (0.141)	20.90** (0.283)	21.30* (0.003)	20.95** (0.071)	21.70** (0.566)	21.45*** (0.071)	21.15** (0.636)	21.00*** (0.990)
2% High melting point wax	2	20.75 (0.495)	20.85 (0.212)	21.10** (0.424)	21.10* (0.283)	20.50* (0.141)	20.60 (0.849)	20.20 (0.424)	20.70* (0.005)	20.45** (0.071)
2% High sulphur wax	2	22.45*** (0.778)	22.45** (0.071)	22.15*** (0.636)	25.25*** (2.475)	21.70*** (0.424)	21.60** (0.141)	21.15** (0.354)	21.35** (0.354)	20.90*** (0.141)
2% Coconut oil	2	20.95* (0.212)	21.80* (0.424)	20.95** (0.212)	21.95** (0.636)	21.15** (0.212)	21.95** (0.495)	21.00** (0.000)	20.55* (0.636)	19.70 (0.424)

Table 11. (Continued)

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
2% Low melting point wax	387	15.4	18.3	19.0	18.6	18.8	19.4	19.8	21.1	20.8
2% High melting point wax	389	15.5	18.5	19.5	19.5	18.9	20.6	20.6	21.5	20.5
2% High sulphur wax	391	15.5	18.5	19.8	19.3	19.6	19.9	21.4	22.5	22.9
2% Coconut oil	393	16.0	18.4	19.8	19.5	19.1	19.8	21.0	21.9	20.8

Table 11. Food intakes (g/rat/day) of male rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2%, one of three mineral waxes at a level of 2% or coconut oil at a level of 2%.

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	373	14.2	16.0	18.1	18.0	17.8	18.3	19.5	19.9	19.9
2% White oil N 15(H)	375	14.9	17.1	18.5	18.5	18.5	19.9	20.8	20.7	20.6
2% White oil N 70(H)	377	14.7	18.2	19.2	18.6	19.5	20.5	21.1	21.7	22.0
2% White oil N 70(A)	379	15.3	17.9	19.3	19.3	19.7	20.7	21.8	21.3	21.7
2% White oil P 15(H)	381	14.9	18.3	20.3	20.7	20.4	21.5	21.9	22.7	22.6
2% White oil N 10(A)	383	15.8	18.6	20.0	19.5	19.5	19.4	20.5	20.9	20.6
2% White oil P 100(H)	385	15.5	18.4	18.9	18.5	18.6	18.8	19.9	21.1	20.6

Table 11. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% Low melting point wax	387	22.2	21.4	21.5	20.5	21.1	20.0	20.3	19.5	19.6
2% High melting point wax	389	21.6	21.5	22.1	21.0	20.5	20.8	21.6	20.0	19.9
2% High sulphur wax	391	22.4	22.1	22.4	22.1	21.9	21.1	21.7	20.3	21.2
2% Coconut oil	393	22.1	21.0	21.9	21.4	21.3	20.8	22.3	19.5	21.9

Table 11. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	373	19.6	19.8	19.4	18.4	18.6	17.8	18.3	18.5	18.6
2% White oil N 15(H)	375	20.6	21.0	22.5	21.7	21.9	20.6	20.1	20.0	20.3
2% White oil N 70(H)	377	22.1	22.5	22.3	22.3	22.3	22.5	21.1	21.5	21.1
2% White oil N 70(A)	379	21.7	22.4	22.3	22.4	22.5	21.3	22.1	21.7	22.5
2% White oil P 15(H)	381	22.8	24.0	23.5	23.5	22.9	22.1	22.1	20.5	21.5
2% White oil N 10(A)	383	21.2	20.7	22.2	21.3	20.9	20.6	21.2	20.7	21.4
2% White oil P 100(H)	385	21.8	21.6	21.7	20.8	21.3	20.0	21.1	20.2	21.5

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Table 11. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
2% Low melting point wax	387	19.4	20.1	19.2	20.0	19.5	20.1	19.0	20.1	20.9
2% High melting point wax	389	19.8	20.4	20.0	20.2	19.2	20.1	19.2	20.4	21.1
2% High sulphur wax	391	20.8	20.0	20.5	20.7	20.4	20.3	20.3	21.2	22.0
2% Coconut oil	393	21.9	21.3	20.6	20.3	20.4	21.5	20.2	22.2	22.1

Table 11. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0% Control	373	18.9	19.5	19.8	19.8	18.8	20.1	19.5	20.1	19.9
2% White oil N 15(H)	375	20.5	21.7	20.1	19.5	19.8	21.1	20.0	20.8	21.6
2% White oil N 70(H)	377	21.8	22.5	21.4	22.0	21.2	22.1	21.4	23.4	23.1
2% White oil N 70(A)	379	21.9	22.5	21.5	21.3	20.6	22.5	21.0	23.3	23.0
2% White oil P 15(H)	381	20.5	21.9	21.0	21.4	21.0	22.3	21.1	22.2	24.1
2% White oil N 10(A)	383	20.7	20.9	20.7	21.4	21.0	21.1	20.4	21.2	21.3
2% White oil P 100(H)	385	21.1	20.7	19.8	20.9	19.6	20.7	20.0	21.1	22.1

Table 12. (Continued)

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
2% Low melting point wax	388	15.1	17.5	20.6	19.3	19.1	20.1	21.7	22.5	21.3
2% High melting point wax	390	15.1	18.5	19.3	18.7	18.9	19.6	19.6	20.5	20.3
2% High sulphur wax)	392	15.5	19.1	19.4	18.9	19.2	20.1	21.3	22.3	21.6
2% Coconut oil	394	16.3	17.6	18.5	19.7	20.0	20.3	21.8	22.0	21.9

Table 12. Food intakes (g/rat/day) of male rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	374	16.2	18.3	19.0	18.1	18.5	18.5	20.0	20.1	19.8
2% White oil N15 (H)	376	14.7	17.5	17.7	17.9	18.4	18.1	18.9	20.3	20.2
2% White oil N70 (H)	378	14.5	17.4	19.0	18.8	18.6	19.7	20.1	20.9	21.7
2% White oil N70 (A)	380	15.4	18.7	20.0	19.7	19.6	20.5	20.6	22.1	22.3
2% White oil P15 (H)	382	15.6	18.7	20.5	19.9	19.9	20.6	21.3	22.1	22.2
2% White oil N10 (A)	384	16.1	17.0	18.8	18.5	18.7	19.3	20.1	20.9	20.6
2% White oil P100 (H)	386	16.1	18.1	19.0	18.3	18.5	19.4	20.2	21.2	20.4

Table 12. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	374	18.9	20.1	19.5	19.1	19.1	18.5	18.5	18.5	18.9
2% White oil N15 (H)	376	19.5	20.9	22.2	22.0	21.9	20.8	19.9	19.5	20.5
2% White oil N70 (H)	378	22.0	22.2	22.0	22.1	21.8	20.6	22.4	21.5	21.6
2% White oil N70 (A)	380	20.9	21.7	20.9	21.5	22.7	21.5	21.5	20.6	22.3
2% White oil P15 (H)	382	21.5	22.8	22.9	22.8	23.5	22.8	21.7	21.3	21.8
2% White oil N10 (A)	384	20.5	20.1	20.9	21.4	21.7	20.7	20.1	20.1	20.8
2% White oil P100 (H)	386	21.2	21.5	22.7	22.4	22.2	21.3	21.1	20.0	20.1

Table 12. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% Low melting point wax	388	20.5	20.8	21.5	21.5	22.5	21.6	21.3	20.6	21.2
2% High melting point wax	390	20.6	21.0	21.9	22.2	22.1	21.0	21.1	19.5	20.6
2% High sulphur wax)	392	21.7	21.5	23.3	24.2	23.0	21.4	21.3	20.0	21.4
2% Coconut oil	394	21.8	21.9	21.1	21.1	21.8	20.8	21.3	20.6	21.7

Table 12. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	374	19.0	20.7	19.2	19.1	18.5	19.5	18.6	19.1	19.0
2% White oil N15 (H)	376	20.5	22.0	20.5	20.7	20.2	20.8	20.4	21.1	20.7
2% White oil N70 (H)	378	22.2	24.1	21.5	21.9	20.5	22.4	20.7	21.8	21.6
2% White oil N70 (A)	380	21.6	21.9	20.5	21.4	20.8	22.1	20.5	21.7	20.3
2% White oil P15 (H)	382	21.7	22.4	22.0	22.1	21.5	22.3	21.5	22.3	22.5
2% White oil N10 (A)	384	21.0	21.7	20.6	21.5	21.0	21.5	21.1	21.9	21.7
2% White oil P100 (H)	386	19.9	20.4	20.0	20.5	19.2	20.8	20.5	20.5	20.6

Table 12. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
2% Low melting point wax	388	21.0	21.3	21.1	21.5	20.6	20.6	20.4	21.5	20.8
2% High melting point wax	390	20.1	20.4	20.3	20.8	19.7	20.3	20.0	20.7	19.7
2% High sulphur wax)	392	20.8	21.0	20.6	21.7	19.9	20.3	19.8	20.7	20.6
2% Coconut oil	394	20.6	20.7	20.3	19.9	20.7	21.9	21.4	21.1	21.0

Table 12. (Continued)

Group	Cage number	Study days 91-94	94-98	98-101	101-105	105-108	108-112	112-115	115-119
0% Control	374	19.8	19.0	19.2	19.2	19.8	18.5	18.5	19.2
2% White oil N15 (H)	376	21.4	20.6	21.7	20.8	20.4	19.9	19.8	19.7
2% White oil N70 (H)	378	22.3	21.3	21.6	20.8	20.2	17.6	17.5	17.1
2% White oil N70 (A)	380	21.7	20.2	20.7	20.0	20.9	19.0	19.2	19.7
2% White oil P15 (H)	382	21.1	21.7	23.0	20.3	18.9	17.8	16.7	18.2
2% White oil N10 (A)	384	21.9	21.4	21.2	21.7	21.6	20.2	19.9	20.3
2% White oil P100 (H)	386	20.4	20.2	21.4	20.5	19.9	19.0	18.1	18.3

Table 12. (Continued)

Group	Cage number	Study days 91-94	94-98	98-101	101-105	105-108	108-112	112-115	115-119
2% Low melting point wax	388	20.2	19.8	20.4	20.3	19.9	19.6	18.5	19.3
2% High melting point wax	390	19.3	19.2	19.5	19.4	19.7	18.5	18.6	18.7
2% High sulphur wax)	392	19.6	20.0	20.9	20.2	20.5	19.0	18.7	18.5
2% Coconut oil	394	20.3	20.9	22.1	21.5	20.6	18.7	17.8	18.5

Table 13. Food intakes (g/rat/day) of female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	12	14.61 (0.657)	14.40 (0.591)	14.73 (0.543)	15.03 (0.540)	15.22 (0.583)	15.42 (0.577)	15.20 (0.398)	15.24 (0.450)	15.38 (0.595)
0.002% White oil N15 (H)	4	14.72 (0.171)	15.03 (0.618)	15.48* (0.750)	16.00* (0.648)	15.82 (1.159)	15.80 (0.739)	15.93* (0.275)	15.70 (0.356)	15.78 (0.690)
0.02% White oil N15 (H)	4	14.70 (0.535)	14.70 (0.432)	15.05 (0.100)	15.38 (0.340)	15.80 (0.594)	15.45 (0.507)	15.85 (0.520)	15.60 (0.887)	15.77 (1.284)
0.2% White oil N15 (H)	4	15.15 (0.526)	14.90 (0.762)	15.28 (1.100)	15.20 (0.356)	15.63 (0.512)	15.55 (0.420)	15.47 (0.492)	15.25 (1.193)	15.30 (0.770)
2% White oil N15 (H)	4	15.00 (1.000)	14.72 (0.499)	15.00 (0.698)	15.55 (0.493)	15.75 (0.866)	15.95 (0.412)	16.22** (0.568)	15.90 (0.938)	16.45** (0.881)
0.002% White oil N70 (H)	4	14.90 (0.283)	14.73 (0.386)	15.80** (0.707)	15.53 (0.842)	15.67 (0.862)	15.05 (0.645)	15.08 (0.670)	14.97 (0.377)	15.50 (0.283)
0.02% White oil N70 (H)	4	15.38 (0.457)	15.08* (0.386)	15.25 (0.500)	15.37 (0.562)	15.50 (0.432)	15.30 (0.469)	15.48 (0.499)	15.25 (0.904)	16.02 (0.714)
0.2% White oil N70 (H)	4	15.45* (0.835)	15.22* (0.512)	15.40 (0.983)	15.70 (0.849)	15.88 (1.422)	16.37* (1.014)	16.00* (0.510)	16.15* (1.586)	16.23* (1.144)
2% White oil N70 (H)	4	14.85 (0.661)	14.63 (0.568)	15.00 (0.560)	15.98* (1.050)	16.25* (0.714)	16.25 (0.806)	16.07* (0.287)	16.40** (0.294)	15.97 (0.457)
0.002% White oil N70 (A)	4	14.52 (0.395)	14.90 (0.909)	15.00 (0.668)	14.92 (1.132)	15.82 (0.096)	15.38 (0.377)	15.55 (0.574)	15.28 (0.443)	15.80 (0.469)
0.02% White oil N70 (A)	4	14.50 (0.658)	14.67 (0.574)	14.88 (1.075)	15.40 (1.042)	15.78 (1.271)	16.12 (0.556)	15.67 (0.670)	15.25 (1.072)	15.48 (0.419)

continued....

Table 13. continued.

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0.2% White oil N70 (A)	4	14.75 (0.777)	14.70 (0.294)	15.32 (0.685)	15.38 (0.568)	15.62 (0.585)	15.53 (0.310)	15.88 (0.645)	15.63 (0.171)	15.78 (0.419)
2% White oil N70 (A)	4	14.95 (0.819)	15.35** (0.500)	15.50* (0.316)	15.73 (0.350)	16.35* (0.889)	16.75** (0.545)	16.28** (0.435)	17.02*** (0.922)	16.65** (1.025)
0.002% White oil P15 (H)	4	14.33 (0.763)	14.55 (0.835)	14.82 (0.299)	15.32 (0.330)	15.38 (0.479)	15.18 (0.427)	15.35 (0.835)	15.65 (0.465)	15.53 (0.287)
0.02% White oil P15 (H)	4	15.23 (0.550)	15.13* (0.629)	15.10 (0.469)	15.37 (1.106)	15.80 (0.770)	15.90 (0.770)	15.90 (1.189)	15.88 (0.330)	15.80 (0.744)
0.2% White oil P15 (H)	4	14.90 (0.959)	15.13* (0.655)	15.38 (0.826)	15.13 (0.741)	15.90 (1.273)	15.55 (0.802)	15.60 (0.739)	15.60 (0.883)	15.60 (1.000)
2% White oil P15 (H)	4	14.62 (0.830)	14.70 (0.779)	15.17 (0.585)	15.22 (1.441)	15.68 (0.457)	15.50 (0.583)	16.05* (0.929)	15.67 (0.403)	15.85 (0.451)
0.002% White oil N10 (A)	4	15.28 (0.881)	15.25* (0.387)	15.60* (0.365)	15.83 (0.624)	15.83 (0.544)	15.85 (0.719)	16.20** (0.678)	15.70 (0.337)	16.05 (0.332)
0.02% White oil N10 (A)	4	14.90 (0.898)	15.02* (0.499)	15.48* (0.699)	15.65 (0.723)	15.77 (0.932)	15.35 (0.574)	15.00 (0.535)	15.30 (0.606)	15.67 (0.591)
0.2% White oil N10 (A)	4	14.70 (0.812)	14.35 (0.624)	14.63 (0.842)	14.58 (1.297)	15.08 (1.489)	14.90 (0.770)	15.05 (0.592)	14.65 (0.676)	14.90 (0.606)
2% White oil N10 (A)	4	14.90 (0.825)	14.42 (0.096)	14.77 (0.299)	15.18 (0.618)	15.47 (0.532)	15.70 (0.535)	15.92* (0.263)	15.90 (0.891)	15.82 (1.135)
0.002% White oil P100 (H)	4	15.13 (0.727)	14.92 (0.403)	15.12 (0.386)	15.25 (1.012)	15.28 (0.624)	15.72 (0.310)	15.53 (0.714)	15.22 (0.640)	15.40 (0.337)
0.02% White oil P100 (H)	4	15.35 (0.592)	15.08* (0.655)	15.70** (0.560)	15.02 (0.838)	15.50 (0.678)	15.50 (0.400)	15.30 (0.735)	15.22 (0.946)	15.45 (0.810)

continued....

Table 13. continued.

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0.2% White oil P100 (H)	4	14.70 (0.622)	14.77 (0.718)	14.90 (0.566)	15.25 (0.785)	15.45 (0.933)	15.65 (0.545)	15.55 (0.603)	15.83 (0.618)	15.93 (0.299)
2% White oil P100 (H)	4	14.15 (0.705)	14.15 (0.545)	15.53* (0.750)	15.47 (0.310)	15.80 (0.739)	15.70 (0.668)	16.10* (0.245)	16.40** (0.739)	16.38* (0.562)
0.002% Low melting point wax	4	14.80 (0.658)	14.25 (0.480)	14.90 (0.294)	15.45 (0.252)	15.68 (0.818)	15.30 (0.163)	15.23 (0.479)	15.63 (0.830)	16.07 (0.568)
0.02% Low melting point wax	4	14.58 (0.580)	14.55 (0.545)	14.70 (0.115)	14.75 (0.526)	14.90 (0.600)	15.08 (0.479)	15.08 (0.727)	14.85 (0.998)	15.25 (0.827)
0.2% Low melting point wax	4	14.97 (0.862)	14.63 (0.250)	14.67 (0.330)	15.22 (0.650)	15.08 (0.892)	15.42 (0.340)	15.28 (0.340)	15.50 (1.023)	15.65 (0.676)
2% Low melting point wax	4	15.47* (0.532)	15.48** (0.568)	15.07 (0.568)	15.83 (0.618)	16.13 (0.395)	14.50* (2.800)	15.83 (0.222)	15.98 (0.574)	15.80 (0.572)
0.002% High melting point wax	4	15.23 (0.818)	14.83 (0.479)	15.13 (0.340)	15.80 (0.548)	15.78 (0.585)	16.10 (0.283)	15.58 (0.250)	15.58 (0.806)	15.57 (0.377)
0.02% High melting point wax	4	15.07 (0.900)	14.90 (0.849)	15.25 (0.597)	15.55 (1.300)	16.15* (1.147)	16.10 (1.517)	15.77 (1.292)	15.82 (0.727)	16.15 (0.473)
0.2% High melting point wax	4	15.15 (0.238)	14.50 (0.337)	14.63 (0.359)	15.50 (0.698)	15.55 (0.451)	15.38 (0.395)	15.77 (0.222)	16.18* (0.556)	15.48 (0.419)
2% High melting point wax	4	15.18 (0.299)	14.85 (0.661)	15.47* (0.310)	16.07* (0.670)	16.17* (0.826)	16.10 (0.829)	15.97* (1.050)	16.13* (0.907)	16.42** (0.806)
0.002% High sulphur wax	4	15.10 (0.316)	14.70 (0.804)	14.97 (0.532)	15.65 (0.686)	15.67 (0.714)	15.70 (0.356)	15.25 (0.603)	15.98 (0.873)	15.95 (0.592)
0.02% High sulphur wax	4	15.13 (1.511)	14.60 (0.942)	15.12 (0.838)	15.30 (1.445)	15.52 (0.981)	15.63 (0.984)	15.92* (1.008)	15.70 (0.658)	15.50 (0.735)

continued....

Table 13. continued.

Group	n	Study days								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0.2% High sulphur wax	4	14.88 (0.171)	14.95 (0.420)	15.38 (0.538)	15.70 (0.589)	15.80 (0.365)	15.55 (0.420)	15.75 (0.404)	15.68 (0.330)	15.50 (0.606)
2% High sulphur wax	4	14.63 (0.888)	15.08* (0.854)	15.20 (0.548)	15.35 (0.624)	16.00 (0.837)	15.98 (0.797)	15.97* (0.780)	16.47** (0.988)	16.42** (0.981)
2% Coconut oil	4	15.13 (0.330)	14.95 (0.342)	15.20 (0.294)	15.17 (0.403)	15.75 (0.733)	16.05 (0.705)	16.00* (0.082)	16.20* (0.808)	15.97 (0.772)

continued....

Table 13. continued.

Group	n	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	12	15.26 (0.502)	15.07 (0.713)	15.19 (0.620)	14.98 (0.829)	15.17 (0.498)	14.80 (0.524)	14.90 (0.486)	14.97 (0.512)	15.15 (0.656)
0.002% White oil N15 (H)	4	15.67 (0.591)	16.23** (0.556)	15.75 (0.379)	15.75 (0.574)	15.62 (0.640)	15.47 (0.419)	14.98 (0.150)	15.30 (0.337)	15.75 (0.592)
0.02% White oil N15 (H)	4	15.97 (0.737)	15.97* (0.665)	15.77 (0.618)	16.15** (1.185)	15.95* (0.420)	15.50 (0.400)	15.43 (0.618)	16.08** (0.299)	15.45 (0.551)
0.2% White oil N15 (H)	4	15.23 (0.597)	15.45 (0.404)	15.38 (0.450)	15.55 (0.580)	15.33 (0.330)	15.03 (0.359)	15.35 (0.759)	15.55 (0.436)	15.37 (0.885)
2% White oil N15 (H)	4	16.48** (0.914)	16.27** (1.109)	16.00* (1.068)	16.10** (0.993)	15.80 (0.648)	15.67 (0.492)	15.70* (0.707)	15.90** (0.535)	16.25* (0.614)
0.002% White oil N70 (H)	4	14.95 (0.370)	15.03 (0.842)	15.23 (0.538)	15.50 (0.589)	14.97 (0.443)	15.05 (0.379)	14.90 (0.283)	15.38 (0.911)	15.08 (0.714)
0.02% White oil N70 (H)	4	15.20 (0.141)	15.35 (0.686)	15.48 (0.519)	15.42 (1.250)	15.20 (0.748)	15.20 (0.658)	14.67 (0.556)	15.30 (0.469)	15.38 (1.365)
0.2% White oil N70 (H)	4	16.08* (0.750)	16.10* (0.887)	15.57 (1.167)	15.95* (0.387)	15.70 (0.432)	15.63 (0.525)	15.47 (0.222)	15.68* (0.427)	15.55 (0.480)
2% White oil N70 (H)	4	16.13* (0.896)	16.30** (0.766)	16.30** (0.648)	16.18** (0.793)	16.25** (0.526)	18.50*** (4.335)	16.03** (0.602)	16.27*** (0.519)	16.77*** (1.087)
0.002% White oil N70 (A)	4	15.32 (0.096)	15.35 (0.545)	15.53 (0.826)	15.35 (0.714)	15.13 (0.685)	14.92 (0.665)	14.55 (0.870)	15.30 (0.548)	15.15 (1.063)
0.02% White oil N70 (A)	4	14.90 (1.058)	15.63 (0.602)	15.30 (0.566)	15.00 (0.698)	15.10 (0.616)	14.90 (0.606)	15.05 (0.823)	14.95 (1.109)	14.58 (0.862)
0.2% White oil N70 (A)	4	15.17 (0.499)	15.60 (0.483)	15.55 (0.238)	15.52 (0.556)	15.20 (0.535)	14.78 (0.457)	14.47 (0.634)	14.75 (0.874)	15.10 (1.030)

continued....

Table 13. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% White oil N70 (A)	4	16.47** (0.403)	16.63*** (0.670)	16.57*** (0.718)	16.70*** (1.169)	16.3** (0.661)	16.18** (0.499)	16.20** (0.804)	16.47*** (0.050)	16.30* (0.648)
0.002% White oil P15 (H)	4	15.33 (0.403)	15.30 (0.476)	15.50 (0.469)	15.57 (0.690)	15.03 (0.411)	14.57 (0.395)	14.92 (0.695)	14.88 (0.492)	15.00 (0.898)
0.02% White oil P15 (H)	4	15.55 (0.574)	15.80 (0.668)	15.75 (0.635)	15.95* (0.635)	15.65 (1.012)	15.58 (0.640)	15.42 (0.943)	15.60 (0.876)	16.27* (1.195)
0.2% White oil P15 (H)	4	15.70 (0.837)	15.90* (0.735)	15.45 (1.008)	15.95* (1.025)	15.33 (0.532)	14.92 (0.310)	14.88 (0.854)	14.80 (0.589)	14.88 (0.723)
2% White oil P15 (H)	4	16.00 (0.294)	15.78 (0.330)	15.43 (0.330)	16.00* (0.627)	15.90 (0.490)	15.45 (0.603)	15.50 (0.572)	16.10** (0.424)	15.65 (0.714)
0.002% White oil N10 (A)	4	16.23* (0.585)	16.20** (0.400)	15.70 (0.490)	15.60 (0.707)	15.83 (0.660)	15.87* (0.806)	15.25 (0.733)	15.63 (0.695)	15.63 (1.345)
0.02% White oil N10 (A)	4	15.50 (0.816)	15.33 (0.714)	15.30 (0.693)	14.95 (0.311)	15.22 (0.250)	15.15 (0.480)	15.08 (0.369)	14.97 (0.222)	15.12 (0.386)
0.2% White oil N10 (A)	4	15.27 (0.330)	15.33 (0.562)	15.23 (0.492)	14.80 (0.294)	14.70 (0.952)	14.85 (0.835)	14.30 (1.071)	14.25* (0.810)	14.38 (0.665)
2% White oil N10 (A)	4	15.60 (0.683)	15.75 (0.933)	15.62 (0.914)	15.78 (0.330)	15.15 (0.635)	15.75 (0.387)	15.00 (0.294)	15.23 (0.411)	15.45 (1.170)
0.002% White oil P100 (H)	4	15.25 (0.551)	15.77 (0.395)	15.63 (0.597)	15.25 (0.733)	14.92 (0.818)	15.10 (0.648)	14.88 (0.714)	14.93 (0.585)	15.17 (1.037)
0.02% White oil P100 (H)	4	15.25 (1.136)	15.80 (0.829)	15.72 (1.144)	15.42 (0.618)	15.13 (0.492)	15.28 (0.395)	14.83 (0.340)	14.90 (0.163)	14.88 (0.714)
0.2% White oil P100 (H)	4	15.55 (0.714)	15.50 (0.408)	15.57 (0.236)	15.13 (0.624)	15.08 (1.014)	15.13 (0.419)	14.83 (0.275)	14.78 (0.206)	15.15 (0.387)

continued....

Table 13. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% White oil P100 (H)	4	16.55*** (0.681)	16.55*** (0.545)	15.88 (0.665)	15.67 (0.499)	16.02* (0.443)	15.58 (0.096)	15.53 (0.675)	15.48 (0.287)	15.83 (0.222)
0.002% Low melting point wax	4	15.97 (0.250)	15.90* (0.455)	15.80 (0.942)	15.53 (0.818)	15.88 (0.359)	15.18 (0.759)	15.15 (1.050)	15.30 (0.589)	15.58 (0.608)
0.02% Low melting point wax	4	15.28 (0.479)	15.50 (0.735)	15.23 (0.741)	15.15 (1.097)	15.13 (1.053)	15.15 (0.889)	14.65 (0.957)	14.95 (0.947)	15.20 (1.010)
0.2% Low melting point wax	4	15.65 (1.072)	15.65 (0.968)	15.35 (1.088)	15.45 (1.066)	15.40 (0.927)	14.97 (0.377)	14.78 (0.275)	14.88 (0.675)	15.22 (0.472)
2% Low melting point wax	4	16.02* (0.718)	15.90* (0.606)	15.42 (0.411)	15.40 (0.183)	15.60 (0.346)	15.85* (0.311)	15.40 (1.017)	15.35 (0.580)	15.55 (0.252)
0.002% High melting point wax	4	15.35 (0.681)	15.38 (0.359)	15.70 (0.424)	15.20 (0.346)	15.13 (0.263)	14.97 (0.403)	15.05 (0.465)	15.20 (0.316)	15.23 (0.780)
0.02% High melting point wax	4	16.32** (0.896)	15.60 (0.424)	16.18* (0.822)	15.55 (0.526)	15.68 (1.167)	15.83* (0.936)	15.50 (1.023)	15.42 (1.266)	15.42 (0.900)
0.2% High melting point wax	4	16.05* (0.889)	15.50 (0.744)	15.72 (0.206)	15.60 (0.523)	15.67 (0.665)	15.32 (0.350)	15.10 (0.606)	15.20 (0.200)	15.15 (0.968)
2% High melting point wax	4	16.42** (0.900)	16.55*** (0.733)	16.25** (0.947)	16.05* (0.995)	15.98* (0.922)	16.15** (0.681)	15.73* (0.988)	16.05** (0.661)	15.73 (0.624)
0.002% High sulphur wax	4	15.83 (0.699)	15.58 (0.330)	15.90 (0.849)	15.42 (1.147)	14.97 (0.532)	15.03 (0.793)	15.03 (0.359)	15.15 (0.700)	15.30 (1.010)
0.02% High sulphur wax	4	15.68 (0.096)	15.30 (1.102)	15.95 (0.827)	15.60 (0.294)	14.97 (0.822)	15.10 (0.693)	15.35 (0.904)	15.25 (1.034)	15.28 (1.201)

continued....

Table 13. continued.

Group	n	Study days								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0.2% High sulphur wax	4	15.30 (0.490)	15.55 (0.661)	15.50 (0.216)	15.33 (0.591)	15.45 (0.794)	14.80 (0.245)	15.17 (0.330)	14.90 (0.082)	15.03 (0.650)
2% High sulphur wax	4	15.88 (0.896)	16.13** (1.193)	15.97 (0.885)	15.95* (0.850)	15.50 (0.589)	15.45 (0.759)	15.27 (1.218)	15.38 (0.877)	15.62 (1.436)
2% Coconut oil	4	16.30** (0.455)	16.18** (0.866)	15.90 (0.548)	15.87* (0.670)	15.90 (0.678)	15.25 (0.412)	15.20 (0.476)	15.43 (0.465)	15.63 (0.299)

continued....

Table 13. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	12	14.58 (0.586)	14.91 (0.555)	14.44 (0.312)	14.54 (0.523)	14.20 (0.572)	14.61 (0.850)	14.12 (0.554)	13.93 (0.483)	14.05 (0.607)
0.002% White oil N15 (H)	4	15.15 (0.173)	15.23 (0.896)	15.30* (0.356)	14.80 (0.408)	14.73 (0.435)	15.28 (1.028)	14.98* (0.427)	14.87* (0.050)	14.90* (0.572)
0.02% White oil N15 (H)	4	15.45* (0.173)	15.60 (0.883)	15.17 (0.250)	15.05 (0.557)	15.03* (0.171)	15.10 (0.668)	14.42 (0.287)	15.25*** (0.058)	15.40*** (0.841)
0.2% White oil N15 (H)	4	14.88 (0.685)	14.80 (0.346)	14.75 (0.289)	14.77 (0.450)	14.32 (0.427)	15.20 (0.346)	14.53 (0.737)	14.52 (0.954)	14.85* (0.835)
2% White oil N15 (H)	4	15.70** (0.730)	15.75* (0.926)	15.62** (0.532)	15.27 (1.615)	15.33*** (0.818)	16.00** (0.408)	15.35*** (0.870)	15.40*** (0.787)	15.23*** (0.718)
0.002% White oil N70 (H)	4	14.72 (0.287)	14.95 (0.926)	14.85 (0.545)	14.63 (0.718)	14.52 (0.506)	14.88 (0.776)	14.42 (0.499)	14.50 (0.860)	14.10 (0.294)
0.02% White oil N70 (H)	4	15.08 (0.690)	14.87 (0.386)	14.70 (0.638)	14.67 (1.443)	14.72 (0.568)	14.55 (0.785)	14.33 (0.499)	14.25 (0.545)	14.60 (0.560)
0.2% White oil N70 (H)	4	15.17 (0.443)	15.68 (0.763)	15.50** (0.327)	15.20 (0.949)	14.95* (0.603)	15.57* (0.538)	14.78 (0.340)	15.15** (0.714)	15.40*** (0.356)
2% White oil N70 (H)	4	15.73** (1.011)	16.10** (1.189)	15.63** (0.275)	15.73* (1.367)	15.90*** (0.572)	15.70* (0.766)	15.28*** (0.403)	15.47*** (0.818)	15.45*** (1.072)
0.002% White oil N70 (A)	4	14.77 (1.028)	15.00 (0.408)	14.85 (0.493)	14.75 (1.072)	14.45 (0.676)	14.88 (0.544)	14.50 (0.548)	14.77* (1.644)	14.47 (0.741)
0.02% White oil N70 (A)	4	14.50 (0.883)	14.90 (1.071)	14.70 (0.753)	14.43 (0.699)	14.45 (0.526)	13.75 (1.418)	14.35 (0.493)	14.60 (1.122)	14.40 (0.648)
0.2% White oil N70 (A)	4	14.65 (0.719)	15.15 (0.866)	15.10 (0.497)	14.60 (0.744)	14.65 (0.332)	14.67 (0.585)	14.30 (0.231)	14.38 (0.797)	14.40 (0.424)

continued....

Table 13. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
2% White oil N70 (A)	4	15.70** (0.503)	16.67*** (0.737)	16.33*** (0.330)	15.52 (1.084)	15.72*** (0.465)	16.35*** (0.759)	15.70*** (0.408)	15.35*** (0.465)	15.85*** (0.810)
0.002% White oil P15 (H)	4	14.35 (0.719)	14.92 (0.695)	14.38 (0.618)	14.45 (0.850)	14.22 (0.525)	14.80 (0.808)	14.03 (0.737)	14.45 (0.100)	14.35 (0.379)
0.02% White oil P15 (H)	4	15.45* (0.904)	15.45 (0.802)	15.17 (0.759)	15.35 (1.088)	15.00* (0.766)	14.95 (0.940)	14.70 (0.535)	14.95** (0.723)	14.55 (0.755)
0.2% White oil P15 (H)	4	14.70 (0.616)	15.20 (1.175)	14.90 (0.356)	14.38 (0.869)	14.75 (0.574)	14.58 (0.457)	14.35 (0.465)	14.50 (0.462)	14.60 (0.887)
2% White oil P15 (H)	4	15.33 (0.685)	15.70 (0.783)	15.53** (0.624)	15.33 (0.954)	15.65*** (0.420)	15.68* (0.903)	15.33*** (0.486)	15.68*** (1.144)	15.55*** (0.988)
0.002% White oil N10 (A)	4	15.60* (0.812)	15.65 (0.772)	15.25* (1.034)	15.60 (0.887)	15.25** (0.520)	15.20 (1.183)	15.05** (1.066)	14.95** (0.854)	15.65*** (0.545)
0.02% White oil N10 (A)	4	14.90 (0.490)	14.72 (0.685)	14.50 (0.762)	14.67 (1.282)	14.22 (0.395)	14.42 (0.562)	14.20 (0.841)	13.85 (0.443)	14.42 (0.544)
0.2% White oil N10 (A)	4	14.33 (0.519)	14.33 (0.499)	14.10 (0.678)	14.70 (1.395)	14.20 (0.216)	14.45 (0.473)	14.15 (0.252)	14.22 (0.377)	14.25 (0.465)
2% White oil N10 (A)	4	15.60* (0.726)	15.35 (0.443)	15.15 (0.520)	15.47 (0.465)	14.90* (0.483)	15.35 (0.370)	14.83* (0.479)	14.85* (0.191)	15.33*** (0.287)
0.002% White oil P100 (H)	4	15.05 (0.580)	14.97 (0.457)	14.83 (0.655)	14.70 (0.490)	14.63 (0.206)	14.88 (0.685)	14.80* (0.726)	14.60 (0.346)	14.60 (0.294)
0.02% White oil P100 (H)	4	14.95 (0.858)	14.98 (0.465)	14.93 (0.624)	14.78 (0.929)	14.73 (0.450)	14.65 (0.507)	14.43 (0.377)	14.35 (0.451)	14.80* (0.497)
0.2% White oil P100 (H)	4	14.47 (0.435)	14.88 (0.806)	14.55 (0.404)	14.75 (0.947)	14.58 (0.834)	15.00 (0.616)	14.15 (0.265)	14.17 (0.763)	14.57 (0.846)

continued....

Table 13. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
2% White oil P100 (H)	4	15.58* (0.359)	15.68 (0.624)	15.10 (0.698)	15.02 (1.112)	15.10** (0.616)	15.17 (0.427)	14.72 (0.670)	14.70 (0.594)	14.72 (0.206)
0.002% Low melting point wax	4	15.25 (0.858)	15.15 (0.635)	14.90 (0.572)	14.50 (1.283)	14.63 (0.854)	14.92 (0.981)	14.88* (0.574)	14.40 (0.548)	14.55 (0.551)
0.02% Low melting point wax	4	15.10 (1.061)	15.03 (0.532)	14.65 (0.790)	14.68 (0.830)	14.40 (0.876)	14.60 (0.942)	14.47 (0.499)	14.37 (0.472)	14.27 (0.320)
0.2% Low melting point wax	4	15.12 (0.903)	15.60 (0.753)	15.05 (0.500)	14.80 (0.510)	14.80 (0.658)	14.80 (0.476)	14.45 (0.370)	14.90* (0.627)	14.87* (0.532)
2% Low melting point wax	4	15.50* (0.469)	15.50 (0.577)	14.88 (0.222)	15.28 (0.974)	14.67 (0.359)	14.72 (0.519)	14.70 (0.688)	14.58 (0.386)	14.92* (0.512)
0.002% High melting point wax	4	15.10 (0.535)	15.30 (0.432)	14.25 (1.372)	15.63 (1.737)	14.63 (0.299)	14.58 (0.763)	14.52 (0.768)	14.63 (0.862)	14.23 (0.486)
0.02% High melting point wax	4	15.20 (0.963)	15.27 (0.741)	14.87 (0.954)	14.70 (1.514)	14.80 (0.787)	15.45 (0.957)	14.53 (0.562)	14.10 (1.074)	14.58 (0.629)
0.2% High melting point wax	4	14.95 (0.387)	15.20 (0.503)	14.67 (0.450)	14.12 (0.741)	14.38 (0.330)	14.88 (0.873)	14.55 (0.759)	14.45 (0.640)	14.48 (0.450)
2% High melting point wax	4	15.28 (0.613)	15.80* (0.683)	15.33* (0.403)	15.02 (0.624)	15.23** (0.660)	15.38 (0.450)	14.92* (0.359)	14.03 (0.512)	14.63 (0.741)
0.002% High sulphur wax	4	15.13 (1.014)	15.75* (0.723)	14.88 (0.918)	14.67 (0.877)	14.63 (0.981)	14.65 (1.047)	14.22 (0.171)	14.60 (0.337)	14.63 (0.250)
0.02% High sulphur wax	4	15.05 (0.714)	15.05 (0.661)	14.38 (1.100)	15.13 (0.670)	14.35 (0.100)	14.68 (1.150)	14.35 (0.700)	14.35 (0.238)	13.92 (0.310)

continued....

Table 13. continued.

Group	n	Study days								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0.2% High sulphur wax	4	14.75 (0.947)	15.40 (1.089)	15.07 (0.789)	14.75 (0.574)	14.42 (0.299)	15.05 (0.574)	14.75 (0.289)	14.75* (0.933)	14.85* (0.827)
2% High sulphur wax	4	15.22 (1.050)	15.50 (0.812)	15.13 (1.415)	14.82 (1.307)	14.50 (0.956)	15.32 (0.776)	14.65 (1.185)	14.58 (0.608)	14.92* (0.709)
2% Coconut oil	4	15.63* (0.465)	16.05** (1.025)	15.45** (0.603)	15.80* (0.535)	15.23** (0.299)	15.57* (1.164)	14.88* (0.714)	14.60 (0.622)	14.90* (0.337)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Apendices 31, 32, 33 and 34.

Table 14. Food intakes (g/rat/day) of female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2%, one of three mineral waxes at a level of 2% or coconut oil at a level of 2%

Group	n	Study day								
		-4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	6	14.85 (0.550)	14.13 (0.557)	14.80 (0.228)	14.65 (0.281)	14.82 (0.360)	15.22 (0.458)	14.82 (0.214)	15.43 (0.543)	15.58 (0.519)
2% White oil N15 (H)	2	13.95* (0.071)	14.50 (0.283)	15.70** (0.141)	15.20 (0.990)	16.25*** (0.212)	16.50* (1.131)	15.95* (0.071)	16.05 (0.354)	16.75* (1.202)
2% White oil N70 (H)	2	14.15 (0.071)	14.35 (0.212)	15.50* (0.283)	15.65 (0.495)	16.25*** (0.495)	16.15 (0.071)	16.00* (0.141)	16.40* (0.424)	17.50** (0.283)
2% White oil N70 (A)	2	14.90 (0.849)	15.30* (0.990)	15.50* (0.424)	15.70 (0.849)	16.65*** (0.495)	16.45* (0.354)	16.10** (0.566)	17.35*** (0.212)	17.50** (0.283)
2% White oil P15 (H)	2	14.00* (0.566)	13.90 (0.283)	14.70 (0.002)	14.55 (0.354)	15.70* (0.003)	15.85 (0.212)	16.05** (0.071)	16.00 (0.141)	17.05* (0.071)
2% White oil N10 (A)	2	13.75** (0.212)	13.10 (0.566)	14.20* (0.141)	14.65 (0.495)	16.15** (0.071)	15.45 (0.354)	15.40 (0.283)	15.30 (1.131)	15.60 (0.990)
2% White oil P100 (H)	2	14.15 (0.354)	14.15 (1.344)	15.00 (0.849)	15.80* (0.990)	16.20** (0.283)	16.05 (0.919)	15.55 (1.485)	16.20 (0.141)	16.75* (0.636)
2% Low melting point wax	2	14.30 (0.141)	14.45 (0.071)	14.95 (0.071)	15.70 (0.849)	16.55*** (0.071)	16.10 (0.283)	16.00* (0.424)	15.50 (0.707)	16.30 (0.707)
2% High melting point wax	2	14.45 (0.354)	15.00 (0.141)	15.80** (0.283)	16.20** (0.990)	16.55*** (0.636)	16.85** (0.212)	16.00* (0.141)	16.85** (0.212)	16.70 (0.005)
2% High sulphur wax	2	14.40 (0.283)	15.00 (0.990)	15.65** (0.495)	16.00* (0.424)	16.20** (0.990)	16.00 (0.707)	15.90* (0.707)	16.10 (0.849)	16.70 (1.273)
2% Coconut oil	2	14.55 (0.212)	13.60 (0.707)	14.40 (0.424)	15.45 (0.212)	16.10** (0.004)	15.40 (0.707)	15.45 (0.636)	16.30 (0.566)	16.50 (0.566)

Table 14. continued

Group	n	Study day								
		28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	6	15.53 (0.612)	15.28 (0.719)	15.18 (0.634)	15.28 (0.319)	15.07 (0.565)	14.72 (0.360)	14.27 (0.814)	14.68 (0.426)	14.48 (0.279)
2% White oil N15 (H)	2	17.00** (0.990)	16.70* (0.849)	16.50* (0.849)	16.60** (0.707)	15.90 (0.990)	15.70* (0.707)	15.60* (0.566)	15.90 (0.990)	15.60* (0.707)
2% White oil N70 (H)	2	17.00** (0.141)	16.55 (0.212)	16.50* (0.283)	16.60** (0.141)	16.20 (0.849)	16.15** (0.071)	15.70* (0.283)	15.90 (0.141)	15.20 (0.424)
2% White oil N70 (A)	2	17.10** (0.566)	16.85* (0.636)	16.60* (0.424)	16.60** (0.424)	16.50* (1.131)	16.10** (0.424)	16.30** (0.566)	16.50* (1.273)	16.15*** (0.212)
2% White oil P15 (H)	2	16.45 (0.495)	16.35 (0.495)	16.05 (0.495)	16.10* (0.707)	15.80 (1.273)	15.55 (0.495)	15.60* (0.566)	15.80 (1.838)	15.40* (0.707)
2% White oil N10 (A)	2	15.75 (0.636)	15.70 (1.273)	14.75 (1.344)	14.75 (0.636)	16.20 (0.424)	15.60* (1.131)	14.65 (0.636)	14.60 (0.566)	14.65 (0.636)
2% White oil P100 (H)	2	16.95* (0.636)	16.65* (1.202)	15.50 (0.283)	15.70 (0.141)	15.85 (0.354)	15.65* (0.354)	15.45* (0.636)	15.50 (0.849)	15.00 (0.424)
2% Low melting point wax	2	16.60* (0.424)	16.50 (0.707)	15.50 (0.000)	15.95 (0.212)	15.80 (0.424)	15.25 (0.071)	14.85 (0.212)	14.75 (0.495)	14.70 (0.283)
2% High melting point wax	2	16.15 (0.636)	16.50 (0.566)	16.10 (0.566)	15.70 (0.141)	16.10 (0.566)	15.80* (0.424)	15.35 (0.071)	15.60 (0.141)	15.60* (0.424)
2% High sulphur wax	2	17.00** (0.566)	16.25 (0.919)	16.20 (0.849)	15.90 (0.003)	15.95 (1.061)	15.65* (0.354)	15.70* (0.849)	15.15 (1.061)	15.20 (0.849)
2% Coconut oil	2	16.75* (0.495)	16.60 (0.566)	16.30 (0.849)	15.85 (1.061)	16.10 (1.131)	15.50 (0.707)	15.50* (0.566)	15.40 (0.283)	15.60* (0.707)

Table 14. continued

Group	n	Study day								
		59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	6	14.17 (0.516)	14.55 (0.565)	14.63 (0.175)	13.93 (0.258)	14.33 (0.288)	13.87 (0.476)	14.10 (0.465)	14.08 (0.360)	14.72 (0.366)
2% White oil N15 (H)	2	15.65** (0.636)	16.90*** (0.707)	15.90* (0.566)	14.50 (0.424)	15.00 (0.424)	15.60* (1.414)	15.00 (0.849)	15.65** (0.778)	15.50 (0.849)
2% White oil N70 (H)	2	15.25* (0.212)	15.90* (0.141)	15.20 (0.424)	15.30** (0.283)	15.05 (0.354)	15.10 (0.283)	14.55 (0.495)	14.90* (0.849)	15.75 (0.778)
2% White oil N70 (A)	2	15.65** (0.495)	16.85*** (0.919)	15.60 (0.990)	15.15* (0.212)	15.70* (0.283)	16.10** (0.566)	15.30* (0.283)	15.95*** (0.354)	15.90* (0.424)
2% White oil P15 (H)	2	15.55** (0.495)	15.90* (0.424)	15.10 (0.283)	15.10* (0.002)	15.00 (0.424)	15.70* (1.273)	14.25 (0.071)	15.45** (0.071)	15.45 (0.354)
2% White oil N10 (A)	2	14.85 (0.919)	14.20 (0.990)	14.20 (0.707)	15.40** (0.990)	15.00 (1.273)	14.65 (0.636)	14.30 (0.707)	13.75 (0.636)	14.90 (0.990)
2% White oil P100 (H)	2	15.60** (0.566)	15.80* (1.131)	15.15 (1.485)	15.65** (1.343)	15.50* (0.990)	14.80 (1.131)	15.20* (0.990)	15.10* (0.849)	15.45 (1.485)
2% Low melting point wax	2	14.85 (0.071)	14.85 (0.354)	14.65 (0.636)	14.70 (0.566)	14.30 (0.283)	14.15 (0.354)	13.85 (0.212)	13.60 (0.141)	14.70 (0.283)
2% High melting point wax	2	15.60** (0.707)	15.35 (0.495)	14.75 (0.495)	14.80 (0.424)	14.30 (0.283)	14.70 (0.283)	14.45 (0.495)	14.65 (0.354)	15.25 (0.212)
2% High sulphur wax	2	15.60** (0.707)	15.30 (0.849)	14.40 (0.141)	14.50 (0.283)	13.95 (0.778)	14.55 (0.495)	14.45 (0.495)	14.30 (0.000)	14.95 (0.778)
2% Coconut oil	2	15.75** (0.212)	16.25** (0.636)	15.20 (0.566)	16.10*** (0.566)	15.60* (0.990)	14.75 (1.485)	14.55 (0.778)	14.55 (0.071)	14.85 (0.354)

Table 14. continued

Group	n	Study day							
		91-94	94-98	98-101	101-105	105-108	108-112	112-115	115-119
0% Control	6	14.37 (0.327)	13.48 (0.585)	13.77 (0.378)	13.52 (0.397)	14.00 (0.346)	14.18 (0.366)	13.95 (0.489)	13.88 (0.117)
2% White oil N15 (H)	2	15.15 (0.636)	14.70* (0.566)	14.60* (0.707)	13.80 (0.566)	14.75 (0.354)	14.40 (0.707)	13.65 (0.354)	13.60 (0.424)
2% White oil N70 (H)	2	15.05 (0.071)	14.95** (0.919)	15.30*** (0.283)	13.95 (0.212)	14.05 (0.778)	13.75 (0.071)	13.65 (0.636)	13.60 (0.283)
2% White oil N70 (A)	2	15.20 (0.141)	15.00** (0.283)	14.60* (0.141)	13.85 (0.636)	14.40 (0.141)	14.75 (0.495)	13.90 (1.131)	14.00 (0.566)
2% White oil P15 (H)	2	14.80 (0.283)	14.95** (0.212)	15.20** (0.141)	14.65* (0.636)	15.25** (0.071)	15.00 (0.849)	14.10 (0.566)	14.00 (0.000)
2% White oil N10 (A)	2	14.30 (0.424)	13.60 (0.283)	14.20 (0.283)	13.10 (0.424)	13.95 (0.919)	13.95 (0.636)	13.10 (0.566)	13.30* (0.424)
2% White oil P100 (H)	2	14.55 (1.485)	14.05 (0.495)	15.05** (0.636)	14.60* (0.283)	14.80* (0.424)	14.55 (0.071)	13.50 (0.283)	14.45 (0.636)
2% Low melting point wax	2	13.65 (0.495)	13.20 (0.424)	14.05 (0.778)	13.65 (0.354)	13.65 (0.212)	14.70 (0.283)	11.25*** (2.192)	13.25* (0.212)
2% High melting point wax	2	14.15 (0.495)	13.10 (0.707)	13.80 (0.424)	13.80 (0.002)	14.20 (0.141)	13.35 (0.212)	13.15 (0.071)	13.75 (0.495)
2% High sulphur wax	2	13.75 (0.778)	13.30 (0.283)	13.90 (0.566)	13.95 (1.061)	14.00 (0.707)	13.50 (0.849)	13.05 (0.919)	13.70 (0.424)
2% Coconut oil	2	14.25 (0.212)	14.75* (1.061)	14.90** (0.141)	14.30 (0.141)	15.10** (0.002)	14.05 (0.071)	12.55* (0.354)	13.55 (0.071)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Appendix 35.

Table 15. Food intakes (g/rat/day) of female rats on the tissue level study fed either control diet, one of six mineral oils at a level of 2%, one of three mineral waxes at a level of 2% or coconut oil at a level of 2%.

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	395	15.6	14.2	13.8	14.7	13.8	15.4	15.3	14.3	15.1
2% White oil N 15(H)	397	15.2	13.5	13.6	13.4	13.9	14.8	15.5	15.5	15.1
2% White oil N 70(H)	399	15.4	14.0	14.5	15.1	14.8	15.2	15.9	15.7	15.6
2% White oil N 70(A)	401	14.0	13.8	13.8	14.7	15.0	15.1	15.0	16.5	15.9
2% White oil P 15(H)	403	13.8	13.2	13.6	13.5	14.1	14.3	14.1	14.1	15.1
2% White oil N 10(A)	405	14.5	13.9	13.1	14.4	14.7	15.5	15.7	15.0	14.9
2% White oil P 100(H)	407	15.6	14.7	15.1	15.3	15.6	16.9	17.2	16.7	16.7

3.1010

Table 15. (Continued)

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
2% Low melting point wax	409	14.6	13.7	13.6	14.6	14.5	15.4	15.1	15.8	15.1
2% High melting point wax	411	14.5	14.4	14.9	15.7	15.1	15.6	15.8	16.1	16.3
2% High sulphur wax	413	14.5	14.3	14.1	14.7	14.9	15.7	15.6	15.6	16.0
2% Coconut oil	415	14.8	14.5	14.5	14.7	14.9	15.6	16.1	16.3	16.0

Table 15. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	395	15.2	15.1	14.6	15.4	14.9	14.5	15.8	14.7	14.1
2% White oil N 15(H)	397	15.1	15.3	15.1	15.9	15.6	15.1	15.2	14.9	15.2
2% White oil N 70(H)	399	16.5	15.3	15.1	15.6	15.4	15.8	15.2	15.4	16.2
2% White oil N 70(A)	401	15.9	15.9	16.3	16.6	16.1	15.1	16.1	16.6	15.3
2% White oil P 15(H)	403	14.5	15.1	15.3	15.5	14.7	14.6	15.3	14.9	15.3
2% White oil N 10(A)	405	15.7	15.7	15.4	16.0	15.2	15.2	14.6	15.6	15.4
2% White oil P 100(H)	407	17.9	17.7	17.1	16.4	16.1	16.3	16.7	16.3	16.6

Table 15. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% Low melting point wax	409	14.9	16.0	15.8	16.2	15.4	15.2	15.1	15.5	15.1
2% High melting point wax	411	17.3	16.5	15.3	15.6	16.7	15.8	16.4	16.2	15.7
2% High sulphur wax	413	15.9	16.4	15.1	14.9	15.6	14.0	14.9	14.9	14.3
2% Coconut oil	415	16.0	15.9	15.6	15.3	15.4	14.9	16.0	15.4	15.9

Table 15. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	395	14.4	15.5	14.6	14.5	15.2	14.4	15.1	14.6	14.8
2% White oil N 15(H)	397	14.4	14.9	14.3	13.9	14.2	15.4	14.8	14.3	14.9
2% White oil N 70(H)	399	14.8	15.5	14.8	14.2	14.9	14.8	14.9	14.3	15.4
2% White oil N 70(A)	401	14.6	15.2	14.7	14.3	15.5	16.1	15.3	15.2	15.9
2% White oil P 15(H)	403	14.8	14.9	14.3	14.3	14.5	15.1	15.0	14.8	14.5
2% White oil N 10(A)	405	14.6	15.2	14.9	14.9	14.8	14.8	14.5	14.3	14.6
2% White oil P 100(H)	407	15.6	17.0	15.9	15.3	15.6	16.4	16.0	16.3	15.6

3.1010

Table 15. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
2% Low melting point wax	409	14.9	15.8	14.7	14.1	14.4	14.8	14.4	14.4	14.1
2% High melting point wax	411	14.9	15.3	14.5	14.5	14.9	15.3	15.1	15.0	14.3
2% High sulphur wax	413	13.8	14.3	13.6	13.9	14.1	15.1	14.9	15.1	13.9
2% Coconut oil	415	14.2	14.7	14.2	13.7	13.9	15.2	14.6	14.9	14.6

Table 16. Food intakes (g/rat/day) of female rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
0% Control	396	14.5	13.9	13.4	13.9	14.1	14.4	14.4	14.7	14.3
2% White oil N15 (H)	398	14.9	14.2	13.4	14.3	14.5	14.6	15.5	16.3	15.6
2% White oil N70 (H)	400	14.7	14.2	14.4	14.9	15.0	16.1	16.0	16.2	15.8
2% White oil N70 (A)	402	14.9	14.3	14.0	14.5	14.9	15.3	14.9	15.9	15.8
2% White oil P15 (H)	404	15.9	14.1	14.5	14.3	14.9	15.3	16.1	16.1	15.9
2% White oil N10 (A)	406	13.8	13.0	13.6	13.8	14.3	15.2	14.8	14.7	15.1
2% White oil P100 (H)	408	14.4	14.0	13.9	14.7	15.3	15.9	14.9	16.0	15.9

3.1010

Table 16. (Continued)

Group	Cage number	Study days -4-0	0-3	3-7	7-10	10-14	14-17	17-21	21-24	24-28
2% Low melting point wax	410	14.9	14.2	14.1	14.7	15.1	15.2	15.2	15.9	15.8
2% High melting point wax	412	14.8	13.7	14.4	14.9	15.4	15.8	15.3	16.3	15.2
2% High sulphur wax)	414	14.4	13.7	14.4	14.9	14.9	15.9	15.6	16.9	15.7
2% Coconut oil	416	15.6	14.6	14.5	15.1	15.2	16.7	15.7	16.5	17.9

Table 16. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
0% Control	396	14.5	14.4	14.1	14.4	14.5	14.3	13.7	13.6	14.3
2% White oil N15 (H)	398	15.7	15.8	15.9	16.0	15.4	15.3	15.0	15.0	16.1
2% White oil N70 (H)	400	15.6	16.6	16.5	16.5	15.2	15.2	14.9	15.2	16.0
2% White oil N70 (A)	402	15.5	16.1	15.4	15.8	15.7	15.5	16.1	15.6	15.3
2% White oil P15 (H)	404	16.5	16.4	15.5	16.3	16.2	15.5	15.1	15.2	15.9
2% White oil N10 (A)	406	15.7	15.6	15.3	15.6	15.0	15.5	14.5	15.1	14.9
2% White oil P100 (H)	408	16.7	17.1	16.7	16.1	16.1	15.0	15.8	15.6	16.1

3.1010

Table 16. (Continued)

Group	Cage number	Study days 28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56	56-59
2% Low melting point wax	410	15.3	14.5	15.1	15.1	15.1	14.9	15.3	14.6	15.9
2% High melting point wax	412	15.7	16.4	15.7	15.6	16.5	15.4	15.1	15.1	15.7
2% High sulphur wax)	414	15.3	15.9	15.8	15.6	14.7	15.1	16.2	15.9	15.8
2% Coconut oil	416	17.3	17.0	16.8	16.0	15.8	15.9	17.1	16.3	16.8

Table 16. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	396	13.5	13.5	13.6	12.7	13.3	14.0	14.2	13.4	13.4
2% White oil N15 (H)	398	15.1	15.7	14.5	14.5	15.0	15.5	15.3	14.5	14.7
2% White oil N70 (H)	400	14.7	15.3	15.9	14.4	15.2	15.1	15.2	14.6	15.6
2% White oil N70 (A)	402	14.0	14.2	14.4	14.0	14.1	14.9	14.8	14.1	15.0
2% White oil P15 (H)	404	15.2	16.0	15.5	14.9	14.9	15.4	15.7	14.9	15.1
2% White oil N10 (A)	406	13.9	14.5	14.1	13.9	14.2	14.5	14.4	14.3	14.0
2% White oil P100 (H)	408	15.2	16.1	15.6	15.1	14.7	15.9	15.3	14.7	14.4

3.1010

Table 16. (Continued)

Group	Cage number	Study days 59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
2% Low melting point wax	410	14.5	14.7	14.5	14.3	14.0	14.5	13.3	12.0	14.2
2% High melting point wax	412	14.3	15.1	14.8	14.7	14.6	15.7	14.9	14.5	14.7
2% High sulphur wax)	414	15.3	16.1	15.2	14.8	14.3	14.9	14.9	15.3	14.7
2% Coconut oil	416	15.8	15.8	15.3	15.8	15.6	16.8	16.1	16.8	16.9

Table 16. (Continued)

Group	Cage number	Study days 91-94	94-98	98-101	101-105	105-108	108-112	112-115	115-119
0% Control	396	14.6	13.1	13.0	13.1	13.5	13.3	12.5	13.9
2% White oil N15 (H)	398	16.1	15.1	13.5	13.3	14.1	13.8	13.4	13.7
2% White oil N70 (H)	400	16.3	14.5	14.6	13.8	13.3	13.5	12.7	13.3
2% White oil N70 (A)	402	15.5	14.9	14.5	14.5	13.9	13.5	13.5	13.7
2% White oil P15 (H)	404	15.9	14.2	14.2	14.1	13.5	13.0	13.5	12.7
2% White oil N10 (A)	406	15.2	14.9	16.1	14.4	14.1	14.1	13.3	13.2
2% White oil P100 (H)	408	15.6	14.4	15.1	14.1	13.9	13.9	13.9	13.9

3.1010

Table 16. (Continued)

Group	Cage number	Study days 91-94	94-98	98-101	101-105	105-108	108-112	112-115	115-119
2% Low melting point wax	410	16.8	14.7	15.2	13.8	13.9	13.6	14.1	13.7
2% High melting point wax	412	15.1	13.9	14.1	13.7	13.9	13.6	13.5	13.4
2% High sulphur wax)	414	14.5	13.8	14.0	13.4	13.5	13.4	12.5	13.5
2% Coconut oil	416	15.9	15.6	16.5	15.5	14.6	14.1	14.3	13.7

Table 17. Calculated intakes (mg/kg/day) of male rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0% Control	60	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
0.002% White oil N15 (H)	20	3.3 (0.47)	3.0 (0.22)	2.9 (0.31)	2.3 (0.47)	2.1 (0.31)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N15 (H)	20	33.9 (2.95)	30.4 (2.39)	27.5 (2.16)	24.3 (1.81)	23.8 (1.61)	22.0 (1.64)	20.9 (1.37)
0.2% White oil N15 (H)	20	337.7 (37.36)	293.1 (25.47)	286.0 (32.55)	245.9 (21.83)	238.3 (18.37)	216.1 (16.05)	210.1 (14.66)
2% White oil N15 (H)	20	3402.9 (311.49)	3009.7 (282.51)	2797.3 (253.18)	2469.8 (230.83)	2423.8 (212.39)	2229.9 (191.53)	2173.9 (191.96)
0.002% White oil N70 (H)	20	3.5 (0.51)	3.0 (0.39)	2.8 (0.55)	2.3 (0.49)	2.3 (0.59)	2.0 (0.22)	2.0 (0.22)
0.02% White oil N70 (H)	20	34.1 (3.29)	30.0 (2.73)	27.6 (2.50)	24.5 (2.24)	24.0 (2.00)	22.0 (1.90)	20.9 (1.66)
0.2% White oil N70 (H)	20	343.9 (32.36)	301.9 (27.86)	278.5 (22.82)	245.4 (20.57)	243.8 (20.50)	220.0 (18.41)	211.6 (16.39)
2% White oil N70 (H)	20	3393.0 (281.25)	2949.8 (184.72)	2896.8 (313.56)	2504.2 (173.04)	2485.9 (155.59)	2247.2 (159.91)	2190.2 (93.52)
0.002% White oil N70 (A)	20	3.3 (0.47)	3.0 (0.22)	2.8 (0.37)	2.3 (0.47)	2.3 (0.44)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N70 (A)	20	34.3 (2.64)	30.8 (2.29)	28.1 (1.95)	24.6 (1.76)	24.0 (1.61)	21.8 (1.51)	21.1 (1.37)
0.2% White oil N70 (A)	20	345.1 (27.21)	305.4 (24.25)	280.9 (20.85)	252.3 (18.07)	243.7 (17.15)	219.6 (15.62)	219.1 (16.73)
2% White oil N70 (A)	20	3422.6 (241.52)	3039.1 (202.17)	2883.2 (203.90)	2507.1 (164.35)	2457.4 (169.68)	2292.0 (162.22)	2187.7[19] (150.98)

Means and standard deviations.
Superscripts indicate the sample size (n) when it is different from that given.

Table 17. (Continued).

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0.002% White oil P15 (H)	20	3.2 (0.41)	3.0 (0.22)	2.9 (0.31)	2.2 (0.41)	2.2 (0.41)	2.0 (0.00)	2.0 (0.00)
0.02% White oil P15 (H)	20	34.6 (3.39)	30.1 (2.69)	27.9 (2.40)	24.6 (1.90)	23.8 (1.74)	22.0 (1.59)	21.3 (1.41)
0.2% White oil P15 (H)	20	343.4 (25.13)	300.5 (18.46)	279.4 (18.38)	242.2 (13.74)	235.8 (10.33)	216.7 (12.56)	214.8 (11.61)
2% White oil P15 (H)	20	3383.4 (277.92)	3031.4 (235.95)	2827.3 (250.08)	2466.6 (206.34)	2433.9 (188.08)	2254.8 (181.37)	2157.1 (158.98)
0.002% White oil N10 (A)	20	3.5 (0.51)	3.0 (0.32)	2.9 (0.31)	2.5 (0.51)	2.3 (0.47)	2.0 (0.22)	2.0 (0.00)
0.02% White oil N10 (A)	20	34.9 (3.02)	30.1 (2.31)	27.9 (2.35)	24.5 (1.99)	24.2 (1.70)	22.3 (1.72)	21.5 (1.54)
0.2% White oil N10 (A)	20	343.1 (27.89)	303.7 (26.65)	278.8 (23.36)	241.4 (18.92)	236.6 (17.15)	215.9 (14.79)	212.9 (14.62)
2% White oil N10 (A)	20	3405.4 (283.40)	3010.8 (212.99)	2875.9 (262.75)	2460.8 (174.39)	2402.3 (161.40)	2238.8 (173.34)	2170.1 (134.29)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0.002% White oil P100 (H)	20	3.3 (0.49)	3.0 (0.22)	2.8 (0.41)	2.3 (0.44)	2.3 (0.44)	2.0 (0.00)	2.0 (0.00)
0.02% White oil P100 (H)	20	34.1 (2.85)	29.3 (2.02)	28.5 (2.37)	24.5 (1.54)	24.0 (1.47)	22.1 (1.46)	20.9 (1.02)
0.2% White oil P100 (H)	20	344.6 (32.27)	297.4 (22.64)	282.0 (28.32)	239.3 (17.51)	235.3 (20.77)	219.3 (19.06)	209.1 (15.88)
2% White oil P100 (H)	20	3340.6 (309.41)	2921.3 (220.40)	2897.9 (277.99)	2963.8 (833.72)	1839.2 (1049.43)	2242.9 (167.60)	2196.9 (146.69)
0.002% Low melting point wax	20	3.4 (0.50)	3.0 (0.22)	2.9 (0.31)	2.3 (0.47)	2.3 (0.44)	2.0 (0.22)	2.0 (0.00)
0.02% Low melting point wax	20	34.3 (4.07)	30.5 (2.63)	27.8 (2.83)	24.1 (1.95)	24.0 (1.82)	21.6 (1.53)	21.2 (1.64)
0.2% Low melting point wax	20	343.0 (35.59)	301.0 (25.59)	272.4 (29.20)	241.4 (19.10)	241.8 (18.46)	222.1 (16.24)	216.1 (16.63)
2% Low melting point wax	20	3423.2 (333.88)	3016.8 (249.53)	2811.7 (260.81)	2401.7 (192.20)	2368.3 (180.42)	2244.0 (188.00)	2150.4 (155.44)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0.002% High melting point wax	20	3.4 (0.50)	3.0 (0.00)	2.8 (0.37)	2.3 (0.44)	2.3 (0.44)	2.0 (0.00)	2.0 (0.00)
0.02% High melting point wax	20	34.1 (2.85)	29.7 (2.32)	27.5 (2.50)	23.9 (1.73)	23.4 (1.35)	22.0 (1.32)	21.5 (1.15)
0.2% High melting point wax	20	341.6 (28.18)	304.3 (20.73)	281.4 (22.08)	242.9 (15.61)	241.0 (12.31)	220.9 (13.41)	215.0 (11.22)
2% High melting point wax	20	3492.6 (390.56)	3063.8 (277.55)	2851.3 (332.39)	2498.9 (213.65)	2451.6 (207.96)	2269.3 (178.61)	2200.4 (172.79)
0.002% High sulphur wax	20	3.5 (0.51)	3.0 (0.22)	2.9 (0.31)	2.4 (0.50)	2.2 (0.41)	2.1 (0.31)	2.0 (0.22)
0.02% High sulphur wax	20	34.5 (3.47)	29.5 (1.96)	28.0 (2.52)	24.3 (1.55)	23.5 (1.70)	21.5 (1.61)	21.0 (1.03)
0.2% High sulphur wax	20	342.3 (27.30)	308.5 (17.73)	278.6 (20.89)	239.9 (13.87)	238.1 (17.67)	220.4 (10.91)	212.8 (10.44)
2% High sulphur wax	20	3525.8 (359.46)	3084.4 (239.99)	2829.9 (263.20)	2507.6 (169.04)	2435.6 (168.45)	2263.1 (148.64)	2164.8 (153.31)
2% Coconut oil	20	3454.6 (393.41)	2901.1 (310.21)	2840.7 (311.56)	2433.6 (231.62)	2383.1 (193.30)	2227.1 (187.60)	2151.7 (174.79)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0% Control	60	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
0.002% White oil N15 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.8 (0.44)	1.3 (0.47)	1.4 (0.49)	1.1 (0.37)
0.02% White oil N15 (H)	20	18.9 (1.02)	18.9 (1.27)	18.0 (1.19)	17.6 (0.94)	16.3 (1.03)	16.5 (0.94)	15.3 (1.02)	15.1 (0.85)	14.5 (0.89)
0.2% White oil N15 (H)	20	192.9 (12.15)	186.9 (11.85)	177.3 (12.06)	171.4 (10.79)	157.6 (9.26)	158.4 (9.39)	149.5 (9.05)	149.6 (9.20)	139.5 (7.71)
2% White oil N15 (H)	20	2000.1 (169.84)	1954.8 (167.19)	1841.0 (155.77)	1757.4 (143.94)	1649.7 (128.27)	1620.5 (116.90)	1518.4 (113.95)	1526.7 (108.33)	1453.4 (98.55)
0.002% White oil N70 (H)	20	2.0 (0.22)	2.0 (0.22)	2.0 (0.00)	2.0 (0.22)	1.8 (0.41)	1.9 (0.37)	1.3 (0.47)	1.4 (0.49)	1.1 (0.31)
0.02% White oil N70 (H)	20	19.0 (1.79)	18.8 (1.97)	18.0 (1.54)	17.3 (1.45)	16.2 (1.28)	16.1 (1.23)	15.4 (1.19)	15.0 (1.30)	14.3 (1.08)
0.2% White oil N70 (H)	20	195.0 (15.01)	193.1 (13.91)	181.4 (13.65)	181.4 (13.31)	166.9 (11.63)	170.1 (11.07)	158.4 (10.88)	156.6 (10.19)	148.9 (9.52)
2% White oil N70 (H)	20	2005.2 (90.49)	1913.8 (78.21)	1803.7 (69.50)	1775.5 (78.14)	1680.4 (60.48)	1654.0 (70.25)	1544.9 (60.23)	1545.6 (59.16)	1479.6 (60.15)
0.002% White oil N70 (A)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	1.9 (0.37)	1.9 (0.37)	1.4 (0.50)	1.3 (0.44)	1.0 (0.00)
0.02% White oil N70 (A)	20	19.3 (1.16)	18.4 (1.31)	17.9 (1.18)	17.0 (1.00)	15.8 (1.25)	15.8 (1.01)	14.9 (1.18)	14.7 (0.86)	13.9 (0.93)
0.2% White oil N70 (A)	20	197.4 (13.91)	192.6 (13.77)	178.6 (12.30)	177.2 (12.47)	163.4 (10.42)	165.0 (10.29)	154.3 (10.54)	154.1 (11.60)	143.4 (9.46)
2% White oil N70 (A)	20	2000.3 (142.52)	2006.6 (138.18)	1907.9 (121.85)	1810.9 (106.04)	1713.3 (105.39)	1727.1 (98.52)	1625.9 (100.30)	1604.2 (91.99)	1485.6 (80.11)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0.002% White oil P15 (H)	20	2.0 (0.00)	2.0 (0.22)	2.0 (0.00)	2.0 (0.00)	1.8 (0.41)	2.0 (0.22)	1.4 (0.49)	1.5 (0.51)	1.0 (0.22)
0.02% White oil P15 (H)	20	19.4 (1.27)	18.8 (1.25)	17.6 (1.23)	17.5 (1.23)	16.0 (1.12)	16.1 (1.12)	14.9 (0.81)	15.3 (0.98)	14.1 (0.97)
0.2% White oil P15 (H)	20	194.4 (10.34)	188.5 (10.47)	177.1 (10.96)	171.8 (11.42)	160.8 (9.92)	158.1 (9.44)	149.5 (9.36)	150.1 (9.09)	140.4 (7.94)
2% White oil P15 (H)	20	2008.8 (135.95)	1934.2 (126.41)	1850.1 (117.25)	1811.1 (109.01)	1711.8 (111.17)	1667.7 (101.99)	1584.4 (101.66)	1559.3 (101.38)	1439.2 (88.32)
0.002% White oil N10 (A)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	2.0 (0.22)	1.9 (0.37)	1.9 (0.37)	1.5 (0.51)	1.5 (0.51)	1.2 (0.41)
0.02% White oil N10 (A)	20	20.0 (1.64)	18.8 (1.58)	17.5 (1.43)	17.2 (1.47)	15.9 (1.21)	16.3 (1.03)	14.9 (0.85)	14.8 (1.01)	13.9 (0.76)
0.2% White oil N10 (A)	20	194.9 (13.98)	185.7 (13.15)	174.4 (13.92)	170.6 (14.36)	158.4 (12.60)	160.6 (11.83)	147.9 (10.34)	145.9[15] (9.57)	139.3 (8.40)
2% White oil N10 (A)	20	1989.8 (113.48)	1920.1 (114.49)	1818.4 (117.70)	1760.3 (134.41)	1671.2 (121.47)	1647.3 (96.89)	1527.7 (112.85)	1530.3 (99.17)	1442.9 (87.27)

Means and standard deviations.
Superscripts indicate the sample size (n) when it is different from that given.

Table 17. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0.002% White oil P100 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	1.9 (0.37)	1.4 (0.50)	1.4 (0.49)	1.1 (0.37)
0.02% White oil P100 (H)	20	19.4 (1.14)	19.1 (0.91)	17.9 (1.02)	17.0 (1.19)	16.8 (1.48)	16.7 (1.17)	15.6 (0.99)	15.2 (0.70)	13.8 (0.70)
0.2% White oil P100 (H)	20	191.9 (13.41)	186.8 (12.83)	178.1 (12.15)	171.8 (13.54)	163.3 (10.78)	158.9 (9.88)	149.0 (9.55)	148.4 (9.38)	138.4 (8.41)
2% White oil P100 (H)	20	2046.3 (141.20)	1958.3 (140.89)	1823.4 (121.57)	1794.3 (129.18)	1665.5 (111.89)	1655.7 (101.92)	1533.1 (87.20)	1530.6 (87.58)	1445.6 (83.39)
0.002% Low melting point wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.8 (0.41)	2.0 (0.22)	1.5 (0.51)	1.6 (0.50)	1.2 (0.41)
0.02% Low melting point wax	20	19.4 (1.50)	19.0 (1.47)	17.8 (1.52)	17.6 (1.73)	16.1 (1.17)	16.0 (1.10)	14.9 (0.99)	14.9 (1.00)	14.3 (0.97)
0.2% Low melting point wax	20	198.9 (15.35)	192.6 (13.51)	181.3 (12.47)	174.9 (15.80)	165.3 (14.45)	171.1 (12.82)	155.4 (13.82)	155.1 (12.20)	145.7 (12.29)
2% Low melting point wax	20	1999.4 (141.04)	1937.2 (148.23)	1804.3 (136.22)	1730.9 (110.96)	1642.9 (106.89)	1637.8 (100.15)	1531.4 (93.65)	1531.9 (98.21)	1419.6 (87.41)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0.002% High melting point wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	1.9 (0.37)	1.8 (0.41)	1.4 (0.50)	1.4 (0.49)	1.0 (0.22)
0.02% High melting point wax	20	19.5 (1.32)	19.1 (1.14)	17.5 (1.32)	17.0 (1.50)	16.1 (1.45)	15.9 (1.36)	14.8 (1.11)	14.9 (0.89)	14.1 (0.75)
0.2% High melting point wax	20	194.6 (9.33)	187.8 (9.75)	178.3 (9.02)	172.1 (11.19)	161.6 (9.58)	162.9 (8.09)	149.4 (7.44)	151.1 (7.34)	140.8 (6.82)
2% High melting point wax	20	2034.2 (160.68)	1990.8 (146.93)	1853.4 (140.72)	1780.3 (140.81)	1692.8 (132.75)	1664.2 (121.08)	1561.9 (102.42)	1566.8 (106.40)	1469.4 (93.36)
0.002% High sulphur wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	1.8 (0.41)	1.9 (0.37)	1.4 (0.50)	1.3 (0.44)	1.1 (0.31)
0.02% High sulphur wax	20	19.5 (1.05)	18.8 (0.91)	17.6 (1.14)	16.9 (0.97)	16.0 (0.92)	16.4 (1.14)	14.6 (0.88)	14.6 (0.88)	13.9 (0.76)
0.2% High sulphur wax	20	197.5 (9.77)	189.3 (10.08)	175.4 (10.06)	169.4 (9.13)	159.4 (10.96)	160.1 (9.04)	150.6 (9.89)	147.4 (8.27)	139.1 (7.72)
2% High sulphur wax	20	2004.9 (132.46)	1983.8 (116.28)	1851.7 (96.06)	1788.6 (96.92)	1684.1 (109.88)	1644.6 (92.23)	1542.4 (88.28)	1513.8 (85.03)	1422.0 (75.24)
2% Coconut oil	20	1993.1 (145.23)	1951.8 (149.19)	1818.0 (127.59)	1789.6 (140.11)	1678.4 (110.86)	1691.7 (115.60)	1555.3 (133.22)	1590.8 (114.8[illegible])	144[illegible]

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0% Control	60	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
0.002% White oil N15 (H)	20	1.3 (0.44)	1.1 (0.31)	1.0 (0.22)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% White oil N15 (H)	20	14.9 (0.88)	14.2 (0.89)	13.9 (0.85)	13.3 (0.92)	13.4 (0.82)	13.0 (0.73)	12.9 (0.72)	12.4 (0.75)	12.6 (0.76)	12.7 (1.08)
0.2% White oil N15 (H)	20	138.6 (9.42)	134.9 (9.52)	134.8 (9.51)	125.8 (9.55)	126.7 (8.05)	119.8 (6.80)	120.8 (8.73)	116.6 (8.12)	119.2 (7.76)	119.7 (11.47)
2% White oil N15 (H)	20	1443.6 (100.12)	1419.6 (96.05)	1392.3 (99.11)	1320.5 (89.41)	1338.4 (97.02)	1317.0 (83.67)	1281.7 (84.82)	1252.3 (78.44)	1275.4 (83.02)	1287.0 (100.29)
0.002% White oil N70 (H)	20	1.2 (0.41)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)	1.0 (0.22)
0.02% White oil N70 (H)	20	14.4 (0.94)	13.8 (0.97)	13.4 (0.94)	12.8 (0.79)	13.3 (0.92)	12.5 (0.83)	13.0 (0.86)	12.3 (0.86)	12.1 (0.76)	12.2 (0.83)
0.2% White oil N70 (H)	20	149.7 (11.12)	141.6 (10.06)	140.9 (9.18)	130.8 (8.88)	131.1 (9.24)	125.9 (9.01)	127.9 (9.58)	122.5 (8.18)	125.2 (8.54)	124.3 (9.29)
2% White oil N70 (H)	20	1497.4 (63.10)	1462.8 (62.87)	1449.3 (79.32)	1358.8 (67.31)	1363.8 (58.68)	1309.1 (74.54)	1315.9 (74.03)	1275.6 (57.30)	1234.7 (60.40)	1286.7 (55.71)
0.002% White oil N70 (A)	20	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% White oil N70 (A)	20	13.7 (0.86)	13.1 (0.85)	13.3 (0.91)	12.4 (0.68)	12.9 (0.88)	12.1 (0.81)	12.4 (0.88)	11.9 (0.81)	11.9 (0.79)	12.0 (0.97)
0.2% White oil N70 (A)	20	144.4 (9.59)	139.3 (9.82)	139.9 (12.68)	128.4 (9.64)	130.0 (7.75)	126.0 (7.34)	128.8 (7.11)	124.5 (7.08)	124.6 (7.93)	121.7 (7.26)
2% White oil N70 (A)	20	1531.3 (94.36)	1488.0 (95.19)	1477.7 (79.34)	1380.1 (78.61)	1412.4 (90.23)	1362.8 (71.00)	1357.2 (78.05)	1323.1 (68.41)	1301.7 (77.18)	1310.2 (78.45)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0.002% White oil P15 (H)	20	1.1 (0.37)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% White oil P15 (H)	20	14.3 (0.86)	13.4 (0.94)	13.6 (0.94)	12.6 (0.83)	12.7 (0.80)	11.9 (0.85)	12.2 (0.83)	11.8 (0.64)	11.9 (0.64)	12.0 (0.92)
0.2% White oil P15 (H)	20	138.4 (7.86)	133.9 (7.13)	134.8 (7.58)	126.8 (6.32)	127.6 (6.80)	124.3 (7.29)	124.8 (7.30)	121.3 (6.34)	120.7 (6.70)	120.6 (6.57)
2% White oil P15 (H)	20	1503.1 (88.34)	1442.5 (87.55)	1434.5 (84.56)	1344.0 (86.70)	1366.8 (87.82)	1319.8 (76.94)	1346.1 (75.63)	1288.7 (71.03)	1228.4 (82.71)	1219.2 (103.39)
0.002% White oil N10 (A)	20	1.3 (0.44)	1.1 (0.31)	1.2 (0.41)	1.0 (0.22)	1.0 (0.22)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% White oil N10 (A)	20	14.1 (0.85)	13.4 (0.82)	13.4 (0.89)	12.7 (0.66)	12.7 (0.92)	12.5 (0.89)	12.8 (1.01)	11.9 (0.69)	11.9 (0.85)	11.9 (1.02)
0.2% White oil N10 (A)	20	138.9 (8.18)	137.1 (8.56)	136.4 (10.24)	129.6 (8.31)	125.8 (7.49)	123.3 (6.90)	127.8 (6.57)	119.7 (6.38)	117.6 (6.77)	120.6 (7.67)
2% White oil N10 (A)	20	1461.3 (97.22)	1436.0 (93.74)	1425.8 (107.93)	1357.4 (79.66)	1344.5 (91.54)	1312.0 (86.02)	1346.4 (83.33)	1263.9 (71.67)	1200.3 (83.55)	1201.6 (100.34)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0.002% White oil P100 (H)	20	1.1 (0.31)	1.0 (0.22)	1.1 (0.31)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% White oil P100 (H)	20	14.1 (0.85)	13.9 (0.75)	13.6 (0.82)	13.0 (0.86)	13.2 (0.89)	12.8 (0.77)	12.8 (0.72)	12.1 (0.75)	12.3 (0.80)	12.3 (0.86)
0.2% White oil P100 (H)	20	137.6 (7.65)	133.4 (7.77)	132.1 (7.81)	125.8 (7.30)	125.8 (7.39)	123.2 (7.10)	129.8 (8.28)	120.9 (6.32)	121.6 (7.11)	122.6 (7.41)
2% White oil P100 (H)	20	1461.9 (88.54)	1384.7 (77.59)	1392.8 (81.20)	1328.6 (79.59)	1341.1 (72.00)	1291.6 (63.99)	1286.2 (80.96)	1299.3 (108.59)	1239.6 (84.52)	1269.2 (76.33)
0.002% Low melting point wax	20	1.2 (0.41)	1.1 (0.31)	1.0 (0.22)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% Low melting point wax	20	14.3 (0.98)	13.6 (0.99)	13.6 (0.94)	12.9 (0.91)	12.9 (0.79)	12.5 (0.83)	12.4 (0.94)	11.9 (0.83)	12.2 (1.01)	12.4 (0.94)
0.2% Low melting point wax	20	144.1 (11.53)	137.1 (10.36)	136.3 (12.21)	129.9 (10.08)	128.1 (9.83)	126.3 (9.31)	126.4 (9.51)	122.9 (8.85)	123.2 (9.33)	126.3 (10.23)
2% Low melting point wax	20	1420.6 (99.97)	1372.8 (85.86)	1397.9 (95.41)	1296.9 (72.51)	1285.4 (78.12)	1261.1 (73.34)	1277.9 (81.57)	1199.1 (68.40)	1215.2 (68.74)	1237.1 (80.52)

Means and standard deviations.

Table 17. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-90
0.002% High melting point wax	20	1.0 (0.22)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% High melting point wax	20	14.1 (0.83)	13.5 (0.69)	13.4 (0.83)	12.7 (0.92)	12.8 (0.79)	12.3 (0.72)	12.1 (0.81)	11.6 (0.76)	11.9 (0.67)	12.1 (0.79)
0.2% High melting point wax	20	141.9 (7.99)	135.5 (6.35)	134.6 (7.91)	128.8 (6.77)	126.9 (6.16)	123.7 (5.13)	122.2 (5.90)	119.1 (5.64)	120.0 (5.46)	120.2 (7.59)
2% High melting point wax	20	1486.4 (109.05)	1411.4 (86.68)	1387.6 (89.99)	1338.1 (84.25)	1353.3 (99.96)	1320.9 (93.82)	1302.1 (83.40)	1239.9 (75.22)	1225.1 (84.43)	1254.4 (83.89)
0.002% High sulphur wax	20	1.0 (0.22)	1.0 (0.00)	1.1 (0.31)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)	1.0 (0.00)
0.02% High sulphur wax	20	14.1 (0.75)	13.6 (0.75)	13.5 (0.76)	12.8 (0.77)	12.8 (0.72)	12.4 (0.49)	12.4 (0.51)	11.9 (0.59)	11.7 (0.80)	11.9 (0.79)
0.2% High sulphur wax	20	139.6 (8.46)	135.3 (8.12)	135.8 (9.55)	130.9 (8.24)	132.6 (9.90)	127.6 (10.16)	128.5 (8.04)	120.8 (7.36)	120.9 (9.17)	122.2 (9.42)
2% High sulphur wax	20	1448.5 (71.39)	1398.9 (67.98)	1355.8 (63.15)	1305.7 (67.24)	1317.0 (69.92)	1281.4 (71.92)	1277.2 (66.04)	1223.3 (58.48)	1227.1 (69.78)	1251.7 (68.51)
2% Coconut oil	20	1456.2 (113.54)	1417.3 (87.52)	1446.7 (118.97)	1336.7 (88.58)	1352.3 (105.68)	1298.7 (84.65)	1343.3 (100.89)	1241.3 (72.34)	1226.6 (73.59)	1222.8 (102.81)

Means and standard deviations.

Table 18. Calculated intakes (mg/kg/day) of male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0% Control	30	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	10	3180.8 (292.61)	2869.9 (257.04)	2722.1 (245.09)	2436.9 (240.23)	2381.0 (262.75)	2192.8 (259.78)	2174.0 (196.52)
2% White oil N70 (H)	10	3384.4 (174.86)	3001.7 (139.07)	2790.7 (112.26)	2472.1 (106.35)	2466.8 (99.47)	2326.4 (89.68)	2229.4 (97.21)
2% White oil N70 (A)	10	3329.2 (292.82)	2984.5 (226.72)	2890.7 (204.80)	2559.2 (181.91)	2508.7 (144.21)	2357.5 (126.55)	2304.4 (136.42)
2% White oil P15 (H)	10	3195.4 (222.58)	2824.4 (223.59)	2784.9 (262.09)	2485.5 (183.27)	2417.8 (164.80)	2312.7 (162.20)	2238.8 (166.00)
2% White oil N10 (A)	10	3384.2 (347.60)	3107.3 (293.14)	2863.1 (274.23)	2505.4 (243.15)	2404.2 (229.49)	2340.6 (204.18)	2258.3 (191.37)
2% White oil P100 (H)	10	3206.0 (230.74)	2989.2 (188.01)	2779.0 (159.13)	2490.1 (153.70)	2327.2 (119.46)	2301.9 (117.44)	2242.8 (123.05)
2% Low melting point wax	10	3268.3 (255.11)	2972.9 (207.44)	2782.4 (200.87)	2547.8 (191.33)	2472.2 (181.46)	2418.8 (173.21)	2246.9 (155.50)
2% High melting point wax	10	3430.4 (319.36)	3056.8 (297.55)	2772.3 (280.90)	2488.1 (267.31)	2382.7 (244.46)	2336.7 (222.31)	2232.6 (208.32)
2% High sulphur wax	10	3423.6 (285.87)	3156.8 (226.41)	2839.6 (216.59)	2489.2 (189.01)	2383.2 (156.31)	2359.7 (124.17)	2185.0 (114.62)
2% Coconut oil	10	3217.4 (211.66)	2859.9 (141.52)	2707.1 (122.31)	2368.4 (109.13)	2436.3 (161.90)	2305.6 (94.24)	2084.0 (83.24)

Means and standard deviations.

Table 18. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0% Control	30	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	10	1970.4 (164.33)	1893.8 (144.56)	1829.6 (139.15)	1782.4 (130.31)	1672.0 (116.10)	1619.1 (108.89)	1512.6 (95.59)	1521.7 (97.29)	1458.7 (89.68)
2% White oil N70 (H)	10	2091.4 (81.48)	2017.3 (71.29)	2032.8 (81.45)	1936.7 (66.45)	1805.9 (61.40)	1781.1 (71.52)	1617.0 (56.50)	1656.8 (76.00)	1547.4 (64.57)
2% White oil N70 (A)	10	2093.4 (135.64)	2187.7 (117.69)	1995.1 (101.97)	1854.9 (112.70)	1721.7 (96.00)	1704.7 (76.13)	1512.8 (81.05)	1605.1 (80.87)	1455.0 (65.95)
2% White oil P15 (H)	10	2074.1 (138.83)	2054.3 (135.87)	1936.1 (140.03)	1871.7 (148.57)	1761.7 (149.48)	1717.6 (117.33)	1592.9 (95.07)	1623.2 (138.90)	1475.0 (91.84)
2% White oil N10 (A)	10	2045.6 (155.61)	2008.5 (149.34)	1930.5 (142.13)	1853.5 (126.11)	1762.9[9] (126.78)	1697.8 (118.31)	1559.1 (104.37)	1597.7 (105.59)	1542.8 (100.07)
2% White oil P100 (H)	10	2067.8 (114.63)	2010.2 (119.67)	1907.9 (99.27)	1831.5 (98.62)	1753.6 (94.62)	1645.6 (90.28)	1478.2 (78.78)	1516.5 (84.73)	1449.4 (83.07)
2% Low melting point wax	10	2064.9 (142.09)	2073.6 (136.00)	1938.9 (128.58)	1869.2 (120.13)	1800.1 (113.26)	1705.5 (104.40)	1570.8 (102.45)	1569.5 (90.29)	1482.6 (82.25)
2% High melting point wax	10	2064.4 (172.20)	2045.4 (166.19)	1909.6 (130.63)	1833.2 (134.18)	1653.6 (107.80)	1635.2 (112.19)	1520.6 (90.51)	1500.5 (89.87)	1462.0 (84.48)
2% High sulphur wax	10	2101.2 (119.38)	2142.4 (94.13)	1980.1 (95.46)	1869.3 (69.95)	1724.3 (75.15)	1649.7 (50.55)	1535.1 (49.28)	1534.8 (42.84)	1480.5 (43.11)
2% Coconut oil	10	1944.4 (57.75)	1977.2 (60.43)	1882.1 (76.77)	1811.7 (124.11)	1631.3 (62.38)	1604.7 (80.75)	1469.6 (65.62)	1493.9 (62.27)	1443.3 (72.03)

Means and standard deviations.
Superscripts indicate the sample size (n) when it is different from that given.

Table 18. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	30	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	10	1479.5 (95.27)	1429.9 (82.25)	1396.7 (81.55)	1313.1 (74.19)	1376.5 (69.18)	1320.0 (69.77)	1239.4 (64.02)	1203.1 (60.24)	1288.8 (64.92)	1189.9 (55.84)
2% White oil N70 (H)	10	1572.9 (89.71)	1533.3 (59.99)	1481.9 (62.80)	1328.0 (49.42)	1371.7 (52.00)	1338.1 (56.81)	1339.8 (57.81)	1304.2 (57.72)	1288.5 (48.13)	1207.9 (49.03)
2% White oil N70 (A)	10	1498.0 (85.07)	1414.4 (68.98)	1419.5 (68.44)	1340.6 (64.16)	1442.3 (61.87)	1388.6 (73.49)	1322.1 (67.38)	1311.1 (73.71)	1308.0 (65.76)	1206.6 (60.07)
2% White oil P15 (H)	10	1537.4 (90.93)	1474.2 (94.22)	1465.0 (106.24)	1345.8 (105.57)	1406.1 (138.29)	1393.2 (111.16)	1369.7 (97.60)	1350.0 (88.48)	1286.2 (97.01)	1210.6 (74.66)
2% White oil N10 (A)	10	1489.5 (90.34)	1447.3 (93.94)	1412.5 (102.32)	1399.7 (92.21)	1329.1 (78.53)	1274.4 (77.97)	1369.4 (83.16)	1327.1 (77.89)	1275.9 (71.32)	1243.7 (65.86)
2% White oil P100 (H)	10	1448.0 (83.50)	1376.3 (77.64)	1344.3 (93.53)	1282.2 (75.55)	1295.3 (73.22)	1284.3 (69.86)	1316.0 (76.23)	1269.1 (65.44)	1219.8 (74.20)	1208.6 (69.56)
2% Low melting point wax	10	1482.6 (91.91)	1400.1 (73.95)	1350.8 (72.62)	1343.9 (70.32)	1358.6 (70.36)	1316.0 (63.05)	1347.7 (66.14)	1317.3 (72.17)	1273.6 (75.73)	1255.8 (82.37)
2% High melting point wax	10	1431.9 (88.20)	1353.2 (83.11)	1339.1 (84.42)	1327.5 (77.24)	1310.0 (77.24)	1257.8 (81.59)	1241.7 (97.64)	1202.2 (79.11)	1209.0 (70.91)	1184.2 (66.97)
2% High sulphur wax	10	1462.1 (44.71)	1429.1 (53.49)	1405.3 (26.50)	1351.7 (25.77)	1523.1 (129.66)	1288.8 (27.32)	1263.4 (29.62)	1218.0 (35.55)	1205.6 (31.65)	1168.2 (23.78)
2% Coconut oil	10	1436.6 (77.56)	1357.3 (60.31)	1385.9 (64.51)	1296.6 (54.81)	1342.8 (64.58)	1273.6 (56.68)	1309.5 (58.00)	1234.4 (51.44)	1189.9 (61.80)	1127.1 (50.42)

Means and standard deviations.

Table 19. Calculated intakes (mg/kg/day) of male rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	3398.0 (280.71)	3086.0 (225.41)	2782.2 (170.49)	2448.6 (117.76)	2399.4 (115.58)
2% White oil N70 (H)	5	3440.2 (163.05)	3075.4 (114.89)	2686.6 (93.63)	2472.0 (35.52)	2417.8 (25.79)
2% White oil N70 (A)	5	3537.4 (314.93)	3130.6 (229.37)	2835.8 (193.49)	2542.6 (185.65)	2469.0 (183.01)
2% White oil P15 (H)	5	3594.2 (417.24)	3264.2 (290.29)	3009.8 (226.28)	2590.2 (184.14)	2470.6 (151.48)
2% White oil N10 (A)	5	3538.4 (309.95)	3185.6 (319.23)	2802.0 (268.53)	2475.4 (245.30)	2256.0 (212.31)
2% White oil P100 (H)	5	3543.8 (233.41)	3073.4 (144.90)	2750.4 (140.54)	2458.4 (125.66)	2303.2 (125.16)
2% Low melting point wax	5	3569.8 (282.07)	3087.0 (229.17)	2763.4 (211.75)	2456.0 (192.30)	2353.6 (155.61)
2% High melting point wax	5	3619.8 (240.61)	3154.8 (233.23)	2881.6 (218.09)	2445.2 (198.55)	2462.4 (224.83)
2% High sulphur wax	5	3594.6 (419.65)	3180.2 (366.48)	2828.4 (318.80)	2539.0 (276.93)	2377.4 (247.21)
2% Coconut oil	5	3457.6 (322.64)	3102.2 (264.41)	2741.4 (221.31)	2359.8 (179.60)	2264.4 (168.77)

Means and standard deviations.

Table 19. (Continued).

Group	n	Study days 17-21	21-24	24-28	28-31	31-35	35-38	38-42
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	2273.4 (88.53)	2132.6 (88.27)	2006.4 (78.53)	1883.0 (66.27)	1832.4 (59.10)	1898.8 (61.96)	1747.6 (61.52)
2% White oil N70 (H)	5	2261.8 (18.20)	2187.8 (24.49)	2087.6 (24.85)	1970.6 (38.47)	1918.8 (34.46)	1835.4 (23.20)	1764.0 (46.56)
2% White oil N70 (A)	5	2323.6 (140.88)	2131.4 (124.28)	2040.8 (86.46)	1931.8 (82.65)	1911.8 (72.72)	1828.6 (73.61)	1763.6 (51.19)
2% White oil P15 (H)	5	2266.2 (129.90)	2189.0 (105.16)	2071.2 (95.40)	1964.0 (92.71)	1989.2 (101.90)	1867.6 (94.71)	1810.6 (98.90)
2% White oil N10 (A)	5	2160.4 (175.18)	2077.2 (159.80)	1918.0 (128.51)	1888.2 (129.63)	1757.6 (117.12)	1813.6 (115.36)	1679.2 (99.74)
2% White oil P100 (H)	5	2223.8 (126.96)	2207.0 (141.08)	2017.2 (141.88)	2024.6 (127.75)	1907.6 (105.33)	1840.0 (100.09)	1707.2 (87.31)
2% Low melting point wax	5	2177.2 (131.36)	2174.0 (123.02)	2003.6 (96.45)	2045.6 (92.12)	1853.4 (94.89)	1819.2 (105.46)	1666.6 (93.38)
2% High melting point wax	5	2221.4 (214.40)	2171.0 (189.23)	1919.8 (136.48)	1919.6 (141.90)	1826.6 (117.98)	1833.6 (115.50)	1666.2 (97.74)
2% High sulphur wax	5	2287.8 (239.76)	2254.4 (230.54)	2145.0 (217.65)	2004.8 (191.37)	1892.8 (172.50)	1871.4 (175.55)	1767.6 (178.71)
2% Coconut oil	5	2161.0 (141.69)	2103.6 (124.75)	1875.4 (106.80)	1894.0 (109.73)	1712.2 (86.77)	1725.2 (86.64)	1626.8 (77.33)

Means and standard deviations.

Table 19. (Continued).

Group	n	Study days 42-45	45-49	49-52	52-56	56-59	59-63	63-66
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	1723.8 (66.68)	1583.8 (61.80)	1517.8 (62.57)	1469.2 (60.73)	1457.0 (69.10)	1437.6 (63.16)	1496.4 (60.03)
2% White oil N70 (H)	5	1718.4 (35.50)	1692.6 (42.37)	1553.0 (27.97)	1539.4 (29.30)	1477.0 (29.31)	1489.4 (23.87)	1508.2 (19.20)
2% White oil N70 (A)	5	1724.2 (52.25)	1593.2 (46.64)	1608.8 (56.19)	1541.0 (44.26)	1575.6 (46.43)	1498.0 (44.89)	1505.6 (51.97)
2% White oil P15 (H)	5	1709.8 (98.10)	1618.8 (85.17)	1577.0 (78.81)	1437.0 (79.39)	1464.6 (76.60)	1378.8 (70.06)	1431.4 (71.97)
2% White oil N10 (A)	5	1601.2 (98.34)	1532.0 (95.89)	1543.8 (101.01)	1469.6 (94.04)	1482.6 (94.42)	1406.4 (93.44)	1386.8 (89.82)
2% White oil P100 (H)	5	1692.8 (86.42)	1532.0 (73.08)	1585.6 (86.85)	1475.2 (83.88)	1536.0 (83.37)	1467.0 (81.32)	1411.8 (79.04)
2% Low melting point wax	5	1676.6 (84.87)	1535.8 (78.38)	1526.4 (80.84)	1430.8 (74.13)	1405.0 (73.56)	1363.2 (71.57)	1382.2 (76.90)
2% High melting point wax	5	1580.2 (96.47)	1553.6 (86.20)	1578.0 (85.90)	1426.2 (82.31)	1397.0 (88.78)	1354.6 (72.80)	1368.0 (77.18)
2% High sulphur wax	5	1697.6 (160.37)	1584.0 (155.41)	1597.2 (151.46)	1450.4 (142.78)	1504.8 (151.68)	1445.8 (140.94)	1366.2 (141.69)
2% Coconut oil	5	1568.4 (79.23)	1485.8 (77.98)	1558.8 (82.60)	1340.8 (72.33)	1473.4 (89.19)	1433.0 (87.03)	1368.8 (82.03)

Means and standard deviations.

Table 19. (Continued).

Group	n	Study days 66-70	70-73	73-77	77-80	80-84	84-87	87-90
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	1356.2 (56.84)	1301.4 (49.09)	1290.8 (54.87)	1352.8 (56.29)	1261.6 (48.22)	1295.4 (55.71)	1339.6 (50.81)
2% White oil N70 (H)	5	1413.2 (25.30)	1421.6 (15.85)	1343.0 (19.65)	1379.8 (21.96)	1314.6 (9.63)	1407.2 (13.37)	1378.2 (7.16)
2% White oil N70 (A)	5	1417.6 (45.22)	1386.4 (47.85)	1313.0 (34.45)	1403.0 (41.87)	1286.8 (38.22)	1411.2 (37.46)	1383.6 (35.15)
2% White oil P15 (H)	5	1340.8 (76.61)	1351.2 (80.09)	1291.8 (76.00)	1362.2 (74.92)	1260.2 (75.57)	1312.8 (72.07)	1418.2 (83.08)
2% White oil N10 (A)	5	1350.0 (83.64)	1368.8 (82.93)	1323.6 (81.35)	1305.2 (75.90)	1244.4 (75.00)	1276.8 (74.95)	1285.4 (70.23)
2% White oil P100 (H)	5	1334.6 (79.63)	1380.8 (72.42)	1271.4 (75.76)	1318.4 (64.31)	1239.6 (64.55)	1293.0 (65.36)	1355.0 (74.39)
2% Low melting point wax	5	1302.0 (67.69)	1326.6 (68.03)	1275.6 (67.91)	1290.6 (70.48)	1192.0 (66.59)	1247.6 (69.13)	1299.6 (65.89)
2% High melting point wax	5	1316.6 (66.38)	1315.0 (73.56)	1232.2 (58.28)	1261.2 (65.24)	1178.4 (62.46)	1237.8 (58.80)	1283.6 (65.48)
2% High sulphur wax	5	1371.6 (142.72)	1362.4 (140.62)	1317.8 (136.49)	1293.0 (132.95)	1265.0 (130.77)	1299.6 (136.12)	1356.8 (135.95)
2% Coconut oil	5	1294.2 (73.48)	1256.0 (72.80)	1236.0 (70.52)	1284.6 (69.79)	1180.2 (65.58)	1281.4 (70.67)	1278.2 (75.06)

Means and standard deviations.

Table 20. Calculated intakes (mg/kg/day) of male rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	3421.6 (209.93)	2935.8 (138.94)	2666.4 (95.76)	2433.4 (93.59)	2224.0 (92.29)	2101.8 (103.76)	2143.8 (108.42)
2% White oil N70 (H)	5	3518.2 (215.10)	3199.8 (217.88)	2881.2 (149.41)	2538.4 (158.47)	2430.4 (178.10)	2261.2 (171.83)	2197.0 (154.42)
2% White oil N70 (A)	5	3561.6 (301.61)	3188.4 (232.18)	2849.4 (227.06)	2500.4 (200.63)	2376.8 (165.53)	2196.4 (139.40)	2202.4 (121.84)
2% White oil P15 (H)	5	3644.2 (163.13)	3273.8 (126.72)	2882.4 (95.24)	2559.8 (82.62)	2411.2 (71.51)	2267.0 (53.69)	2199.6 (36.41)
2% White oil N10 (A)	5	3337.6 (266.96)	3049.2 (216.34)	2714.2 (213.17)	2395.4 (146.83)	2265.8 (125.57)	2116.4 (86.36)	2064.0 (89.10)
2% White oil P100 (H)	5	3513.6 (288.87)	3038.0 (215.09)	2678.6 (193.74)	2375.6 (173.67)	2297.8 (172.57)	2157.8 (157.22)	2144.8 (146.55)
2% Low melting point wax	5	3458.8 (300.89)	3364.6 (329.44)	2846.4 (270.43)	2477.4 (245.53)	2367.6 (240.04)	2278.2 (224.07)	2209.6 (213.45)
2% High melting point wax	5	3575.0 (268.88)	3108.0 (193.12)	2767.8 (137.37)	2490.8 (110.16)	2386.4 (76.09)	2200.8 (55.79)	2152.2 (52.21)
2% High sulphur wax	5	3679.8 (301.56)	3082.6 (253.71)	2751.8 (231.38)	2463.0 (222.69)	2397.0 (208.46)	2322.2 (227.74)	2287.8 (209.84)
2% Coconut oil	5	3461.8 (275.45)	3000.0 (205.19)	2844.4 (185.96)	2493.8 (167.51)	2310.2 (155.38)	2229.4 (140.01)	2124.2 (135.21)

Means and standard deviations.

Table 20. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0% Control	5	0.0 (0.00)	0.0[4] (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	1979.0 (105.19)	1790.2 (80.36)	1819.8 (78.07)	1852.2 (70.22)	1753.4 (64.89)	1695.8 (69.22)	1570.8 (64.98)	1468.6 (64.38)	1402.2 (66.59)
2% White oil N70 (H)	5	2143.2 (141.98)	2024.8 (130.94)	1962.8 (115.83)	1870.8 (108.96)	1799.0 (91.69)	1727.2 (90.71)	1596.4 (79.38)	1687.4 (83.61)	1578.2 (78.38)
2% White oil N70 (A)	5	2082.8 (106.04)	1851.6 (91.25)	1844.0 (87.41)	1719.0 (78.60)	1695.8 (75.87)	1730.6 (76.70)	1613.4 (73.15)	1569.6 (63.72)	1492.0 (67.41)
2% White oil P15 (H)	5	2080.2 (67.54)	1883.8 (53.36)	1919.4 (64.91)	1850.2 (71.25)	1763.2 (73.42)	1784.2 (74.13)	1704.0 (76.19)	1569.2 (71.03)	1513.4 (70.89)
2% White oil N10 (A)	5	1882.6 (104.88)	1791.2 (93.70)	1673.0 (87.25)	1693.2 (92.25)	1660.4 (91.21)	1638.0 (93.17)	1514.8 (73.52)	1436.6 (77.69)	1388.0 (56.75)
2% White oil P100 (H)	5	1928.6 (119.47)	1916.4 (108.49)	1843.8 (102.41)	1873.4 (109.70)	1789.8 (105.28)	1713.6 (100.61)	1586.8 (93.54)	1544.8 (94.68)	1428.0 (98.23)
2% Low melting point wax	5	1952.0 (181.40)	1791.0 (159.66)	1731.0 (150.33)	1740.2 (137.27)	1667.4 (122.06)	1693.8 (132.47)	1573.8 (120.56)	1517.8 (115.43)	1421.4 (105.25)
2% High melting point wax	5	1960.0 (43.72)	1894.6 (54.67)	1805.6 (60.95)	1825.0 (60.95)	1767.6 (79.66)	1708.0 (79.87)	1573.6 (74.79)	1549.6 (72.61)	1384.2 (65.03)
2% High sulphur wax	5	2051.6 (168.34)	1964.8 (161.21)	1851.4 (161.76)	1932.4 (160.42)	1902.0 (157.25)	1773.6 (140.97)	1606.0 (136.25)	1557.6 (131.39)	1427.0 (124.03)
2% Coconut oil	5	1965.0 (122.58)	1859.6 (115.59)	1778.4 (108.01)	1659.0 (104.83)	1608.4 (100.33)	1606.4 (98.37)	1498.0 (85.93)	1491.4 (95.37)	1420.0 (96.63)

Means and standard deviations.
Superscripts indicate the sample size (n) when it is different from that given.

Table 20. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	1446.0 (66.84)	1403.4 (59.58)	1472.0 (66.31)	1354.8 (62.97)	1333.4 (60.66)	1276.2 (53.90)	1289.2 (54.82)	1245.4 (48.86)	1270.8 (52.66)	1230.0 (58.43)
2% White oil N70 (H)	5	1546.8 (77.21)	1550.8 (72.34)	1646.2 (86.07)	1441.8 (71.15)	1433.8 (76.02)	1314.0 (64.25)	1407.2 (73.85)	1279.6 (65.16)	1336.8 (75.30)	1297.4 (72.60)
2% White oil N70 (A)	5	1576.0 (63.38)	1487.4 (57.56)	1475.8 (58.54)	1352.8 (50.15)	1383.2 (52.21)	1315.8 (52.95)	1367.6 (50.19)	1253.6 (44.60)	1311.4 (46.22)	1213.0 (51.40)
2% White oil P15 (H)	5	1520.2 (75.55)	1469.6 (67.92)	1494.0 (70.49)	1430.2 (69.97)	1417.6 (68.68)	1347.0 (62.63)	1379.2 (64.97)	1305.8 (57.69)	1345.4 (60.46)	1323.2 (58.78)
2% White oil N10 (A)	5	1404.2 (66.32)	1387.4 (74.50)	1399.6 (78.42)	1309.2 (57.71)	1339.8 (69.07)	1286.2 (73.63)	1293.8 (64.31)	1239.8 (61.65)	1270.6 (62.48)	1245.8 (68.44)
2% White oil P100 (H)	5	1412.6 (94.32)	1359.4 (88.68)	1372.2 (88.19)	1319.8 (82.18)	1332.8 (82.18)	1224.0 (77.13)	1311.8 (84.46)	1257.4 (81.07)	1239.4 (74.03)	1228.6 (76.47)
2% Low melting point wax	5	1443.0 (108.92)	1390.4 (108.19)	1388.2 (108.76)	1346.2 (104.66)	1347.4 (105.69)	1277.0 (108.25)	1248.8 (97.21)	1214.6 (94.66)	1262.6 (94.40)	1199.8 (90.58)
2% High melting point wax	5	1431.4 (59.32)	1367.4 (57.70)	1359.8 (66.25)	1319.4 (59.69)	1329.4 (69.50)	1241.8 (68.57)	1255.0 (67.40)	1213.6 (66.57)	1239.6 (71.17)	1165.8 (64.84)
2% High sulphur wax	5	1485.0 (123.26)	1419.8 (124.34)	1412.2 (118.50)	1363.8 (121.03)	1402.6 (119.32)	1275.6 (114.62)	1279.0 (115.86)	1213.0 (113.44)	1253.8 (118.12)	1230.0 (112.71)
2% Coconut oil	5	1455.6 (96.27)	1355.6 (90.24)	1332.8 (90.77)	1277.8 (84.32)	1243.8 (86.70)	1263.8 (85.53)	1312.2 (86.52)	1254.4 (83.19)	1220.0 (79.65)	1206.8 (72.48)

Means and standard deviations.

Table 21. Calculated intakes (mg/kg/day) of female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0% Control	60	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
0.002% White oil N15 (H)	20	3.0 (0.22)	2.8 (0.37)	2.5 (0.51)	2.2 (0.37)	2.0 (0.22)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N15 (H)	20	27.4 (2.06)	25.6 (1.42)	24.6 (1.35)	23.9 (1.21)	22.8 (1.21)	22.3 (1.29)	21.2 (1.47)
0.2% White oil N15 (H)	20	272.5 (15.51)	257.9 (16.13)	241.5 (14.66)	232.9 (13.21)	223.8 (14.01)	213.8 (12.29)	204.8 (15.07)
2% White oil N15 (H)	20	2690.0 (154.04)	2524.7 (130.83)	2474.8 (138.16)	2345.1 (122.90)	2299.6 (97.30)	2223.9 (115.17)	2129.0 (127.27)
0.002% White oil N70 (H)	20	2.9 (0.31)	3.0 (0.22)	2.6 (0.50)	2.1 (0.31)	2.0 (0.22)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N70 (H)	20	27.5 (1.57)	25.8 (1.29)	24.5 (1.28)	23.2 (1.15)	22.2 (1.01)	21.7 (1.03)	20.9 (1.62)
0.2% White oil N70 (H)	20	277.3 (19.13)	258.6 (15.68)	249.3 (13.46)	236.8 (17.83)	235.4 (15.62)	221.6 (13.26)	216.2 (16.34)
2% White oil N70 (H)	20	2670.1 (198.99)	2525.8 (160.81)	2531.9 (204.29)	2407.4 (143.56)	2336.7 (120.63)	2227.9 (113.08)	2194.4 (109.19)
0.002% White oil N70 (A)	20	2.9 (0.31)	2.6 (0.50)	2.3 (0.47)	2.3 (0.44)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N70 (A)	20	27.3 (1.83)	25.3 (1.78)	24.6 (1.95)	23.5 (1.93)	23.2 (1.47)	21.4 (1.54)	20.6 (1.53)
0.2% White oil N70 (A)	20	270.3 (16.86)	258.0 (16.75)	246.3 (13.67)	234.4 (11.94)	225.9 (11.01)	220.2 (12.25)	210.6 (9.45)
2% White oil N70 (A)	20	2831.6 (158.45)	2640.0 (124.62)	2536.1 (117.31)	2474.9 (155.91)	2438.6 (110.09)	2279.1 (115.11)	2312.4 (137.56)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0.002% White oil P15 (H)	20	2.9 (0.31)	2.7 (0.49)	2.5 (0.51)	2.1 (0.31)	2.0 (0.22)	2.0 (0.00)	2.0 (0.00)
0.02% White oil P15 (H)	20	27.5 (1.28)	25.1 (1.09)	24.4 (1.31)	23.2 (0.95)	22.8 (1.12)	21.9 (1.27)	21.1 (1.23)
0.2% White oil P15 (H)	20	276.6 (15.98)	258.3 (14.02)	242.5 (12.00)	236.1 (16.46)	223.6 (13.10)	215.6 (12.08)	209.4 (15.22)
2% White oil P15 (H)	20	2736.6 (180.58)	2599.6 (147.08)	2468.1 (192.43)	2364.9 (143.66)	2276.8 (124.71)	2240.7 (138.96)	2127.4 (139.20)
0.002% White oil N10 (A)	20	3.0 (0.22)	2.8 (0.41)	2.5 (0.51)	2.2 (0.41)	2.2 (0.37)	2.0 (0.22)	2.0 (0.00)
0.02% White oil N10 (A)	20	27.4 (1.73)	25.9 (1.41)	24.8 (1.25)	23.5 (1.36)	22.3 (1.03)	21.0 (1.00)	20.6 (0.93)
0.2% White oil N10 (A)	20	264.4 (15.07)	248.4 (12.72)	235.1 (16.24)	228.1 (17.63)	218.0 (11.25)	210.3 (12.06)	197.6 (9.09)
2% White oil N10 (A)	20	2670.7 (112.12)	2514.1 (102.82)	2445.9 (117.04)	2340.7 (132.62)	2286.1 (84.23)	2223.3 (76.53)	2154.1 (132.50)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0.002% White oil P100 (H)	20	2.9 (0.31)	2.5 (0.51)	2.3 (0.49)	2.0 (0.00)	2.0 (0.22)	2.0 (0.00)	2.0 (0.00)
0.02% White oil P100 (H)	20	27.6 (1.90)	26.4 (1.39)	24.0 (1.57)	23.6 (1.14)	22.5 (1.19)	21.4 (1.64)	20.8 (1.40)
0.2% White oil P100 (H)	20	272.0 (17.31)	251.3 (15.62)	243.8 (11.83)	231.6 (14.90)	227.6 (11.77)	214.3 (12.95)	211.7 (11.20)
2% White oil P100 (H)	20	2641.1 (170.38)	2651.0 (146.99)	2493.1 (160.11)	2391.4 (160.81)	2301.7 (139.71)	2247.1 (122.15)	2210.9 (149.82)
0.002% Low melting point wax	20	2.8 (0.41)	2.7 (0.47)	2.4 (0.50)	2.2 (0.37)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)
0.02% Low melting point wax	20	26.9 (1.18)	25.3 (1.26)	24.0 (1.00)	22.9 (0.97)	22.5 (1.05)	21.3 (0.97)	20.5 (1.28)
0.2% Low melting point wax	20	271.8 (16.70)	253.4 (16.70)	247.1 (16.36)	232.4 (15.47)	228.4 (12.50)	217.7 (10.76)	214.3 (13.14)
2% Low melting point wax	20	2767.9 (149.89)	2492.6 (145.25)	2476.9 (150.43)	2360.9 (120.12)	2059.1 (357.42)	2149.2 (121.94)	2096.9 (114.60)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0.002% High melting point wax	20	2.8 (0.41)	2.6 (0.50)	2.5 (0.51)	2.2 (0.37)	2.1 (0.31)	2.0 (0.00)	2.0 (0.00)
0.02% High melting point wax	20	27.3 (1.94)	25.6 (1.57)	24.6 (1.70)	24.2 (1.82)	23.4 (1.60)	21.9 (1.42)	21.3 (1.07)
0.2% High melting point wax	20	267.8 (15.04)	250.3 (12.40)	249.4 (15.90)	235.9 (12.44)	226.4 (11.13)	221.2 (10.19)	219.6 (12.84)
2% High melting point wax	20	2728.4 (200.10)	2613.6 (146.62)	2554.1 (173.08)	2436.9 (156.04)	2347.9 (133.65)	2218.0 (132.40)	2179.3 (138.20)
0.002% High sulphur wax	20	2.9 (0.31)	2.5 (0.51)	2.4 (0.50)	2.2 (0.37)	2.1 (0.31)	2.0 (0.22)	2.0 (0.00)
0.02% High sulphur wax	20	26.7 (2.15)	25.4 (1.82)	24.5 (2.33)	23.3 (1.45)	22.8 (1.33)	21.8 (1.40)	20.9 (1.12)
0.2% High sulphur wax	20	276.3 (15.31)	260.8 (11.49)	251.9 (13.54)	237.0 (10.33)	228.6 (10.38)	219.9 (11.05)	213.8 (10.52)
2% High sulphur wax	20	2813.4 (194.51)	2616.5 (156.01)	2500.1 (158.15)	2435.3 (152.89)	2367.6 (117.04)	2244.0 (109.64)	2244.0 (104.03)
2% Coconut oil	20	2748.5 (137.97)	2562.9 (148.70)	2433.4 (142.98)	2352.6 (139.96)	2320.3 (109.21)	2195.3 (101.47)	2147.4 (139.40)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0% Control	60	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
0.002% White oil N15 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N15 (H)	20	20.9 (1.68)	20.6 (1.14)	19.8 (1.06)	19.5 (1.10)	19.4 (1.50)	18.8 (0.77)	18.0 (0.94)	17.7 (1.17)	18.1 (0.93)
0.2% White oil N15 (H)	20	199.3 (12.20)	193.9 (12.43)	191.5 (12.09)	186.7 (10.75)	184.8 (13.47)	179.6 (10.91)	173.1 (12.94)	175.1 (17.20)	175.4 (13.21)
2% White oil N15 (H)	20	2130.8 (120.51)	2082.1 (97.23)	1999.2 (97.78)	1932.8 (103.81)	1911.3 (122.17)	1850.2 (102.25)	1806.5 (81.84)	1784.3 (95.01)	1785.5 (95.92)
0.002% White oil N70 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N70 (H)	20	21.4 (1.43)	19.9 (0.88)	19.4 (0.94)	19.1 (0.88)	18.7 (1.42)	18.3 (0.98)	17.9 (1.09)	17.1 (1.21)	17.5 (0.83)
0.2% White oil N70 (H)	20	209.3 (12.97)	203.3 (11.99)	198.2 (12.62)	188.6 (13.99)	189.4 (10.36)	184.8 (10.46)	179.5 (12.52)	176.4 (11.49)	176.6 (9.87)
2% White oil N70 (H)	20	2073.1 (117.56)	2042.4 (114.02)	2000.9 (103.95)	1951.2 (98.23)	1902.6 (125.22)	1895.1 (92.51)	2125.1 (507.18)	1816.1 (116.93)	1814.8 (103.94)
0.002% White oil N70 (A)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	2.0 (0.00)
0.02% White oil N70 (A)	20	20.2 (1.24)	19.2 (1.36)	19.3 (1.17)	18.5 (1.15)	18.0 (1.10)	17.8 (0.95)	17.1 (0.81)	17.0 (1.12)	16.8 (1.37)
0.2% White oil N70 (A)	20	205.5 (10.76)	193.1 (9.97)	193.3 (7.60)	188.4 (7.21)	185.0 (8.66)	177.6 (7.16)	170.4 (7.97)	165.3 (10.68)	166.1 (9.77)
2% White oil N70 (A)	20	2184.4 (130.14)	2117.9 (97.54)	2075.5 (105.54)	2033.6 (107.85)	2007.2 (131.86)	1928.3 (91.95)	1869.3 (76.45)	1863.9 (109.46)	1870.2 (72.82)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0.002% White oil P15 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	2.0 (0.00)
0.02% White oil P15 (H)	20	20.5 (1.15)	19.8 (1.02)	19.5 (0.89)	19.0 (0.83)	18.7 (1.13)	18.0 (0.89)	17.6 (0.60)	17.3 (1.12)	17.3 (1.02)
0.2% White oil P15 (H)	20	201.9 (14.78)	198.6 (12.30)	195.9 (10.83)	186.9 (12.70)	187.9 (16.25)	178.6 (11.71)	170.1 (10.71)	168.1 (12.43)	166.2 (10.74)
2% White oil P15 (H)	20	2075.1 (119.37)	2046.6 (112.16)	1967.3 (108.45)	1890.4 (110.82)	1928.4 (127.78)	1878.7 (109.37)	1793.8 (120.31)	1791.5 (112.86)	1821.6 (96.70)
0.002% White oil N10 (A)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)
0.02% White oil N10 (A)	20	20.3 (1.16)	19.6 (1.19)	19.0 (1.15)	18.8 (0.97)	17.8 (1.01)	17.6 (0.94)	17.5 (1.15)	17.0 (1.10)	16.8 (0.97)
0.2% White oil N10 (A)	20	194.6 (10.38)	195.0 (7.60)	190.2 (8.00)	185.4 (7.45)	176.7 (7.49)	173.2 (10.36)	172.3 (10.47)	164.4 (12.19)	161.7 (8.02)
2% White oil N10 (A)	20	2053.1 (150.37)	1992.6 (103.31)	1946.5 (126.93)	1906.8 (123.28)	1874.8 (69.83)	1778.8 (75.82)	1820.1 (61.48)	1713.9 (61.67)	1719.9 (72.60)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0.002% White oil P100 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)
0.02% White oil P100 (H)	20	20.2 (1.15)	19.6 (1.39)	19.7 (0.98)	19.3 (1.16)	18.5 (1.10)	17.9 (1.23)	17.9 (0.99)	17.1 (1.14)	16.9 (0.91)
0.2% White oil P100 (H)	20	204.4 (11.42)	196.9 (10.31)	190.6 (8.71)	187.0 (9.70)	178.7 (13.25)	175.6 (14.68)	172.8 (8.41)	168.4 (9.43)	165.6 (8.68)
2% White oil P100 (H)	20	2135.5 (132.53)	2101.8 (135.15)	2051.1 (132.92)	1931.7 (98.07)	1879.8 (108.29)	1888.8 (95.81)	1819.8 (104.39)	1794.5 (109.63)	1763.4 (94.40)
0.002% Low melting point wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	2.0 (0.00)
0.02% Low melting point wax	20	20.4 (1.05)	19.8 (1.02)	19.5 (1.10)	19.0 (0.89)	18.5 (1.00)	18.0 (0.94)	17.9 (0.99)	17.0 (1.19)	17.1 (0.91)
0.2% Low melting point wax	20	208.3 (9.09)	203.1 (12.42)	196.3 (9.53)	189.4 (10.10)	187.7 (8.34)	182.9 (7.59)	175.9 (7.84)	171.9 (8.06)	170.4 (8.55)
2% Low melting point wax	20	2013.1 (104.96)	1994.1 (112.58)	1926.0 (108.63)	1832.1 (90.81)	1780.6 (83.49)	1791.0 (87.56)	1786.0 (90.14)	1710.3 (125.06)	1682.8 (92.49)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0.002% High melting point wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.9 (0.31)	2.0 (0.00)
0.02% High melting point wax	20	21.0 (1.12)	20.8 (1.12)	19.3 (1.26)	19.6 (1.19)	18.5 (0.89)	18.2 (1.01)	18.1 (0.93)	17.6 (0.94)	17.2 (1.11)
0.2% High melting point wax	20	203.3 (11.68)	206.2 (14.30)	193.9 (12.22)	194.0 (10.18)	188.1 (11.50)	184.8 (11.84)	177.7 (9.62)	173.9 (11.39)	172.6 (9.00)
2% High melting point wax	20	2145.6 (122.71)	2084.6 (120.08)	2041.5 (105.95)	1968.4 (122.11)	1907.1 (119.95)	1869.8 (97.62)	1851.7 (77.31)	1795.6 (121.62)	1802.2 (86.04)
0.002% High sulphur wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.22)	1.9 (0.31)
0.02% High sulphur wax	20	20.0 (0.83)	19.7 (0.92)	18.9 (1.14)	19.0 (1.00)	18.3 (0.85)	17.4 (0.93)	17.3 (0.91)	17.3 (1.08)	17.0 (1.19)
0.2% High sulphur wax	20	203.8 (10.08)	196.7 (10.59)	194.9 (11.52)	190.8 (8.16)	183.4 (9.73)	182.4 (11.53)	172.8 (6.91)	174.7 (8.72)	169.4 (7.66)
2% High sulphur wax	20	2153.6 (94.19)	2048.6 (118.24)	2011.3[15] (140.30)	1958.8 (88.41)	1909.8 (98.65)	1833.9 (83.38)	1799.1 (99.65)	1769.9 (143.29)	1760.2 (113.33)
2% Coconut oil	20	2064.0 (137.15)	2059.4 (101.05)	1991.1 (156.87)	1922.5 (110.88)	1867.2 (116.64)	1824.4 (95.71)	1746.9 (105.88)	1726.9 (109.61)	1723.2 (104.17)

Means and standard deviations.
Superscripts indicate the sample size (n) when it is different from that given.

Table 21. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	60	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
0.002% White oil N15 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.9 (0.37)	1.8 (0.41)	1.8 (0.44)	1.8 (0.44)	1.6 (0.49)	1.6 (0.50)
0.02% White oil N15 (H)	20	17.3 (0.92)	17.1 (0.93)	17.0 (0.89)	16.5 (0.60)	16.1 (0.97)	15.9 (0.79)	15.8 (1.20)	15.1 (0.83)	15.9 (0.83)	15.8 (1.06)
0.2% White oil N15 (H)	20	172.0 (16.24)	163.8 (13.73)	161.8 (9.90)	159.5 (10.28)	157.5 (11.75)	151.0 (11.36)	159.4 (10.88)	150.0 (11.68)	149.6 (12.06)	150.4 (10.44)
2% White oil N15 (H)	20	1816.8 (112.60)	1732.3 (98.59)	1714.6 (78.48)	1681.8 (74.96)	1632.3 (163.49)	1615.6 (96.18)	1677.7 (89.82)	1593.1 (106.11)	1597.4 (91.09)	1559.6 (79.02)
0.002% White oil N70 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.9 (0.37)	1.8 (0.41)	1.8 (0.44)	1.5 (0.51)	1.5 (0.51)	1.4 (0.50)
0.02% White oil N70 (H)	20	17.4 (1.43)	16.8 (0.85)	16.6 (0.94)	16.1 (0.81)	15.9 (1.39)	15.9 (1.14)	15.6 (1.19)	15.0 (0.86)	14.9 (0.94)	15.1 (0.75)
0.2% White oil N70 (H)	20	174.1 (12.71)	167.1 (10.89)	171.6 (10.44)	167.7 (9.21)	161.7 (13.00)	157.9 (9.87)	163.6 (11.25)	153.4 (8.13)	157.1 (11.36)	157.8 (8.72)
2% White oil N70 (H)	20	1854.2 (136.08)	1713.0 (111.70)	1736.9 (105.61)	1663.9 (91.28)	1658.2 (110.04)	1659.3 (73.07)	1624.1 (103.06)	1567.3 (92.73)	1587.1 (82.85)	1565.7 (113.94)
0.002% White oil N70 (A)	20	2.0 (0.00)	1.9 (0.31)	2.0 (0.22)	1.9 (0.31)	1.8 (0.41)	1.8 (0.44)	1.8 (0.41)	1.6 (0.50)	1.6 (0.50)	1.5 (0.51)
0.02% White oil N70 (A)	20	16.2 (1.20)	15.9 (1.07)	16.2 (1.06)	15.9 (1.02)	15.4 (1.04)	15.2 (0.83)	14.4 (1.57)	14.9 (0.85)	15.2 (1.20)	14.8 (0.70)
0.2% White oil N70 (A)	20	169.6 (12.89)	162.6 (10.02)	167.1 (8.89)	163.3 (6.57)	156.5 (11.41)	155.3 (7.20)	154.9 (9.35)	148.6 (7.93)	150.4 (10.92)	148.3 (5.58)
2% White oil N70 (A)	20	1839.7 (100.11)	1747.3 (76.49)	1840.3 (97.34)	1778.6 (92.95)	1671.8 (141.00)	1677.9 (81.05)	1734.3 (100.64)	1639.4 (89.42)	1608.9 (73.75)	1638.7 (91.00)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0.002% White oil P15 (H)	20	2.0 (0.22)	1.9 (0.31)	2.0 (0.22)	1.9 (0.37)	1.8 (0.44)	1.6 (0.50)	1.7 (0.47)	1.5 (0.51)	1.5 (0.51)	1.4 (0.49)
0.02% White oil P15 (H)	20	17.9 (0.91)	16.6 (0.88)	16.7 (1.03)	16.0 (0.86)	15.9 (0.91)	15.4 (0.69)	15.4 (0.75)	14.9 (0.69)	15.3 (0.80)	14.6 (0.69)
0.2% White oil P15 (H)	20	166.8 (14.06)	162.6 (12.43)	165.2 (13.45)	159.6 (9.98)	152.9 (11.47)	155.3 (9.67)	152.1 (9.20)	148.4 (10.48)	150.9 (10.94)	149.4 (12.68)
2% White oil P15 (H)	20	1764.9 (116.33)	1707.8 (100.10)	1732.5 (108.66)	1693.5 (93.03)	1654.8 (111.07)	1669.2 (105.07)	1662.3 (118.81)	1602.9 (113.50)	1646.3 (120.85)	1600.6 (121.14)
0.002% White oil N10 (A)	20	2.0 (0.22)	2.0 (0.00)	2.0 (0.22)	1.9 (0.31)	2.0 (0.00)	2.0 (0.22)	1.9 (0.31)	1.7 (0.47)	1.7 (0.47)	1.8 (0.44)
0.02% White oil N10 (A)	20	16.8 (0.79)	16.3 (0.73)	16.0 (1.17)	15.6 (1.18)	15.4 (1.32)	14.9 (0.89)	15.0 (0.97)	14.5 (1.05)	14.4 (0.93)	14.8 (1.01)
0.2% White oil N10 (A)	20	162.2 (7.33)	159.7 (6.66)	158.8 (8.31)	154.1 (9.55)	158.3 (11.13)	151.6 (5.65)	152.4 (7.62)	147.8 (6.93)	148.9 (6.67)	147.6 (7.37)
2% White oil N10 (A)	20	1736.7 (125.13)	1724.6 (76.63)	1689.5 (74.83)	1643.6 (69.91)	1664.6 (72.88)	1580.1 (63.28)	1613.1 (45.74)	1551.6 (64.10)	1543.8 (44.07)	1571.2 (40.62)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0.002% White oil P100 (H)	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.8 (0.41)	1.8 (0.41)	1.5 (0.51)	1.6 (0.49)	1.5 (0.51)	1.5 (0.51)	1.3 (0.47)
0.02% White oil P100 (H)	20	17.0 (1.59)	16.7 (1.49)	16.7 (0.73)	16.5 (1.32)	16.0 (1.00)	15.6 (0.88)	15.7 (1.13)	15.1 (0.99)	15.1 (0.83)	15.4 (0.67)
0.2% White oil P100 (H)	20	168.4 (8.94)	159.2 (8.53)	162.4 (8.08)	156.1 (7.16)	156.7 (8.35)	152.8 (7.11)	155.9 (8.70)	146.2 (7.87)	146.1 (9.50)	148.4 (8.77)
2% White oil P100 (H)	20	1800.5 (107.28)	1739.8 (86.78)	1737.8 (120.12)	1652.8 (122.67)	1627.3 (104.48)	1609.4 (81.70)	1615.3 (102.31)	1548.6 (122.52)	1550.5 (96.88)	1538.8 (81.81)
0.002% Low melting point wax	20	2.0 (0.00)	2.0 (0.00)	2.0 (0.00)	1.9 (0.31)	1.8 (0.44)	1.8 (0.41)	1.8 (0.41)	1.8 (0.44)	1.5 (0.51)	1.5 (0.51)
0.02% Low melting point wax	20	17.2 (1.06)	16.9 (0.79)	16.5 (0.83)	16.1 (0.91)	15.9 (1.07)	15.4 (1.10)	15.4 (1.05)	15.3 (0.64)	15.1 (1.10)	14.9 (0.85)
0.2% Low melting point wax	20	173.4 (10.72)	169.6 (8.26)	172.6 (8.25)	164.6 (7.67)	161.6 (9.35)	159.1 (7.81)	157.7 (10.23)	153.1 (7.48)	156.9 (7.70)	154.8 (8.05)
2% Low melting point wax	20	1698.5 (102.52)	1670.3 (93.86)	1654.1 (97.54)	1565.8 (85.31)	1595.8 (107.69)	1514.1 (76.38)	1515.1 (95.12)	1492.7 (104.64)	1475.2 (71.52)	1493.1 (75.86)

Means and standard deviations.

Table 21. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0.002% High melting point wax	20	1.9 (0.31)	2.0 (0.22)	2.0 (0.22)	1.7 (0.47)	1.8 (0.41)	1.8 (0.44)	1.6 (0.49)	1.5 (0.51)	1.5 (0.51)	1.1 (0.37)
0.02% High melting point wax	20	17.1 (0.91)	16.9 (0.75)	16.5 (0.94)	16.0 (0.94)	15.9 (1.29)	15.6 (0.94)	16.1 (1.07)	15.1 (0.81)	14.7 (1.17)	15.1 (0.79)
0.2% High melting point wax	20	170.3 (13.85)	166.4 (10.00)	167.6 (9.26)	159.8 (8.73)	153.6 (10.64)	153.9 (8.34)	157.6 (10.68)	153.2 (9.35)	152.2 (8.82)	151.0 (8.45)
2% High melting point wax	20	1752.0 (98.47)	1687.8 (68.40)	1736.0 (80.85)	1660.8 (81.71)	1611.2 (84.32)	1609.1 (75.77)	1617.8 (74.51)	1555.8 (68.64)	1470.8 (65.75)	1516.9 (72.04)
0.002% High sulphur wax	20	2.0 (0.22)	2.0 (0.22)	2.0 (0.22)	1.7 (0.47)	1.8 (0.41)	1.5 (0.51)	1.5 (0.51)	1.4 (0.49)	1.4 (0.50)	1.5 (0.51)
0.02% High sulphur wax	20	16.9 (1.09)	16.5 (0.83)	16.4 (0.94)	15.5 (1.05)	16.1 (0.81)	15.0 (0.92)	15.2 (1.24)	14.9 (1.02)	14.7 (0.73)	14.3 (0.80)
0.2% High sulphur wax	20	169.1 (8.09)	165.1 (9.81)	171.3 (12.77)	164.6 (10.47)	159.2 (7.72)	154.1 (6.78)	159.6 (9.67)	154.4 (7.21)	154.1 (11.80)	154.0 (6.73)
2% High sulphur wax	20	1775.7 (148.42)	1698.3 (97.05)	1726.8 (105.19)	1665.7 (161.07)	1612.3 (129.59)	1562.2 (105.01)	1633.3 (95.47)	1551.4 (120.09)	1542.7 (80.29)	1564.4 (64.56)
2% Coconut oil	20	1726.9 (88.54)	1708.8 (96.00)	1743.6 (122.47)	1655.8 (97.54)	1674.1 (96.12)	1595.8 (100.77)	1617.3 (134.71)	1538.3 (109.74)	1510.4 (95.62)	1526.7 (100.21)

Means and standard deviations.

Table 22. Calculated intakes (mg/kg/day) of female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0% Control	30	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	10	2601.2 (148.19)	2633.6 (130.89)	2411.8 (166.03)	2438.9 (138.43)	2391.5 (183.88)	2195.5 (104.59)	2165.6 (99.16)
2% White oil N70 (H)	10	2660.4 (131.57)	2719.0 (147.33)	2556.5 (102.25)	2534.4 (101.36)	2408.6 (117.16)	2278.1 (91.24)	2276.6 (110.57)
2% White oil N70 (A)	10	2701.4 (105.75)	2564.4 (110.61)	2421.3 (103.30)	2448.7 (109.95)	2346.0 (117.55)	2178.4 (126.78)	2305.0 (138.81)
2% White oil P15 (H)	10	2531.0 (186.35)	2506.4 (182.51)	2323.5 (175.75)	2363.4 (169.29)	2342.4 (172.10)	2176.5 (146.12)	2171.0 (130.05)
2% White oil N10 (A)	10	2493.8 (169.22)	2520.3 (158.33)	2439.5 (152.20)	2520.9 (143.70)	2332.6 (130.63)	2187.2 (103.64)	2145.1 (171.04)
2% White oil P100 (H)	10	2643.6 (270.44)	2572.8 (186.52)	2559.0 (210.88)	2495.7 (166.22)	2365.5 (166.46)	2163.2 (179.75)	2228.7 (131.38)
2% Low melting point wax	10	2660.8 (82.48)	2536.4 (86.87)	2489.0 (93.60)	2503.3 (63.75)	2342.1 (72.18)	2201.0 (66.94)	2107.0 (69.47)
2% High melting point wax	10	2838.9 (266.14)	2711.9 (187.54)	2616.9 (213.62)	2567.1 (161.76)	2502.9 (156.85)	2222.8 (132.69)	2314.9 (132.49)
2% High sulphur wax	10	2759.4 (162.97)	2631.3 (129.41)	2543.1 (125.62)	2467.4 (120.68)	2362.5 (108.98)	2164.9 (94.25)	2191.2 (107.83)
2% Coconut oil	10	2546.5 (107.19)	2480.0 (98.51)	2507.0 (113.52)	2490.6 (110.47)	2273.0 (100.32)	2129.1 (80.17)	2206.2 (110.50)

Means and standard deviations.

Table 22. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0% Control	30	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	10	2176.7 (162.02)	2163.1 (143.14)	2070.3 (146.87)	2006.8 (132.25)	1938.5 (126.89)	1839.5 (128.79)	1787.5 (106.25)	1758.0 (83.68)	1762.8 (104.16)
2% White oil N70 (H)	10	2344.7 (92.64)	2233.9 (90.84)	2111.1 (105.88)	2058.1 (82.52)	2019.0 (80.41)	1939.0 (138.23)	1908.6 (90.73)	1820.5 (92.23)	1825.8 (95.13)
2% White oil N70 (A)	10	2251.1 (112.92)	2116.6 (112.83)	2036.3 (98.70)	1991.3 (104.79)	1915.1 (97.72)	1872.2 (96.62)	1813.7 (117.10)	1825.6 (110.11)	1796.9 (122.58)
2% White oil P15 (H)	10	2215.5 (141.68)	2093.7 (123.41)	2017.7 (103.79)	1958.9 (115.22)	1904.7 (105.72)	1842.2 (132.04)	1764.6 (92.24)	1770.2 (78.34)	1774.3 (145.74)
2% White oil N10 (A)	10	2125.0 (169.72)	2082.2 (122.70)	2044.1 (170.67)	1877.5 (153.88)	1815.8 (92.90)	1955.7 (85.88)	1864.1 (128.70)	1738.2 (89.83)	1705.1 (87.58)
2% White oil P100 (H)	10	2218.7 (137.62)	2176.4 (119.07)	2087.0 (158.36)	1917.2 (128.37)	1880.2 (110.00)	1859.0 (98.77)	1815.5 (98.59)	1763.2 (112.88)	1743.6 (115.43)
2% Low melting point wax	10	2161.1 (62.75)	2140.8 (60.37)	2055.7 (58.66)	1905.8 (58.43)	1895.5 (45.92)	1835.8 (42.81)	1756.9 (61.44)	1707.3 (60.17)	1659.8 (44.57)
2% High melting point wax	10	2245.8 (121.04)	2114.2 (116.88)	2087.6 (124.16)	2026.7 (120.00)	1899.3 (108.92)	1907.9 (125.89)	1846.8 (110.08)	1787.3 (104.92)	1779.9 (119.38)
2% High sulphur wax	10	2199.8 (109.44)	2155.6 (97.31)	2013.8 (96.58)	1988.2 (106.93)	1889.4 (95.91)	1851.9 (103.57)	1805.2 (95.14)	1779.1 (95.13)	1697.2 (110.06)
2% Coconut oil	10	2167.0 (103.59)	2108.9 (102.38)	2033.3 (80.71)	1978.1 (66.65)	1864.5 (80.02)	1834.4 (88.53)	1759.7 (71.49)	1742.9 (77.62)	1683.8 (77.64)

Means and standard deviations.

Table 22. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	30	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	10	1717.3 (89.90)	1692.1 (81.55)	1815.4 (90.99)	1700.1 (92.85)	1536.1 (76.59)	1557.9 (80.97)	1618.2 (137.16)	1546.2 (93.26)	1606.6 (76.98)	1576.9 (94.10)
2% White oil N70 (H)	10	1736.5 (68.10)	1707.8 (82.82)	1761.5 (91.73)	1688.2 (118.86)	1662.6 (82.47)	1632.0 (82.82)	1616.8 (112.91)	1556.0 (106.38)	1582.1 (79.53)	1650.0 (131.04)
2% White oil N70 (A)	10	1739.4 (98.80)	1656.9 (83.28)	1769.6 (86.57)	1638.4 (92.51)	1573.3 (81.21)	1603.0 (81.39)	1624.9 (82.39)	1550.0 (82.03)	1606.3 (79.08)	1591.6 (92.09)
2% White oil P15 (H)	10	1712.3 (91.20)	1690.8 (78.50)	1719.7 (70.98)	1627.3 (79.99)	1620.3 (69.63)	1593.3 (62.68)	1644.2 (111.46)	1492.5 (74.59)	1602.8 (67.31)	1589.3 (61.87)
2% White oil N10 (A)	10	1687.7 (95.47)	1698.1 (108.36)	1618.8 (109.13)	1588.8 (91.05)	1720.6 (104.85)	1655.3 (115.80)	1599.1 (79.43)	1552.8 (80.64)	1496.7 (76.57)	1599.4 (92.39)
2% White oil P100 (H)	10	1671.9 (90.61)	1718.7 (104.41)	1719.1 (126.29)	1625.8 (131.62)	1685.0 (116.65)	1640.4 (95.05)	1562.3 (108.68)	1596.6 (90.07)	1569.6 (83.91)	1586.0 (124.92)
2% Low melting point wax	10	1638.5 (52.18)	1634.1 (50.67)	1620.9 (38.05)	1581.1 (51.96)	1581.9 (42.55)	1520.5 (35.97)	1492.6 (47.99)	1450.8 (52.93)	1422.6 (50.23)	1516.1 (49.81)
2% High melting point wax	10	1758.8 (102.55)	1723.7 (99.40)	1704.1 (106.05)	1612.3 (91.08)	1610.2 (93.50)	1540.7 (85.69)	1583.4 (88.73)	1542.3 (87.71)	1550.5 (88.72)	1599.1 (94.10)
2% High sulphur wax	10	1688.3 (93.01)	1710.5 (93.69)	1666.6 (89.26)	1542.6 (83.26)	1556.5 (84.53)	1478.1 (92.00)	1535.4 (85.99)	1514.3 (84.74)	1489.3 (78.70)	1544.2 (88.51)
2% Coconut oil	10	1699.2 (87.29)	1690.0 (80.53)	1733.4 (76.28)	1593.0 (75.44)	1688.2 (78.04)	1617.1 (90.09)	1511.0 (102.08)	1485.9 (74.03)	1476.8 (76.31)	1497.5 (68.75)

Means and standard deviations.

Table 23. Calculated intakes (mg/kg/day) of female rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	2618.6 (196.42)	2425.2 (165.96)	2293.8 (137.90)	2188.4 (127.49)	2256.4 (100.69)
2% White oil N70 (H)	5	2731.0 (84.94)	2563.6 (69.70)	2547.8 (68.59)	2321.6 (75.61)	2293.2 (41.38)
2% White oil N70 (A)	5	2730.6 (102.40)	2482.0 (116.00)	2490.2 (94.41)	2349.6 (77.20)	2299.6 (57.91)
2% White oil P15 (H)	5	2737.8 (129.91)	2546.6 (121.64)	2412.2 (133.63)	2306.8 (138.14)	2305.6 (139.85)
2% White oil N10 (A)	5	2676.8 (170.29)	2381.6 (158.67)	2472.8 (149.84)	2284.6 (124.72)	2343.8 (135.46)
2% White oil P100 (H)	5	2674.2 (192.10)	2592.2 (187.40)	2471.4 (151.89)	2346.4 (109.63)	2435.6 (152.63)
2% Low melting point wax	5	2692.6 (235.21)	2496.4 (174.63)	2529.4 (192.47)	2333.4 (167.64)	2384.2 (151.80)
2% High melting point wax	5	2731.0 (111.37)	2611.2 (71.96)	2616.2 (110.82)	2333.2 (89.16)	2295.6 (63.56)
2% High sulphur wax	5	2787.6 (140.48)	2560.8 (139.31)	2503.2 (100.59)	2367.2 (82.94)	2391.6 (77.70)
2% Coconut oil	5	2668.2 (166.09)	2468.0 (180.90)	2385.4 (141.57)	2224.2 (143.21)	2243.0 (152.39)

Means and standard deviations

Table 23. (Continued).

Group	n	Study days 17-21	21-24	24-28	28-31	31-35	35-38	38-42
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	2239.6 (131.00)	2182.2 (119.73)	2077.4 (125.31)	2030.6 (127.45)	1992.4 (114.57)	1933.8 (81.12)	2004.8 (107.35)
2% White oil N70 (H)	5	2297.8 (33.95)	2207.0 (73.76)	2117.8 (51.20)	2174.8 (53.79)	1955.2 (51.92)	1905.8 (64.18)	1955.6 (42.41)
2% White oil N70 (A)	5	2225.8 (96.72)	2332.4 (72.03)	2731.8 (83.51)	2098.6 (56.53)	2037.0 (52.86)	2056.6 (55.98)	2071.2 (60.01)
2% White oil P15 (H)	5	2165.6 (132.92)	2086.2 (157.05)	2151.8 (133.57)	2011.8 (127.63)	2025.2 (98.40)	1992.2 (135.40)	1994.6 (133.79)
2% White oil N10 (A)	5	2272.2 (142.15)	2076.4 (110.13)	2019.8 (91.98)	2079.2 (118.82)	2016.6 (129.74)	1930.2 (112.14)	1944.6 (114.63)
2% White oil P100 (H)	5	2379.4 (145.85)	2236.6 (104.03)	2159.4 (108.26)	2231.2 (114.14)	2175.8 (104.37)	2060.4 (113.87)	1922.6 (105.48)
2% Low melting point wax	5	2222.2 (147.87)	2242.0 (138.02)	2068.4 (117.75)	1999.4 (105.53)	2094.0 (115.65)	2020.6 (112.71)	2021.6 (101.67)
2% High melting point wax	5	2257.2 (98.19)	2210.8 (79.29)	2155.8 (82.60)	2229.2 (86.44)	2082.4 (62.53)	1890.8 (66.16)	1890.2 (64.43)
2% High sulphur wax	5	2249.0 (56.63)	2177.0 (62.55)	2164.4 (76.31)	2069.2 (59.28)	2080.6 (72.94)	1895.8 (59.83)	1850.0 (54.80)
2% Coconut oil	5	2223.8 (134.66)	2176.2 (125.43)	2066.4 (136.92)	2017.8 (116.51)	1950.4 (101.97)	1870.4 (127.71)	1797.2 (138.31)

Means and standard deviations.

Table 23. (Continued).

Group	n	Study days 42-45	45-49	49-52	52-56	56-59	59-63	63-66
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	1927.8 (97.43)	1816.4 (87.86)	1821.4 (84.09)	1774.4 (97.44)	1787.6 (90.19)	1689.4 (80.66)	1710.4 (87.27)
2% White oil N70 (H)	5	1895.6 (58.18)	1889.4 (62.40)	1831.0 (66.73)	1821.6 (56.53)	1908.0 (68.76)	1730.4 (60.38)	1762.6 (49.69)
2% White oil N70 (A)	5	1959.4 (48.85)	1798.2 (41.85)	1927.2 (61.27)	1945.6 (65.63)	1770.2 (59.94)	1689.0 (48.75)	1718.4 (46.54)
2% White oil P15 (H)	5	1853.8 (103.32)	1792.8 (92.85)	1878.6 (119.24)	1806.8 (106.81)	1848.0 (104.60)	1761.4 (112.42)	1750.0 (122.15)
2% White oil N10 (A)	5	1827.0 (99.89)	1799.2 (102.05)	1711.0 (109.94)	1807.4 (97.26)	1766.2 (97.71)	1660.6 (84.95)	1708.6 (78.01)
2% White oil P100 (H)	5	1854.2 (90.85)	1863.6 (83.71)	1887.0 (122.53)	1800.8 (91.83)	1821.4 (85.19)	1709.8 (80.17)	1828.2 (96.65)
2% Low melting point wax	5	1879.6 (96.27)	1828.8 (94.34)	1812.0 (88.33)	1820.4 (87.84)	1751.4 (90.89)	1720.6 (93.21)	1794.0 (76.00)
2% High melting point wax	5	1998.4 (84.68)	1874.4 (71.32)	1902.6 (73.02)	1864.8 (79.88)	1786.0 (64.32)	1678.6 (71.54)	1719.2 (66.80)
2% High sulphur wax	5	1887.4 (51.93)	1669.4 (43.28)	1752.4 (57.67)	1746.4 (58.92)	1662.0 (46.21)	1578.6 (51.67)	1628.2 (51.01)
2% Coconut oil	5	1788.6 (97.92)	1704.4 (86.85)	1785.6 (94.15)	1698.0 (67.88)	1744.0 (72.92)	1544.0 (63.68)	1596.0 (59.81)

Means and standard deviations.

Table 23. (Continued).

Group	n	Study days 66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	1617.2 (78.59)	1555.6 (66.62)	1572.4 (79.78)	1687.4 (93.60)	1613.0 (70.61)	1548.4 (66.91)	1601.0 (67.78)
2% White oil N70 (H)	5	1661.6 (34.54)	1575.6 (44.11)	1629.4 (48.09)	1602.6 (47.36)	1593.4 (58.86)	1522.4 (47.43)	1615.4 (43.47)
2% White oil N70 (A)	5	1629.4 (51.35)	1551.8 (42.46)	1676.2 (68.37)	1692.4 (51.34)	1598.2 (46.70)	1595.0 (60.45)	1640.6 (56.34)
2% White oil P15 (H)	5	1636.0 (102.60)	1612.8 (90.96)	1622.8 (114.34)	1657.0 (115.13)	1642.6 (99.52)	1606.6 (115.42)	1553.4 (106.33)
2% White oil N10 (A)	5	1638.8 (85.77)	1605.2 (99.80)	1574.8 (121.72)	1554.0 (94.71)	1511.8 (77.54)	1496.8 (106.55)	1502.0 (80.09)
2% White oil P100 (H)	5	1700.4 (84.76)	1604.2 (86.60)	1605.8 (89.08)	1660.8 (96.32)	1605.8 (72.84)	1614.8 (71.24)	1536.4 (70.02)
2% Low melting point wax	5	1656.0 (71.00)	1568.8 (84.69)	1566.2 (71.26)	1600.6 (67.64)	1544.8 (76.41)	1537.8 (70.00)	1488.0 (63.55)
2% High melting point wax	5	1606.4 (68.89)	1580.8 (55.24)	1600.2 (56.45)	1621.2 (67.82)	1619.0 (64.74)	1575.8 (64.12)	1488.8 (66.28)
2% High sulphur wax	5	1536.6 (55.74)	1556.6 (54.30)	1546.8 (44.09)	1632.6 (63.33)	1610.2 (51.29)	1609.4 (52.05)	1456.8 (50.49)
2% Coconut oil	5	1523.6 (53.12)	1452.2 (66.27)	1452.2 (73.97)	1568.6 (59.34)	1514.4 (56.02)	1523.6 (82.15)	1470.0 (45.94)

Means and standard deviations.

Table 24. Calculated intakes (mg/kg/day) of female rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%.

Group	n	Study days 0-3	3-7	7-10	10-14	14-17	17-21	21-24
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	2738.0 (155.19)	2396.2 (151.88)	2393.2 (133.38)	2273.0 (143.95)	2193.2 (107.95)	2238.8 (122.49)	2281.6 (117.80)
2% White oil N70 (H)	5	2701.0 (148.04)	2495.0 (156.36)	2499.8 (159.71)	2315.4 (178.58)	2367.8 (201.72)	2264.0 (170.91)	2236.0 (170.07)
2% White oil N70 (A)	5	2895.8 (158.09)	2572.4 (105.50)	2509.8 (128.52)	2398.2 (94.05)	2354.4 (108.83)	2215.0 (112.47)	2286.0 (118.37)
2% White oil P15 (H)	5	2677.6 (202.00)	2489.2 (177.24)	2346.2 (165.62)	2283.4 (154.17)	2259.0 (154.02)	2280.0 (156.75)	2203.4 (135.73)
2% White oil N10 (A)	5	2503.4 (159.78)	2450.8 (168.40)	2347.8 (118.96)	2266.4 (102.06)	2306.8 (103.26)	2160.0 (81.88)	2077.6 (60.71)
2% White oil P100 (H)	5	2751.8 (153.52)	2555.4 (123.69)	2522.6 (130.97)	2443.6 (97.47)	2417.4 (122.65)	2211.2 (106.31)	2275.4 (87.57)
2% Low melting point wax	5	2688.8 (224.27)	2494.8 (198.74)	2419.2 (168.75)	2296.0 (154.95)	2216.4 (142.05)	2101.8 (149.84)	2134.4 (131.65)
2% High melting point wax	5	2642.8 (98.48)	2566.4 (111.56)	2554.2 (95.63)	2427.4 (81.07)	2381.0 (63.44)	2237.6 (45.18)	2253.2 (67.31)
2% High sulphur wax	5	2694.0 (154.63)	2612.2 (160.40)	2562.8 (146.57)	2373.2 (149.68)	2429.6 (162.10)	2302.6 (150.10)	2384.4 (147.37)
2% Coconut oil	5	2719.2 (139.92)	2466.2 (115.41)	2426.0 (139.36)	2262.4 (140.95)	2373.4 (151.97)	2138.6 (119.49)	2175.8 (143.28)

Means and standard deviations.

Table 24. (Continued).

Group	n	Study days 24-28	28-31	31-35	35-38	38-42	42-45	45-49	49-52	52-56
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
2% White oil N15 (H)	5	2125.0 (149.75)	2084.2 (109.67)	2032.8 (107.62)	1986.4 (125.53)	2003.4 (143.43)	1887.4 (128.04)	1835.4 (107.62)	1786.8 (128.20)	1772.6 (112.37)
2% White oil N70 (H)	5	2100.2 (162.01)	2012.8 (176.25)	2069.4 (193.66)	2009.6 (202.07)	1994.6 (164.06)	1819.6 (163.83)	1767.0 (159.65)	1734.6 (145.77)	1756.2 (150.96)
2% White oil N70 (A)	5	2188.2 (126.68)	2095.6 (96.22)	2094.0 (92.10)	1959.2 (77.44)	1968.4 (89.03)	1932.4 (92.44)	1854.8 (78.66)	1925.6 (65.32)	1843.6 (67.02)
2% White oil P15 (H)	5	2102.0 (134.18)	2121.8 (151.24)	2040.6 (140.40)	1874.4 (99.90)	1973.8 (133.08)	1909.2 (110.17)	1788.4 (118.92)	1741.6 (109.67)	1757.0 (109.59)
2% White oil N10 (A)	5	2023.6 (76.40)	2072.6 (61.15)	2009.8 (74.11)	1916.2 (52.27)	1909.2 (69.88)	1812.4 (50.03)	1835.2 (46.52)	1706.8 (44.73)	1762.4 (27.66)
2% White oil P100 (H)	5	2180.0 (73.49)	2228.8 (78.67)	2215.6 (47.12)	2111.0 (81.83)	1999.4 (66.36)	1955.8 (67.41)	1800.2 (59.91)	1847.8 (62.75)	1830.8 (67.36)
2% Low melting point wax	5	2050.4 (98.17)	1941.4 (111.62)	1803.2 (67.89)	1838.6 (59.98)	1789.4 (70.66)	1774.2 (63.70)	1732.0 (51.04)	1728.4 (56.42)	1647.8 (62.99)
2% High melting point wax	5	2060.2 (42.28)	2075.0 (45.27)	2119.2 (28.15)	1970.2 (28.60)	1935.8 (31.85)	1995.4 (31.62)	1865.0 (38.10)	1804.4 (29.69)	1804.2 (23.21)
2% High sulphur wax	5	2156.6 (121.91)	2054.6 (122.04)	2095.2 (122.48)	2018.0 (134.28)	1960.0 (132.23)	1822.6 (107.57)	1851.8 (112.61)	1947.6 (107.95)	1910.0 (113.91)
2% Coconut oil	5	2260.0 (124.54)	2116.8 (105.98)	2036.4 (116.97)	1979.4 (87.41)	1838.8 (95.48)	1798.6 (84.71)	1786.4 (92.84)	1884.8 (89.50)	1764.8 (78.93)

Means and standard deviations.

Table 24. (Continued).

Group	n	Study days 56-59	59-63	63-66	66-70	70-73	73-77	77-80	80-84	84-87	87-91
0% Control	5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.0)
2% White oil N15 (H)	5	1877.8 (114.91)	1756.6 (122.92)	1765.8 (111.22)	1630.0 (91.78)	1606.4 (108.62)	1632.2 (102.27)	1680.4 (100.29)	1654.2 (105.13)	1549.6 (117.86)	1557.2 (98.62)
2% White oil N70 (H)	5	1813.4 (145.90)	1640.6 (144.75)	1695.0 (140.91)	1728.6 (163.33)	1546.0 (119.49)	1612.2 (119.06)	1583.8 (131.95)	1575.6 (116.35)	1502.4 (108.15)	1586.2 (114.62)
2% White oil N70 (A)	5	1792.8 (57.05)	1622.2 (58.56)	1624.6 (54.59)	1609.0 (61.06)	1528.6 (57.40)	1533.8 (45.66)	1596.8 (53.89)	1568.6 (38.75)	1479.8 (61.61)	1566.8 (45.43)
2% White oil P15 (H)	5	1807.0 (114.16)	1717.8 (126.52)	1762.8 (116.96)	1696.0 (107.68)	1591.8 (97.31)	1566.0 (105.17)	1613.0 (85.48)	1628.2 (108.40)	1532.6 (103.96)	1543.2 (101.49)
2% White oil N10 (A)	5	1723.4 (39.50)	1608.6 (56.05)	1650.2 (36.64)	1579.4 (32.52)	1548.4 (25.47)	1550.4 (22.40)	1566.4 (23.19)	1547.0 (19.90)	1529.4 (8.50)	1484.6 (12.97)
2% White oil P100 (H)	5	1859.6 (77.31)	1731.0 (60.87)	1795.6 (33.79)	1736.8 (56.37)	1652.4 (63.16)	1585.2 (45.36)	1692.4 (42.81)	1624.2 (57.91)	1551.4 (39.22)	1516.4 (35.45)
2% Low melting point wax	5	1757.4 (68.62)	1588.2 (58.44)	1601.6 (66.79)	1561.2 (68.12)	1514.8 (54.53)	1460.0 (55.17)	1501.2 (59.30)	1378.6 (73.14)	1249.8 (76.22)	1455.8 (85.73)
2% High melting point wax	5	1836.6 (24.95)	1651.8 (28.04)	1756.4 (24.31)	1691.4 (19.50)	1653.6 (24.09)	1617.2 (27.27)	1718.0 (33.32)	1620.2 (35.70)	1566.4 (36.65)	1574.8 (43.00)
2% High sulphur wax	5	1869.8 (119.29)	1787.0 (89.69)	1843.0 (104.27)	1743.2 (92.08)	1666.8 (105.47)	1583.0 (90.48)	1628.6 (82.54)	1637.0 (96.43)	1650.4 (101.83)	1577.6 (98.69)
2% Coconut oil	5	1808.8 (100.00)	1680.8 (85.53)	1664.2 (79.18)	1591.4 (74.93)	1633.8 (80.61)	1580.8 (64.42)	1664.6 (50.79)	1581.0 (45.03)	1650.0 (54.30)	1630.4 (69.80)

Means and standard deviations.

Table 25. Organ weights (g) of male rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

ORGAN: ADRENALS

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	0.0527 (0.0101)				
White oil N 15(H)	20		0.0558 (0.0077)	0.0534 (0.0101)	0.0509 (0.0084)	0.0526 (0.0143)
White oil N 70(H)	20		0.0580 (0.0160)	0.0557 (0.0159)	0.0548 (0.0095)	0.0483 (0.0061)
White oil N 70(A)	20		0.0626[19]*** (0.0307)	0.0528 (0.0105)	0.0504 (0.0071)	0.0570 (0.0160)
White oil P 15(H)	20		0.0516[19] (0.0106)	0.0549 (0.0101)	0.0567 (0.0171)	0.0539 (0.0066)
White oil N 10(A)	20		0.0565 (0.0133)	0.0498 (0.0079)	0.0543 (0.0089)	0.0600* (0.0137)
White oil P 100(H)	20		0.0526 (0.0092)	0.0502 (0.0066)	0.0545 (0.0101)	0.0525 (0.0094)
Low melting point wax	20		0.0528 (0.0075)	0.0526[19] (0.0110)	0.0514[19] (0.0060)	0.0496 (0.0068)
High melting point wax	20		0.0524 (0.0075)	0.0547 (0.0095)	0.0564 (0.0140)	0.0555[19] (0.0067)
High sulphur wax	20		0.0535 (0.0078)	0.0545 (0.0106)	0.0575 (0.0107)	0.0547 (0.0083)
Coconut oil	20					0.0556 (0.0104)

continued....

Table 25. continued.

ORGAN: KIDNEYS

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.8809 (0.1363)				
White oil N 15(H)	20		1.8869 (0.1186)	1.8754 (0.1271)	1.9104 (0.1301)	1.9857** (0.1921)
White oil N 70(H)	20		1.8642[19] (0.1785)	1.8612 (0.1431)	1.8992 (0.1587)	1.8566 (0.1592)
White oil N 70(A)	20		1.9281 (0.2515)	1.9346 (0.1432)	1.8556 (0.1149)	1.8787 (0.1837)
White oil P 15(H)	20		1.8339 (0.1117)	1.8681 (0.1070)	1.9447 (0.1709)	1.9840** (0.1578)
White oil N 10(A)	20		1.8705 (0.1902)	1.8649 (0.1308)	1.9642* (0.1580)	1.9949** (0.1687)
White oil P 100(H)	20		1.8507 (0.1325)	1.8414 (0.1474)	1.9001 (0.1235)	1.9136 (0.1104)
Low melting point wax	20		1.8565 (0.1539)	1.9263 (0.1661)	1.8742 (0.1848)	1.8367 (0.1332)
High melting point wax	20		1.8669 (0.1349)	1.9079 (0.1317)	1.9684* (0.1011)	1.8974 (0.1298)
High sulphur wax	20		1.8984 (0.1546)	1.8774 (0.1018)	1.8433 (0.1124)	1.8644 (0.1033)
Coconut oil	20					1.8887 (0.1048)

contin ...

Table 25. continued.

ORGAN: TESTES

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	2.9078 (0.3830)				
White oil N 15(H)	20		2.9255 (0.1634)	2.9379 (0.1558)	2.9131 (0.2460)	2.8803 (0.1674)
White oil N 70(H)	20		2.9563 (0.2217)	2.9241 (0.1856)	3.0031 (0.2085)	2.9427 (0.1505)
White oil N 70(A)	20		3.0034 (0.1970)	2.9701 (0.1591)	2.8649 (0.1960)	2.9169 (0.2896)
White oil P 15(H)	20		2.9257 (0.1221)	2.9701 (0.1718)	2.9125 (0.1685)	2.9378 (0.1384)
White oil N 10(A)	20		3.0241* (0.2025)	2.8882 (0.1391)	2.9631 (0.1958)	2.9402 (0.1500)
White oil P 100(H)	20		2.8914 (0.1460)	2.8956 (0.1625)	2.9555 (0.1658)	2.9416 (0.1567)
Low melting point wax	20		3.0112* (0.1754)	2.9211 (0.1594)	2.9915 (0.2389)	3.0512** (0.1654)
High melting point wax	20		3.0192* (0.1712)	2.9269 (0.2109)	2.9628 (0.2678)	2.9186 (0.2767)
High sulphur wax	20		2.9708 (0.1903)	2.8856 (0.1241)	2.9460 (0.1516)	2.8921 (0.1793)
Coconut oil	20					3.0144* (0.1408)

continued....

Table 25. continued.

ORGAN: THYMUS

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.3557 (0.0836)				
White oil N 15(H)	20		0.3672 (0.0566)	0.3545[18] (0.0776)	0.3339 (0.0728)	0.3442 (0.0467)
White oil N 70(H)	20		0.3465 (0.0631)	0.3534 (0.0383)	0.3648 (0.0673)	0.3617 (0.0638)
White oil N 70(A)	20		0.3568 (0.0754)	0.3761 (0.1303)	0.3635 (0.0660)	0.3249 (0.0497)
White oil P 15(H)	20		0.3423 (0.0845)	0.3679 (0.0779)	0.3677 (0.0588)	0.3644 (0.0676)
White oil N 10(A)	20		0.3685 (0.0469)	0.3768 (0.0677)	0.3596 (0.0761)	0.3319 (0.0609)
White oil P 100(H)	20		0.3589 (0.0731)	0.3752 (0.0500)	0.3745 (0.0811)	0.3441 (0.0676)
Low melting point wax	20		0.3606 (0.0685)	0.3494 (0.0829)	0.3731 (0.0871)	0.3537 (0.0680)
High melting point wax	20		0.3820 (0.0899)	0.3720 (0.0662)	0.3821 (0.0939)	0.3645 (0.0700)
High sulphur wax	20		0.3728 (0.0855)	0.3556 (0.0661)	0.3448 (0.0813)	0.3995* (0.1228)
Coconut oil	20					0.3560 (0.0500)

contin ...

Table 25. continued.

ORGAN: HEART

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.0175 (0.1291)				
White oil N 15(H)	20		1.0224 (0.1007)	0.9988 (0.0970)	0.9595* (0.1001)	1.0126 (0.1477)
White oil N 70(H)	20		0.9646 (0.1121)	0.9804 (0.1071)	0.9827 (0.0766)	0.9858 (0.1320)
White oil N 70(A)	20		1.0030 (0.1097)	0.9998 (0.1228)	0.9610 (0.0896)	0.9682 (0.1076)
White oil P 15(H)	20		0.9559* (0.0724)	0.9673 (0.1225)	1.0273 (0.0910)	0.9994 (0.1093)
White oil N 10(A)	20		1.0290 (0.1946)	0.9764 (0.1209)	0.9964 (0.1123)	1.0081 (0.1364)
White oil P 100(H)	20		0.9870 (0.0924)	0.9984 (0.1084)	1.0092 (0.1291)	1.0244 (0.1334)
Low melting point wax	20		0.9957 (0.1211)	1.0239 (0.0833)	0.9640 (0.0925)	0.9836 (0.1004)
High melting point wax	20		0.9824 (0.0815)	0.9800 (0.1537)	1.0154 (0.0861)	1.0259 (0.0977)
High sulphur wax	20		1.0034 (0.1191)	0.9825 (0.0854)	0.9689 (0.1097)	0.9503* (0.1026)
Coconut oil	20					1.0118 (0.0735)

continued....

Table 25. continued.

ORGAN: BRAIN

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.9101 (0.1389)				
White oil N 15(H)	20		1.9107 (0.0863)	1.9285 (0.1037)	1.9002 (0.1441)	1.9143[19] (0.1030)
White oil N 70(H)	20		1.8909 (0.0908)	1.8899 (0.1068)	1.9117 (0.0988)	1.9202 (0.0942)
White oil N 70(A)	20		1.9470 (0.1142)	1.9120 (0.0725)	1.9356 (0.0894)	1.9534 (0.0991)
White oil P 15(H)	20		1.9107 (0.0765)	1.9227 (0.1096)	1.9161 (0.0623)	1.9586 (0.0686)
White oil N 10(A)	20		1.9207 (0.1125)	1.9124 (0.0751)	1.9560 (0.0828)	1.9485 (0.0917)
White oil P 100(H)	20		1.9394 (0.0616)	1.9111 (0.0721)	1.9165 (0.0862)	1.9238 (0.0816)
Low melting point wax	20		1.9067 (0.0923)	1.9227 (0.1137)	1.9316 (0.1085)	1.9153 (0.0985)
High melting point wax	20		1.8950 (0.1082)	1.9259 (0.0904)	1.9182 (0.0840)	1.9006 (0.0993)
High sulphur wax	20		1.9110 (0.0625)	1.9239 (0.0614)	1.9129 (0.1022)	1.9125 (0.0756)
Coconut oil	20					1.9669* (0.0944)

contin ..

Table 25. continued.

ORGAN: LIVER

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	8.1301 (0.6367)				
White oil N 15(H)	20		8.3174 (0.5518)	8.3899[19] (0.8704)	8.4571 (0.6714)	8.9302*** (0.6639)
White oil N 70(H)	20		8.1569 (0.8462)	8.3435 (0.6268)	8.3694 (0.8640)	8.3057 (0.5355)
White oil N 70(A)	20		8.2771 (0.3987)	8.3367[19] (0.6387)	8.2453 (0.6554)	8.1706 (0.5283)
White oil P 15(H)	20		8.3644 (0.5269)	8.3996 (0.6796)	8.6495** (0.5797)	8.7063[19]*** (0.8718)
White oil N 10(A)	20		8.1354 (0.7752)	8.3045 (0.5981)	8.8041*** (0.6288)	9.0379*** (0.7726)
White oil P 100(H)	20		8.1913 (0.5866)	8.0807 (0.6509)	8.4327 (0.4744)	8.2868 (0.6024)
Low melting point wax	20		8.3835 (0.7595)	8.3373 (0.6468)	8.5694[19]* (0.8413)	9.2140*** (0.7667)
High melting point wax	20		8.2185 (0.5906)	8.3956 (0.5820)	8.4747* (0.4492)	8.2876 (0.6162)
High sulphur wax	20		8.2926 (0.6605)	8.3802[19] (0.6277)	8.4307 (1.0691)	8.2681[19] (0.5907)
Coconut oil	20					8.2410 (0.6754)

continued....

Table 25. continued.

ORGAN: SPLEEN

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	0.8267 (0.0790)				
White oil N 15(H)	20		0.8572 (0.0616)	0.8081 (0.519)	0.8235 (0.0709)	0.8670* (0.0661)
White oil N 70(H)	20		0.8176 (0.0794)	0.8042 (0.0840)	0.8022 (0.0747)	0.8699* (0.0755)
White oil N 70(A)	20		0.8283 (0.0774)	0.8539 (0.0577)	0.8279 (0.0609)	0.8529 (0.0718)
White oil P 15(H)	20		0.8145 (0.0662)	0.8365 (0.0724)	0.8662* (0.0620)	0.8691* (0.0808)
White oil N 10(A)	20		0.8245 (0.0920)	0.8307 (0.1242)	0.8434 (0.1198)	0.8614 (0.0904)
White oil P 100(H)	20		0.8579 (0.0880)	0.8104 (0.0976)	0.8410 (0.0519)	0.8617 (0.0611)
Low melting point wax	20		0.8135 (0.0902)	0.8374 (0.0626)	0.9223*** (0.0818)	1.0193*** (0.0958)
High melting point wax	20		0.8056 (0.0638)	0.8520 (0.1060)	0.8396 (0.0520)	0.8357 (0.0738)
High sulphur wax	20		0.8240 (0.0852)	0.8210 (0.0577)	0.8352 (0.0736)	0.8359 (0.0521)
Coconut oil	20					0.7930 (0.0392)

contin ...

Table 25. continued.

ORGAN: CAECUM - FULL

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	3.4162 (0.5664)				
White oil N 15(H)	20		3.5304 (0.6306)	3.4008 (0.6967)	3.3087 (0.4756)	3.6485 (0.5792)
White oil N 70(H)	20		3.7240 (0.8050)	3.4949 (0.6238)	3.5433 (0.4774)	3.6506 (0.5292)
White oil N 70(A)	20		3.5733 (0.8795)	3.5917[18] (0.7037)	3.4462 (0.5712)	3.6674 (0.7295)
White oil P 15(H)	20		3.3143 (0.5892)	3.4515 (0.4247)	3.6516 (0.6496)	3.7756* (0.7901)
White oil N 10(A)	20		3.5346 (0.7932)	3.3943 (0.4590)	3.7448* (0.7648)	3.8143* (0.6761)
White oil P 100(H)	20		3.6056 (0.6798)	3.6559 (0.5497)	3.5315 (0.4221)	3.8120* (0.8238)
Low melting point wax	20		3.4953 (0.5095)	3.3668 (0.5871)	3.6171 (0.6131)	3.4262 (0.6283)
High melting point wax	20		3.6379 (0.5988)	3.7284 (0.8644)	3.4345 (0.5833)	3.6546 (0.5509)
High sulphur wax	20		3.7003 (0.7556)	3.7821* (0.6227)	3.5884 (0.6761)	3.5155 (0.8276)
Coconut oil	20					3.4128 (0.5315)

continued....

Table 25. continued.

ORGAN: CAECUM - EMPTY

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.1402 (0.2845)				
White oil N 15(H)	20		1.1781 (0.2114)	1.1014 (0.1975)	1.0531 (0.2115)	1.1889 (0.3011)
White oil N 70(H)	20		1.2108 (0.3026)	1.1744 (0.3290)	1.1574 (0.2302)	1.2289 (0.2485)
White oil N 70(A)	20		1.2406 (0.3680)	1.1970 (0.1962)	1.1372 (0.2577)	1.1358 (0.2349)
White oil P 15(H)	20		1.1377 (0.4187)	1.1410 (0.1848)	1.3080* (0.3824)	1.2763 (0.3489)
White oil N 10(A)	20		1.2559 (0.3681)	1.1672 (0.2621)	1.2469 (0.3074)	1.2043 (0.3710)
White oil P 100(H)	20		1.1650 (0.2000)	1.2378 (0.3133)	1.1034 (0.2014)	1.2964 (0.4425)
Low melting point wax	20		1.2109 (0.2992)	1.1154 (0.1980)	1.2588[19] (0.2784)	1.2082 (0.3437)
High melting point wax	20		1.2395 (0.3073)	1.1953 (0.3449)	1.1788 (0.3021)	1.1913 (0.1952)
High sulphur wax	20		1.2250 (0.3137)	1.2227 (0.3319)	1.2402 (0.3523)	1.1804 (0.3942)
Coconut oil	20					1.1863 (0.2876)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:
Kidneys: Results calculated from data transformed by $\log_e$; Heart: Results calculated from data transformed by $\log_e$;
Caecum - Empty: Results calculated from data transformed by $1/\sqrt{x}$
* $p <= 0.05$, ** $p <= 0.01$, *** $<= 0.001$
S[illegible]rscripts indicate the sample size (n) when it is dif[illegible]ent from that give[illegible]
[illegible]vidual data reported in Appendix 3[illegible]

Table 26. Organ weights relative to body weight (g/100 g body weight) of male rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

ORGAN: ADRENALS (Relative weight)

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	0.0163 (0.0030)				
White oil N 15(H)	20		0.0172 (0.0023)	0.0169 (0.0031)	0.0155 (0.0026)	0.0164 (0.0041)
White oil N 70(H)	20		0.0190[19]** (0.0064)	0.0175 (0.0051)	0.0173 (0.0031)	0.0148[19] (0.0018)
White oil N 70(A)	20		0.0190[19]** (0.0079)	0.0162 (0.0031)	0.0157[19] (0.0024)	0.0179 (0.0042)
White oil P 15(H)	20		0.0158[19] (0.0030)	0.0170 (0.0030)	0.0174 (0.0052)	0.0168 (0.0023)
White oil N 10(A)	20		0.0179 (0.0048)	0.0155 (0.0024)	0.0165 (0.0030)	0.0188** (0.0043)
White oil P 100(H)	20		0.0162 (0.0029)	0.0160 (0.0021)	0.0168 (0.0034)	0.0161 (0.0030)
Low melting point wax	20		0.0162 (0.0022)	0.0165[19] (0.0037)	0.0162[19] (0.0017)	0.0154 (0.0025)
High melting point wax	20		0.0161 (0.0026)	0.0166 (0.0030)	0.0174 (0.0045)	0.0171[19] (0.0023)
High sulphur wax	20		0.0163 (0.0027)	0.0169 (0.0029)	0.0178 (0.0035)	0.0172 (0.0024)
Coconut oil	20					0.0171 (0.0035)

continued....

Table 26. continued.

ORGAN: KIDNEYS (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.5836 (0.0259)				
White oil N 15(H)	20		0.5817 (0.0266)	0.5945 (0.0524)	0.5814 (0.0246)	0.6186*** (0.0375)
White oil N 70(H)	20		0.6011[18]* (0.0555)	0.5841 (0.0239)	0.5971 (0.0299)	0.5691[19] (0.0420)
White oil N 70(A)	20		0.5911 (0.0650)	0.5936 (0.0230)	0.5797[19] (0.0284)	0.5930 (0.0327)
White oil P 15(H)	20		0.5624* (0.0268)	0.5789 (0.0247)	0.5962 (0.0333)	0.6175*** (0.0276)
White oil N 10(A)	20		0.5940 (0.0866)	0.5792 (0.0337)	0.5946 (0.0259)	0.6233*** (0.0239)
White oil P 100(H)	20		0.5698 (0.0249)	0.5842 (0.0277)	0.5846 (0.0276)	0.5860 (0.0279)
Low melting point wax	20		0.5704 (0.0324)	0.5976 (0.0361)	0.5885 (0.0282)	0.5687 (0.0278)
High melting point wax	20		0.5702 (0.0330)	0.5790 (0.0247)	0.6060* (0.0653)	0.5848 (0.0300)
High sulphur wax	20		0.5766 (0.0268)	0.5832 (0.0260)	0.5692 (0.0258)	0.5859 (0.0265)
Coconut oil	20					0.5797 (0.0326)

continu

Table 26. continued.

ORGAN: TESTES (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.9027 (0.1194)				
White oil N 15(H)	20		0.9034 (0.0625)	0.9331 (0.0940)	0.8873 (0.0700)	0.8997 (0.0509)
White oil N 70(H)	20		0.9511[19]** (0.1012)	0.9190 (0.0496)	0.9456* (0.0577)	0.9043[19] (0.0495)
White oil N 70(A)	20		0.9224 (0.0552)	0.9131 (0.0495)	0.8990[19] (0.0592)	0.9226 (0.0822)
White oil P 15(H)	20		0.8979 (0.0404)	0.9203 (0.0377)	0.8940 (0.0360)	0.9173 (0.0639)
White oil N 10(A)	20		0.9625*** (0.1427)	0.8977 (0.0442)	0.8987 (0.0577)	0.9216 (0.0555)
White oil P 100(H)	20		0.8914 (0.0402)	0.9202 (0.0479)	0.9101 (0.0479)	0.9019 (0.0580)
Low melting point wax	20		0.9260 (0.0364)	0.9079 (0.0509)	0.9410* (0.0499)	0.9459* (0.0452)
High melting point wax	20		0.9225 (0.0378)	0.8887 (0.0490)	0.9118 (0.1127)	0.9003 (0.0843)
High sulphur wax	20		0.9036 (0.0446)	0.8973 (0.0494)	0.9100 (0.0390)	0.9087 (0.0467)
Coconut oil	20					0.9255 (0.0499)

continued....

Table 26. continued.

ORGAN: THYMUS (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.1104 (0.0255)				
White oil N 15(H)	20		0.1135 (0.0190)	0.1117[18] (0.0201)	0.1013 (0.0198)	0.1072 (0.0123)
White oil N 70(H)	20		0.1101[19] (0.0172)	0.1112 (0.0124)	0.1147 (0.0201)	0.1109[19] (0.0221)
White oil N 70(A)	20		0.1095 (0.0230)	0.1150 (0.0355)	0.1139[19] (0.0222)	0.1028 (0.0156)
White oil P 15(H)	20		0.1047 (0.0242)	0.1139 (0.0225)	0.1130 (0.0185)	0.1136 (0.0208)
White oil N 10(A)	20		0.1167 (0.0159)	0.1169 (0.0190)	0.1086 (0.0212)	0.1042 (0.0211)
White oil P 100(H)	20		0.1107 (0.0232)	0.1194 (0.0166)	0.1153 (0.0244)	0.1053 (0.0193)
Low melting point wax	20		0.1105 (0.0178)	0.1086 (0.0252)	0.1176 (0.0273)	0.1095 (0.0201)
High melting point wax	20		0.1170 (0.0290)	0.1133 (0.0221)	0.1167 (0.0269)	0.1124 (0.0218)
High sulphur wax	20		0.1136 (0.0267)	0.1108 (0.0222)	0.1065 (0.0246)	0.1257** (0.0403)
Coconut oil	20					0.1096 (0.0182)

contin ...

Table 26. continued.

ORGAN: HEART (Relative weight)

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	0.3158 (0.0361)				
White oil N 15(H)	20		0.3158 (0.0345)	0.3166 (0.0347)	0.2918** (0.0243)	0.3153 (0.0375)
White oil N 70(H)	20		0.3078[19] (0.0318)	0.3078 (0.0276)	0.3092 (0.0189)	0.2990[19]* (0.0301)
White oil N 70(A)	20		0.3082 (0.0346)	0.3073 (0.0381)	0.3006[19] (0.0281)	0.3054 (0.0221)
White oil P 15(H)	20		0.2935** (0.0252)	0.2995* (0.0340)	0.3159 (0.0310)	0.3122 (0.0401)
White oil N 10(A)	20		0.3255 (0.0612)	0.3031 (0.0347)	0.3019 (0.0300)	0.3154 (0.0385)
White oil P 100(H)	20		0.3043 (0.0271)	0.3169 (0.0294)	0.3104 (0.0356)	0.3135 (0.0384)
Low melting point wax	20		0.3049 (0.0217)	0.3181 (0.0239)	0.3043 (0.0341)	0.3048 (0.0287)
High melting point wax	20		0.3000 (0.0199)	0.2972* (0.0407)	0.3121 (0.0335)	0.3165 (0.0296)
High sulphur wax	20		0.3046 (0.0277)	0.3054 (0.0272)	0.2990* (0.0298)	0.2985* (0.0290)
Coconut oil	20					0.3116 (0.0343)

continued....

Table 26. continued.

ORGAN: BRAIN (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.5943 (0.0503)				
White oil N 15(H)	20		0.5901 (0.0375)	0.6133 (0.0677)	0.5793 (0.0493)	0.5996[19] (0.0314)
White oil N 70(H)	20		0.6110[19] (0.0603)	0.5948 (0.0415)	0.6027 (0.0391)	0.5911[19] (0.0302)
White oil N 70(A)	20		0.5979 (0.0310)	0.5885 (0.0369)	0.6054[19] (0.0391)	0.6186* (0.0355)
White oil P 15(H)	20		0.5865 (0.0292)	0.5970 (0.0464)	0.5891 (0.0308)	0.6119 (0.0445)
White oil N 10(A)	20		0.6119 (0.0904)	0.5948 (0.0310)	0.5938 (0.0349)	0.6112 (0.0415)
White oil P 100(H)	20		0.5987 (0.0330)	0.6084 (0.0400)	0.5904 (0.0307)	0.5902 (0.0387)
Low melting point wax	20		0.5875 (0.0388)	0.5982 (0.0459)	0.6088 (0.0366)	0.5952 (0.0516)
High melting point wax	20		0.5794 (0.0344)	0.5857 (0.0349)	0.5920 (0.0764)	0.5867 (0.0372)
High sulphur wax	20		0.5821 (0.0293)	0.5984 (0.0316)	0.5919 (0.0449)	0.6014 (0.0272)
Coconut oil	20					0.6047 (0.0468)

cont'd ...

Table 26. continued.

ORGAN: LIVER (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	2.5236 (0.1174)				
White oil N 15(H)	20		2.5636 (0.1198)	2.6509[19]*** (0.2940)	2.5736 (0.1440)	2.7831*** (0.0776)
White oil N 70(H)	20		2.6086[19]* (0.2300)	2.6184* (0.0969)	2.6280** (0.1678)	2.5523[19] (0.0794)
White oil N 70(A)	20		2.5415 (0.0881)	2.5682[19] (0.0726)	2.5574[19] (0.0953)	2.5830 (0.0914)
White oil P 15(H)	20		2.5646 (0.1250)	2.6012* (0.1645)	2.6526*** (0.0802)	2.6977[19]*** (0.1192)
White oil N 10(A)	20		2.5762 (0.2852)	2.5775 (0.1213)	2.6652*** (0.0772)	2.8232*** (0.0968)
White oil P 100(H)	20		2.5211 (0.0776)	2.5624 (0.0906)	2.5950 (0.1077)	2.5338 (0.0785)
Low melting point wax	20		2.5716 (0.0920)	2.5862 (0.1111)	2.6896[19]*** (0.1569)	2.8497*** (0.1106)
High melting point wax	20		2.5081 (0.0884)	2.5471 (0.0867)	2.6060* (0.2470)	2.5514 (0.0897)
High sulphur wax	20		2.5187 (0.1088)	2.6142[19]* (0.2012)	2.6016* (0.3049)	2.5928[19] (0.1867)
Coconut oil	20					2.5253 (0.1484)

continued....

Table 26. continued.

ORGAN: SPLEEN (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	0.2565 (0.0202)				
White oil N 15(H)	20		0.2642 (0.0145)	0.2568 (0.0300)	0.2508 (0.0197)	0.2707* (0.0184)
White oil N 70(H)	20		0.2625[19] (0.0274)	0.2527 (0.0243)	0.2521 (0.0148)	0.2687[19]* (0.0148)
White oil N 70(A)	20		0.2542 (0.0210)	0.2625 (0.0169)	0.2588[19] (0.0190)	0.2698* (0.0199)
White oil P 15(H)	20		0.2499 (0.0201)	0.2593 (0.0208)	0.2662 (0.0194)	0.2705* (0.0175)
White oil N 10(A)	20		0.2617 (0.0380)	0.2579 (0.0371)	0.2557 (0.0351)	0.2692* (0.0204)
White oil P 100(H)	20		0.2646 (0.0278)	0.2571 (0.0268)	0.2589 (0.0131)	0.2640 (0.0179)
Low melting point wax	20		0.2495 (0.0187)	0.2600 (0.0158)	0.2903*** (0.0216)	0.3159*** (0.0290)
High melting point wax	20		0.2459 (0.0133)	0.2582 (0.0245)	0.2581 (0.0249)	0.2576 (0.0206)
High sulphur wax	20		0.2503 (0.0203)	0.2550 (0.0162)	0.2580 (0.0224)	0.2626 (0.0127)
Coconut oil	20					0.2434* (0.0128)

contir ...

Table 26. continued.

ORGAN: CAECUM - FULL (Relative weight)

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	1.0617 (0.1782)				
White oil N 15(H)	20		1.0884 (0.1874)	1.0748 (0.2048)	1.0089 (0.1482)	1.1396 (0.1829)
White oil N 70(H)	20		1.2099[19]** (0.2739)	1.0948 (0.1735)	1.1173 (0.1601)	1.1358[19] (0.1885)
White oil N 70(A)	20		1.0988 (0.2719)	1.1080[18] (0.2204)	1.0676[19] (0.1553)	1.1597* (0.2273)
White oil P 15(H)	20		1.0170 (0.1803)	1.0717 (0.1426)	1.1194 (0.1819)	1.1749* (0.2338)
White oil N 10(A)	20		1.1108 (0.2053)	1.0531 (0.1254)	1.1348 (0.2244)	1.1888* (0.1722)
White oil P 100(H)	20		1.1063 (0.1754)	1.1645* (0.1939)	1.0891 (0.1443)	1.1689* (0.2618)
Low melting point wax	20		1.0770 (0.1655)	1.0471 (0.1835)	1.1422 (0.2023)	1.0595 (0.1708)
High melting point wax	20		1.1107 (0.1675)	1.1300 (0.2427)	1.0549 (0.1816)	1.1263 (0.1681)
High sulphur wax	20		1.1203 (0.1937)	1.1777* (0.2117)	1.1115 (0.2340)	1.1031 (0.2472)
Coconut oil	20					1.0497 (0.1822)

continued....

Table 26. continued.

ORGAN: CAECUM - EMPTY (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.3551 (0.0926)				
White oil N 15(H)	20		0.3646 (0.0716)	0.3506 (0.0765)	0.3204 (0.0610)	0.3695 (0.0837)
White oil N 70(H)	20		0.3924[19] (0.1177)	0.3665 (0.0906)	0.3636 (0.0661)	0.3771[19] (0.0868)
White oil N 70(A)	20		0.3821 (0.1167)	0.3684 (0.0621)	0.3527[19] (0.0746)	0.3585 (0.0718)
White oil P 15(H)	20		0.3487 (0.1268)	0.3531 (0.0522)	0.4000 (0.1065)	0.3977 (0.1055)
White oil N 10(A)	20		0.3972 (0.1172)	0.3618 (0.0764)	0.3774 (0.0889)	0.3733 (0.0939)
White oil P 100(H)	20		0.3584 (0.0571)	0.3941 (0.0994)	0.3410 (0.0695)	0.3988 (0.1443)
Low melting point wax	20		0.3722 (0.0887)	0.3473 (0.0659)	0.3985[19] (0.0886)	0.3732 (0.0989)
High melting point wax	20		0.3796 (0.0990)	0.3618 (0.0973)	0.3632 (0.0980)	0.3668 (0.0576)
High sulphur wax	20		0.3711 (0.0885)	0.3817 (0.1117)	0.3833 (0.1077)	0.3704 (0.1229)
Coconut oil	20					0.3658 (0.0984)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* p <= 0.05, ** p <= 0.01, *** <= 0.001
Superscripts indicate the sample size (n) when it is different from that given.
Individual data not reported, but calculated from Appendix 38.

Table 27. Organ weights (g) of male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Adrenal	Kidneys	Testes	Thymus	Heart
0% Control	30	347.0 (17.78)	0.0475 (0.0064)	1.8796 (0.1055)	3.0291 (0.1208)	0.2823 (0.0671)	0.9144 (0.0850)
2% White oil N15 (H)	10	352.3[9] (17.83)	0.0470 (0.0091)	1.9185 (0.1122)	2.9898 (0.1124)	0.3148 (0.0801)	0.9676 (0.0998)
2% White oil N70 (H)	10	347.6 (15.94)	0.0460 (0.0075)	1.9355 (0.1350)	3.0083 (0.1624)	0.3048 (0.0979)	0.9350 (0.0629)
2% White oil N70 (A)	10	371.2*** (18.49)	0.0519 (0.0042)	2.0649*** (0.1044)	3.1132 (0.1671)	0.3273 (0.1033)	1.0115** (0.0762)
2% White oil P15 (H)	10	348.0 (19.57)	0.0434 (0.0057)	1.9048 (0.1194)	3.0279 (0.1479)	0.2924 (0.0602)	0.9434 (0.1120)
2% White oil N10 (A)	10	359.2[9] (24.07)	0.0485 (0.0057)	1.9985** (0.0921)	3.0602 (0.1078)	0.2842 (0.0469)	0.9523 (0.0285)
2% White oil P100 (H)	10	353.3 (19.54)	0.0481 (0.0148)	1.9956** (0.1157)	3.1245 (0.1264)	0.2739 (0.0356)	0.9720 (0.0826)
2% Low melting point wax	10	337.3 (16.02)	0.0539* (0.0105)	1.9713* (0.1284)	3.1387 (0.0967)	0.3024 (0.0540)	0.9491 (0.0656)
2% High melting point wax	10	345.7 (18.07)	0.0449 (0.0021)	1.9110 (0.1748)	3.0556 (0.2060)	0.2786 (0.0833)	0.9555 (0.1252)
2% High sulphur wax	10	359.0[9] (7.55)	0.0523 (0.0068)	2.0016** (0.1161)	3.0517 (0.1833)	0.3087 (0.0549)	1.0115** (0.1056)
2% Coconut oil	10	350.7 (12.55)	0.0498 (0.0074)	1.8948 (0.1014)	3.1755* (0.4501)	0.3427* (0.0668)	0.9397 (0.0565)

continued....

Table 27. continued

Group	n	Body weight	Brain	Liver	Spleen	Caecum full	Caecum empty
0% Control	30	347.0 (17.78)	1.9240 (0.0685)	8.4695 (0.5987)	0.8314 (0.0487)	3.2479 (0.5746)	1.0528 (0.3021)
2% White oil N15 (H)	10	352.3^{9} (17.83)	1.9222 (0.0665)	8.1841 (1.3359)	0.8464 (0.0400)	3.3232 (0.6615)	1.0857 (0.3767)
2% White oil N70 (H)	10	347.6 (15.94)	1.9716 (0.0653)	8.3375 (0.3786)	0.8602 (0.0503)	3.3926 (0.4435)	1.1376 (0.3223)
2% White oil N70 (A)	10	371.2*** (18.49)	1.9606 (0.0922)	9.1372* (0.6991)	0.9256 (0.0636)	3.2774 (0.4339)	1.0828 (0.3116)
2% White oil P15 (H)	10	348.0 (19.57)	1.9014 (0.0671)	8.4891 (0.7528)	0.8139 (0.0705)	3.8328** (0.8468)	1.1140 (0.3576)
2% White oil N10 (A)	10	359.2^{9} (24.07)	1.9239 (0.0805)	8.6108 (0.9728)	0.8611 (0.0886)	2.9626 (0.5699)	1.0422 (0.3014)
2% White oil P100 (H)	10	353.3 (19.54)	1.9599 (0.0742)	8.7084 (0.4932)	0.9291 (0.2089)	2.9568 (0.5440)	0.9596 (0.1739)
2% Low melting point wax	10	337.3 (16.02)	1.9682 (0.1222)	9.1062* (0.6948)	1.4238*** (1.2261)	3.6211 (0.4113)	1.3013* (0.2252)
2% High melting point wax	10	345.7 (18.07)	1.9613 (0.0909)	8.4284 (0.6892)	0.8563 (0.0958)	3.4327 (0.5558)	1.0889 (0.3721)
2% High sulphur wax	10	359.0^{9} (7.55)	1.9775 (0.0869)	9.0887* (1.0515)	0.8459 (0.0536)	3.0392 (0.7385)	1.2288 (0.6033)
2% Coconut oil	10	350.7 (12.55)	1.9190 (0.1654)	8.3535 (0.4539)	0.7776 (0.0642)	3.2899 (0.7160)	1.2518 (0.4382)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Spleen :- Results calculated from data transformed by $\log_e$
Caecum empty :- Results calculated from data transformed by $\log_e$
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 39.

Table 28. Organ weights relative to body weight (g/100g body weight) of male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Adrenal	Kidneys	Testes	Thymus	Heart
0% Control	30	347.0 (17.78)	0.0137 (0.0016)	0.5418 (0.0202)	0.8742 (0.0407)	0.0814 (0.0195)	0.2635 (0.0202)
2% White oil N15 (H)	9	352.3 (17.83)	0.0136 (0.0024)	0.5449 (0.0257)	0.8509 (0.0369)	0.0883 (0.0207)	0.2743 (0.0236)
2% White oil N70 (H)	10	347.6 (15.94)	0.0132 (0.0021)	0.5565 (0.0197)	0.8658 (0.0358)	0.0880 (0.0298)	0.2692 (0.0183)
2% White oil N70 (A)	10	371.2*** (18.49)	0.0140 (0.0013)	0.5567 (0.0233)	0.8399* (0.0515)	0.0878 (0.0263)	0.2726 (0.0177)
2% White oil P15 (H)	10	348.0 (19.57)	0.0125 (0.0014)	0.5475 (0.0191)	0.8714 (0.0427)	0.0842 (0.0178)	0.2707 (0.0232)
2% White oil N10 (A)	9	359.2 (24.07)	0.0138 (0.0018)	0.5624* (0.0262)	0.8535 (0.0509)	0.0814 (0.0154)	0.2657 (0.0139)
2% White oil P100 (H)	10	353.3 (19.54)	0.0136 (0.0041)	0.5658** (0.0363)	0.8863 (0.0531)	0.0778 (0.0118)	0.2754 (0.0230)
2% Low melting point wax	10	337.3 (16.02)	0.0160** (0.0033)	0.5846*** (0.0291)	0.9321** (0.0457)	0.0895 (0.0145)	0.2816* (0.0177)
2% High melting point wax	10	345.7 (18.07)	0.0130 (0.0009)	0.5519 (0.0241)	0.8837 (0.0323)	0.0802 (0.0220)	0.2755 (0.0221)
2% High sulphur wax	9	359.0 (7.55)	0.0145 (0.0022)	0.5507 (0.0285)	0.8451 (0.0565)	0.0855 (0.0168)	0.2833* (0.0299)
2% Coconut oil	10	350.7 (12.55)	0.0142 (0.0020)	0.5402 (0.0198)	0.9049 (0.1191)	0.0976* (0.0182)	0.2685 (0.0232)

continued....

Table 28. continued

Group	n	Body weight	Brain	Liver	Spleen	Caecum full	Caecum empty
0% Control	30	347.0 (17.78)	0.5555 (0.0293)	2.4408 (0.1284)	0.2398 (0.0122)	0.9371 (0.1672)	0.3035 (0.0869)
2% White oil N15 (H)	9	352.3 (17.83)	0.5479 (0.0188)	2.3035* (0.4022)	0.2406 (0.0146)	0.9371 (0.1839)	0.3088 (0.1078)
2% White oil N70 (H)	10	347.6 (15.94)	0.5686 (0.0369)	2.3996 (0.0686)	0.2479 (0.0177)	0.9773 (0.1288)	0.3289 (0.0994)
2% White oil N70 (A)	10	371.2*** (18.49)	0.5293* (0.0348)	2.4591 (0.0854)	0.2495 (0.0161)	0.8838 (0.1152)	0.2916 (0.0821)
2% White oil P15 (H)	10	348.0 (19.57)	0.5485 (0.0454)	2.4362 (0.0984)	0.2339 (0.0148)	1.1018** (0.2405)	0.3178 (0.0879)
2% White oil N10 (A)	9	359.2 (24.07)	0.5408 (0.0390)	2.3987 (0.2147)	0.2398 (0.0169)	0.8245 (0.1805)	0.2933 (0.1012)
2% White oil P100 (H)	10	353.3 (19.54)	0.5556 (0.0236)	2.4663 (0.0958)	0.2632 (0.0569)	0.8427 (0.1750)	0.2734 (0.0566)
2% Low melting point wax	10	337.3 (16.02)	0.5843* (0.0392)	2.6987*** (0.1443)	0.4182*** (0.3453)	1.0754* (0.1291)	0.3860* (0.0657)
2% High melting point wax	10	345.7 (18.07)	0.5677 (0.0153)	2.4356 (0.0935)	0.2473 (0.0177)	0.9910 (0.1385)	0.3118 (0.0915)
2% High sulphur wax	9	359.0 (7.55)	0.5452 (0.0246)	2.5504 (0.3176)	0.2347 (0.0179)	0.8130 (0.1867)	0.3382 (0.1869)
2% Coconut oil	10	350.7 (12.55)	0.5473 (0.0445)	2.3812 (0.0754)	0.2216 (0.0140)	0.9340 (0.1787)	0.3546 (0.1157)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Testes : Results calculated from data transformed by $1/\sqrt{x}$
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data not reported, but calculated from Appendix 39.

Table 29. Organ weights (g) of female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

ORGAN: ADRENALS

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	0.0568 (0.0111)				
White oil N 15(H)	20		0.0579 (0.0081)	0.0553 (0.0054)	0.0566 (0.0079)	0.0589 (0.0072)
White oil N 70(H)	20		0.0546 (0.0080)	0.0529 (0.0070)	0.0561[19] (0.0112)	0.0561 (0.0070)
White oil N 70(A)	20		0.0591[19] (0.0106)	0.0577 (0.0086)	0.0569 (0.0067)	0.0563 (0.0065)
White oil P 15(H)	20		0.0548 (0.0097)	0.0554 (0.0064)	0.0566 (0.0079)	0.0573 (0.0103)
White oil N 10(A)	20		0.0525 (0.0090)	0.0565 (0.0076)	0.0582 (0.0089)	0.0568 (0.0122)
White oil P 100(H)	20		0.0545 (0.0076)	0.0533 (0.0087)	0.0526 (0.0073)	0.0525 (0.0090)
Low melting point wax	20		0.0563 (0.0097)	0.0580 (0.0081)	0.0546 (0.0072)	0.0527 (0.0076)
High melting point wax	20		0.0584 (0.0106)	0.0570 (0.0105)	0.0552 (0.0084)	0.0549 (0.0105)
High sulphur wax	20		0.0534 (0.0050)	0.0543 (0.0075)	0.0554[19] (0.0074)	0.0580 (0.0078)
Coconut oil	20					0.0577 (0.0121)

continued....

Table 29. continued.

ORGAN: KIDNEYS

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.1747 (0.0838)				
White oil N 15(H)	20		1.1754 (0.0635)	1.1817 (0.0689)	1.2024 (0.0974)	1.2354** (0.0904)
White oil N 70(H)	20		1.1322 (0.0649)	1.1565 (0.0695)	1.1862 (0.0720)	1.2247* (0.0977)
White oil N 70(A)	20		1.1629 (0.0969)	1.1886 (0.0845)	1.1844 (0.0674)	1.1987 (0.0632)
White oil P 15(H)	20		1.1388 (0.0692)	1.1829 (0.0522)	1.1793 (0.0839)	1.2351** (0.1058)
White oil N 10(A)	20		1.2088 (0.0838)	1.1526 (0.0668)	1.1671 (0.0795)	1.2393** (0.0758)
White oil P 100(H)	20		1.1675 (0.0790)	1.1507 (0.1038)	1.1711 (0.1329)	1.1633 (0.0726)
Low melting point wax	20		1.1860 (0.0967)	1.1884 (0.0929)	1.1493 (0.1055)	1.1681 (0.0683)
High melting point wax	20		1.1734 (0.0759)	1.1641 (0.0868)	1.1570 (0.0922)	1.1912 (0.1059)
High sulphur wax	20		1.1521 (0.0727)	1.1413 (0.0959)	1.1606 (0.0928)	1.1406 (0.0691)
Coconut oil	20					1.2022 (0.0817)

continu ..

Table 29. continued.

ORGAN: OVARIES

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.0730 (0.0174)				
White oil N 15(H)	20		0.0768[19] (0.0188)	0.0729 (0.0111)	0.0718 (0.0097)	0.0735 (0.0185)
White oil N 70(H)	20		0.0723 (0.0154)	0.0748 (0.0195)	0.0808* (0.0170)	0.0709 (0.0134)
White oil N 70(A)	20		0.0812 (0.0226)	0.0687 (0.0157)	0.0737 (0.0161)	0.0765 (0.0171)
White oil P 15(H)	20		0.0777 (0.0223)	0.0745 (0.0131)	0.0721 (0.0136)	0.0800[19] (0.0185)
White oil N 10(A)	20		0.0699 (0.0105)	0.0715 (0.0132)	0.0701 (0.0140)	0.0800 (0.0158)
White oil P 100(H)	20		0.0706 (0.0124)	0.0729[19] (0.0147)	0.0683 (0.0089)	0.0754 (0.0212)
Low melting point wax	20		0.0803 (0.0249)	0.0733 (0.0199)	0.0771 (0.0160)	0.0730 (0.0126)
High melting point wax	20		0.0721 (0.0123)	0.0737 (0.0167)	0.0704 (0.0168)	0.0714 (0.0125)
High sulphur wax	20		0.0712 (0.0106)	0.0697 (0.0119)	0.0711 (0.0138)	0.0722 (0.0122)
Coconut oil	20					0.0751 (0.0168)

continued....

Table 29. continued.

ORGAN: THYMUS

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.2674 (0.0485)				
White oil N 15(H)	20		0.2757 (0.0339)	0.2631 (0.0375)	0.2619 (0.0390)	0.2701 (0.0563)
White oil N 70(H)	20		0.2712 (0.0537)	0.2692 (0.0569)	0.2881 (0.0662)	0.2598 (0.0459)
White oil N 70(A)	20		0.2784 (0.0417)	0.2587 (0.0583)	0.2709 (0.0414)	0.2694 (0.0452)
White oil P 15(H)	20		0.2564 (0.0515)	0.2615 (0.0336)	0.2711 (0.0647)	0.2684 (0.0514)
White oil N 10(A)	20		0.2603 (0.0325)	0.2592 (0.0376)	0.2573 (0.0605)	0.2834 (0.0441)
White oil P 100(H)	20		0.3007* (0.1584)	0.2753 (0.0459)	0.2652[19] (0.0488)	0.2765 (0.0785)
Low melting point wax	20		0.2585 (0.0456)	0.2680 (0.0386)	0.2630 (0.0369)	0.2699 (0.0508)
High melting point wax	20		0.2657 (0.0464)	0.2677 (0.0459)	0.2613 (0.0550)	0.2742 (0.0563)
High sulphur wax	20		0.2727 (0.0685)	0.2532 (0.0614)	0.2568 (0.0507)	0.2760 (0.0536)
Coconut oil	20					0.2915 (0.0727)

cont ir ...

Table 29. continued.

ORGAN: HEART

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.6476 (0.0657)				
White oil N 15(H)	20		0.6510 (0.0699)	0.0642 (0.0756)	0.6341 (0.0605)	0.6657 (0.1243)
White oil N 70(H)	20		0.6360 (0.0708)	0.6373 (0.0838)	0.6620 (0.0788)	0.6463 (0.0731)
White oil N 70(A)	20		0.6747 (0.0775)	0.6578 (0.0793)	0.6480 (0.0592)	0.6709 (0.0909)
White oil P 15(H)	20		0.6524 (0.0752)	0.6715 (0.0727)	0.6411 (0.0829)	0.6484 (0.0783)
White oil N 10(A)	20		0.6765 (0.0728)	0.6300 (0.0711)	0.6094* (0.0535)	0.6427 (0.0810)
White oil P 100(H)	20		0.6864* (0.0844)	0.6494 (0.0871)	0.6339 (0.0743)	0.6328 (0.0599)
Low melting point wax	20		0.6393 (0.0780)	0.6582 (0.0742)	0.6376 (0.0617)	0.6075* (0.1065)
High melting point wax	20		0.6409 (0.0594)	0.6228 (0.0695)	0.6531 (0.0937)	0.6408 (0.0786)
High sulphur wax	20		0.6481 (0.0693)	0.6390 (0.0935)	0.6350 (0.0834)	0.6427 (0.0648)
Coconut oil	20					0.6710 (0.0766)

continued....

Table 29. continued.

ORGAN: BRAIN

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.7942 (0.0730)				
White oil N 15(H)	20		1.7724 (0.0971)	1.7637 (0.0491)	1.7712 (0.0720)	1.7382* (0.2595)
White oil N 70(H)	20		1.7598 (0.0827)	1.7971 (0.0579)	1.7936 (0.0669)	1.7979[19] (0.0649)
White oil N 70(A)	20		1.7866 (0.0530)	1.7723 (0.0620)	1.8047 (0.0636)	1.8079 (0.0752)
White oil P 15(H)	20		1.7902 (0.0797)	1.8083 (0.0805)	1.7714 (0.0865)	1.7756 (0.0807)
White oil N 10(A)	20		1.7686 (0.1389)	1.7887 (0.0584)	1.7985 (0.0783)	1.8115 (0.0566)
White oil P 100(H)	20		1.7660 (0.0537)	1.7815 (0.0471)	1.7412* (0.0861)	1.8019 (0.0726)
Low melting point wax	20		1.7536 (0.1456)	1.7890 (0.0592)	1.7804 (0.0702)	1.7956 (0.0834)
High melting point wax	20		1.7751 (0.0601)	1.7875 (0.0734)	1.7856 (0.0718)	1.7668[19] (0.0538)
High sulphur wax	20		1.7894 (0.1073)	1.7715 (0.0833)	1.7742 (0.0785)	1.7658 (0.0936)
Coconut oil	20					1.8220 (0.0475)

continue ...

Table 29. continued.

ORGAN: LIVER

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	4.5620 (0.2478)				
White oil N 15(H)	20		4.6409 (0.3295)	4.6950 (0.3172)	4.9454*** (0.7063)	5.5441*** (0.3124)
White oil N 70(H)	20		4.5064 (0.3014)	4.5002 (0.2428)	4.6358[18] (0.2361)	4.9289*** (0.3222)
White oil N 70(A)	20		4.5342 (0.3101)	4.7569* (0.4817)	4.7754* (0.1944)	4.9319*** (0.2946)
White oil P 15(H)	20		4.5622[19] (0.2986)	4.9317*** (1.0959)	5.0217*** (0.3380)	5.5837*** (0.3387)
White oil N 10(A)	20		4.5999 (0.2643)	4.5926 (0.2224)	4.8526** (0.3142)	5.5265*** (0.2573)
White oil P 100(H)	20		4.5739[19] (0.1831)	4.5163 (0.3264)	4.5201 (0.3275)	4.5018 (0.2989)
Low melting point wax	20		4.5241 (0.2845)	4.5731 (0.2997)	5.0043*** (0.3619)	5.9232*** (0.7391)
High melting point wax	20		4.6707 (0.2330)	4.5312 (0.2921)	4.5454 (0.2507)	4.5431 (0.3087)
High sulphur wax	20		4.3900 (0.3602)	4.4092 (0.2591)	4.4458 (0.2014)	4.5113 (0.2362)
Coconut oil	20					4.6217 (0.2730)

continued....

Table 29. continued.

ORGAN: SPLEEN

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	0.5000 (0.0435)				
White oil N 15(H)	20		0.4815 (0.0423)	0.4952 (0.0404)	0.5173 (0.0437)	0.6035*** (0.0853)
White oil N 70(H)	20		0.4869 (0.0308)	0.4929 (0.0400)	0.5052[19] (0.0508)	0.5370** (0.0414)
White oil N 70(A)	20		0.5002 (0.0433)	0.5110 (0.0556)	0.5092 (0.0390)	0.5446*** (0.0421)
White oil P 15(H)	20		0.4771* (0.0405)	0.5102 (0.0426)	0.5296* (0.0544)	0.5832*** (0.0566)
White oil N 10(A)	20		0.4966 (0.0404)	0.5048 (0.0337)	0.5057 (0.0413)	0.5853*** (0.0505)
White oil P 100(H)	20		0.4815 (0.0366)	0.4913 (0.0502)	0.4886 (0.0427)	0.5012 (0.0459)
Low melting point wax	20		0.4922 (0.0359)	0.4940 (0.0311)	0.5890*** (0.0816)	0.7515*** (0.1257)
High melting point wax	20		0.4787 (0.0299)	0.4903 (0.0381)	0.4769* (0.0474)	0.4834 (0.0459)
High sulphur wax	20		0.4935[19] (0.0287)	0.4861 (0.0415)	0.4915 (0.0530)	0.4926 (0.0561)
Coconut oil	20					0.4899 (0.0475)

continu ..

Table 29. continued.

ORGAN: CAECUM - FULL

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	2.5628 (0.5037)				
White oil N 15(H)	20		2.7377 (0.6070)	2.4601 (0.4591)	2.7287[19] (0.5665)	2.7627 (0.4010)
White oil N 70(H)	20		2.5861 (0.3910)	2.6832 (0.5220)	2.6875 (0.5131)	2.5963 (0.4034)
White oil N 70(A)	20		2.7383[19] (0.6227)	2.5570 (0.4228)	2.4808 (0.4895)	2.5055 (0.4047)
White oil P 15(H)	20		2.5082 (0.4450)	2.7582 (0.5317)	2.4078 (0.4447)	2.8105* (0.4678)
White oil N 10(A)	20		2.8712* (0.4973)	2.6734 (0.5357)	2.6116 (0.4448)	2.8371[19]* (0.4339)
White oil P 100(H)	20		2.6673 (0.5257)	2.7066 (0.2910)	2.6646 (0.3877)	2.6797 (0.4960)
Low melting point wax	20		2.7263[19] (0.4617)	2.5296 (0.4405)	2.5777 (0.4476)	2.6247 (0.3989)
High melting point wax	20		2.6446 (0.4822)	2.6416 (0.4766)	2.3926[19] (0.5624)	2.4629 (0.2774)
High sulphur wax	20		2.4808 (0.3365)	2.5132 (0.5943)	2.7422 (0.5044)	2.8331* (0.4471)
Coconut oil	20					2.6997 (0.5457)

continued....

Table 29. continued.

ORGAN: CAECUM - EMPTY

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	58	0.8483 (0.1838)				
White oil N 15(H)	20		0.9604 (0.2979)	0.8202 (0.1912)	0.9158 (0.3463)	0.8852[19] (0.2061)
White oil N 70(H)	20		0.8540 (0.2047)	0.8633[19] (0.1887)	0.8608 (0.1925)	0.8627 (0.2054)
White oil N 70(A)	20		0.9912* (0.2823)	0.9190 (0.2290)	0.9062 (0.1955)	0.8037[19] (0.1717)
White oil P 15(H)	20		0.8329 (0.1664)	0.8654 (0.1605)	0.8673 (0.2119)	0.8837 (0.2255)
White oil N 10(A)	20		0.9219 (0.3096)	0.8728 (0.2267)	0.8540 (0.1927)	0.9050 (0.1924)
White oil P 100(H)	20		0.9941* (0.3492)	0.8387 (0.1514)	0.8420 (0.2116)	0.8217 (0.1818)
Low melting point wax	20		0.9059 (0.2434)	0.8320 (0.1805)	0.8731 (0.1940)	0.8795 (0.2201)
High melting point wax	20		0.9529 (0.3151)	0.9245 (0.2551)	0.8250 (0.2053)	0.8559 (0.1634)
High sulphur wax	20		0.7865 (0.1781)	0.7818 (0.1844)	0.9420 (0.2509)	0.8849 (0.2816)
Coconut oil	20					0.8928 (0.2463)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:
Ovaries: Results calculated from data transformed by $\log_e$; Spleen: Results calculated from data transformed by $1/\sqrt{x}$;
Caecum - Empty: Results calculated from data transformed by $\log_e$.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$
Superscripts indicate the sample size (n) when it is different from that giver
In dual data reported in Appendix 40

Table 30. Organ weights relative to body weight (g/100 g body weight) of female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

ORGAN: ADRENALS (Relative weight)

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	0.0313 (0.0061)				
White oil N 15(H)	20		0.0320 (0.0046)	0.0308 (0.0032)	0.0310 (0.0042)	0.0327 (0.0036)
White oil N 70(H)	20		0.0307 (0.0047)	0.0296 (0.0039)	0.0309[19] (0.0064)	0.0307 (0.0033)
White oil N 70(A)	20		0.0331[19] (0.0049)	0.0320 (0.0053)	0.0317 (0.0042)	0.0315 (0.0035)
White oil P 15(H)	20		0.0305 (0.0055)	0.0301 (0.0041)	0.0314 (0.0052)	0.0320 (0.0058)
White oil N 10(A)	20		0.0291 (0.0050)	0.0310 (0.0048)	0.0325 (0.0051)	0.0317 (0.0069)
White oil P 100(H)	20		0.0299 (0.0045)	0.0297 (0.0046)	0.0289 (0.0042)	0.0296 (0.0047)
Low melting point wax	20		0.0314 (0.0051)	0.0324 (0.0044)	0.0307 (0.0041)	0.0284* (0.0037)
High melting point wax	20		0.0320 (0.0058)	0.0317 (0.0061)	0.0310 (0.0040)	0.0306 (0.0054)
High sulphur wax	20		0.0292 (0.0035)	0.0299 (0.0045)	0.0309[19] (0.0038)	0.0327 (0.0050)
Coconut oil	20					0.0315 (0.0061)

continued....

Table 30. continued.

ORGAN: KIDNEYS (Relative weight)

GROUP	n	DOSE LEVEL (% in diet)				
		0	0.002	0.02	0.2	2.0
Control	60	0.6465 (0.0363)				
White oil N 15(H)	20		0.6480 (0.0227)	0.6591 (0.0443)	0.6580 (0.0340)	0.6860*** (0.0350)
White oil N 70(H)	20		0.6366 (0.0315)	0.6477 (0.0296)	0.6528 (0.0283)	0.6711* (0.0346)
White oil N 70(A)	20		0.6525 (0.0376)	0.6569 (0.0313)	0.6592 (0.0430)	0.6709* (0.0381)
White oil P 15(H)	20		0.6334 (0.0373)	0.6420 (0.0329)	0.6527 (0.0439)	0.6900*** (0.0685)
White oil N 10(A)	20		0.6689* (0.0311)	0.6320 (0.0306)	0.6524 (0.0320)	0.6916*** (0.0424)
White oil P 100(H)	20		0.6406 (0.0390)	0.6408 (0.0421)	0.6437 (0.0836)	0.6555 (0.0252)
Low melting point wax	20		0.6615 (0.0429)	0.6630 (0.0432)	0.6449 (0.0344)	0.6307 (0.0276)
High melting point wax	20		0.6423 (0.0278)	0.6455 (0.0317)	0.6514 (0.0331)	0.6652 (0.0395)
High sulphur wax	20		0.6281 (0.0334)	0.6268* (0.03263)	0.6468 (0.0451)	0.6417 (0.0339)
Coconut oil	20					0.6581 (0.0374)

contin ...

Table 30. continued.

ORGAN: OVARIES (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.0402 (0.0094)				
White oil N 15(H)	20		0.0422[19] (0.0105)	0.0406 (0.0063)	0.0392 (0.0043)	0.0408 (0.0098)
White oil N 70(H)	20		0.0408 (0.0097)	0.0420 (0.0109)	0.0446* (0.0100)	0.0389 (0.0075)
White oil N 70(A)	20		0.0456* (0.0126)	0.0381 (0.0091)	0.0411 (0.0093)	0.0426 (0.0080)
White oil P 15(H)	20		0.0435 (0.0137)	0.0406 (0.0078)	0.0399 (0.0081)	0.0444[19] (0.0109)
White oil N 10(A)	20		0.0387 (0.0060)	0.0393 (0.0080)	0.0392 (0.0077)	0.0447* (0.0093)
White oil P 100(H)	20		0.0388 (0.0072)	0.0407[19] (0.0083)	0.0376 (0.0056)	0.0425 (0.0119)
Low melting point wax	20		0.0449 (0.0139)	0.0408 (0.0107)	0.0434 (0.0089)	0.0393 (0.0063)
High melting point wax	20		0.0395 (0.0066)	0.0409 (0.0091)	0.0396 (0.0089)	0.0400 (0.0075)
High sulphur wax	20		0.0389 (0.0062)	0.0383 (0.0063)	0.0396 (0.0080)	0.0406 (0.0067)
Coconut oil	20					0.0412 (0.0095)

continued....

Table 30. continued.

ORGAN: THYMUS (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.1473 (0.0268)				
White oil N 15(H)	20		0.1521 (0.0190)	0.1464 (0.0185)	0.1430 (0.0175)	0.1500 (0.0301)
White oil N 70(H)	20		0.1533 (0.0341)	0.1506 (0.0308)	0.1581 (0.0333)	0.1422 (0.0224)
White oil N 70(A)	20		0.1563 (0.0222)	0.1426 (0.0288)	0.1510 (0.0249)	0.1509 (0.0266)
White oil P 15(H)	20		0.1426 (0.0281)	0.1419 (0.0185)	0.1500 (0.0368)	0.1498 (0.0291)
White oil N 10(A)	20		0.1444 (0.0196)	0.1420 (0.0188)	0.1436 (0.0313)	0.1584 (0.0259)
White oil P 100(H)	20		0.1641* (0.0809)	0.1535 (0.0247)	0.1450[19] (0.0266)	0.1565 (0.0466)
Low melting point wax	20		0.1444 (0.0261)	0.1500 (0.0241)	0.1479 (0.0205)	0.1450 (0.0222)
High melting point wax	20		0.1457 (0.0260)	0.1487 (0.0257)	0.1468 (0.0273)	0.1534 (0.0313)
High sulphur wax	20		0.1493 (0.0422)	0.1385 (0.0300)	0.1431 (0.0269)	0.1556 (0.0315)
Coconut oil	20					0.1597 (0.0396)

contin ...

Table 30. continued.

ORGAN: HEART (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.3567 (0.0358)				
White oil N 15(H)	20		0.3591 (0.0374)	0.3581 (0.0446)	0.3473 (0.0283)	0.3689 (0.0611)
White oil N 70(H)	20		0.3585 (0.0473)	0.3575 (0.0503)	0.3654 (0.0507)	0.3542 (0.0345)
White oil N 70(A)	20		0.3788* (0.0405)	0.3636 (0.0393)	0.3612 (0.0404)	0.3755 (0.0519)
White oil P 15(H)	20		0.3634 (0.0465)	0.3643 (0.0392)	0.3542 (0.0397)	0.3616 (0.0424)
White oil N 10(A)	20		0.3742 (0.0336)	0.3456 (0.0389)	0.3410 (0.0302)	0.3585 (0.0440)
White oil P 100(H)	20		0.3770* (0.0486)	0.3616 (0.0438)	0.3475 (0.0349)	0.3567 (0.0298)
Low melting point wax	20		0.3566 (0.0418)	0.3674 (0.0401)	0.3583 (0.0298)	0.3272** (0.0520)
High melting point wax	20		0.3514 (0.0351)	0.3456 (0.0367)	0.3672 (0.0416)	0.3589 (0.0472)
High sulphur wax	20		0.3532 (0.0349)	0.3512 (0.0482)	0.3537 (0.0423)	0.3623 (0.0414)
Coconut oil	20					0.3685 (0.0505)

continued....

Table 30. continued.

ORGAN: BRAIN (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	0.9892 (0.0566)				
White oil N 15(H)	20		0.9780 (0.0573)	0.9836 (0.0394)	0.9716 (0.0488)	0.9651 (0.1405)
White oil N 70(H)	20		0.9907 (0.0623)	1.0076 (0.0448)	0.9883 (0.0487)	0.9873[19] (0.0531)
White oil N 70(A)	20		1.0048 (0.0503)	0.9816 (0.0547)	1.0054 (0.0641)	1.0124 (0.0589)
White oil P 15(H)	20		0.9967 (0.0631)	0.9815 (0.0533)	0.9812 (0.0637)	0.9907 (0.0401)
White oil N 10(A)	20		0.9797 (0.0764)	0.9822 (0.0541)	1.0065 (0.0449)	1.0112 (0.0405)
White oil P 100(H)	20		0.9697 (0.0398)	0.9943 (0.0418)	0.9570* (0.0609)	1.0170 (0.0525)
Low melting point wax	20		0.9789 (0.0842)	0.9998 (0.0548)	1.0028 (0.0618)	0.9697 (0.0366)
High melting point wax	20		0.9734 (0.0510)	0.9933 (0.0572)	1.0077 (0.0535)	0.9893[19] (0.0429)
High sulphur wax	20		0.9765 (0.0658)	0.9762 (0.0709)	0.9896 (0.0489)	0.9946 (0.0647)
Coconut oil	20					0.9995 (0.0587)

contin ...

Table 30. continued.

ORGAN: LIVER (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	2.5124 (0.1167)				
White oil N 15(H)	20		2.5566 (0.1090)	2.6160* (0.1541)	2.7030*** (0.3365)	3.0802*** (0.1219)
White oil N 70(H)	20		2.5336 (0.1541)	2.5215 (0.1226)	2.5551[18] (0.1265)	2.7024*** (0.1109)
White oil N 70(A)	20		2.5461 (0.1438)	2.6333** (0.2894)	2.6576** (0.1288)	2.7600*** (0.1692)
White oil P 15(H)	20		2.5334[19] (0.1231)	2.6662*** (0.5139)	2.7774*** (0.1513)	3.1145*** (0.1597)
White oil N 10(A)	20		2.5471 (0.1152)	2.5187 (0.1104)	2.7132*** (0.1283)	3.0844*** (0.1501)
White oil P 100(H)	20		2.5049[19] (0.1250)	2.5185 (0.1719)	2.4786 (0.1147)	2.5368 (0.1133)
Low melting point wax	20		2.5259 (0.1616)	2.5527 (0.1510)	2.8136*** (0.1759)	3.1911*** (0.3183)
High melting point wax	20		2.5592 (0.1251)	2.5126 (0.0907)	2.5627 (0.1179)	2.5410 (0.1589)
High sulphur wax	20		2.3959** (0.2061)	2.4260 (0.1329)	2.4801 (0.1327)	2.5386 (0.1135)
Coconut oil	20					2.5302 (0.1135)

continued....

Table 30. continued.

ORGAN: SPLEEN (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	59	0.2752 (0.0230)				
White oil N 15(H)	20		0.2651 (0.0156)	0.2763 (0.0252)	0.2836 (0.0232)	0.3347*** (0.0414)
White oil N 70(H)	20		0.2740 (0.0205)	0.2764 (0.0244)	0.2773[19] (0.0214)	0.2945** (0.0185)
White oil N 70(A)	20		0.2809 (0.0224)	0.2826 (0.0281)	0.2832 (0.0211)	0.3043*** (0.0175)
White oil P 15(H)	20		0.2652 (0.0194)	0.2766 (0.0208)	0.2928** (0.0271)	0.3252*** (0.0285)
White oil N 10(A)	20		0.2747 (0.0159)	0.2768 (0.0165)	0.2829 (0.0221)	0.3265*** (0.0263)
White oil P 100(H)	20		0.2645 (0.0232)	0.2738 (0.0245)	0.2681 (0.0207)	0.2824 (0.0224)
Low melting point wax	20		0.2748 (0.0193)	0.2759 (0.0188)	0.3309*** (0.0399)	0.4043*** (0.0557)
High melting point wax	20		0.2621* (0.0130)	0.2721 (0.0187)	0.2685 (0.0188)	0.2702 (0.0223)
High sulphur wax	20		0.2694[19] (0.0207)	0.2674 (0.0223)	0.2743 (0.0318)	0.2773 (0.0322)
Coconut oil	20					0.2680 (0.0208)

contin

Table 30. continued.

ORGAN: CAECUM - FULL (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	60	1.4104 (0.2700)				
White oil N 15(H)	20		1.5113 (0.3365)	1.3733 (0.2668)	1.5007[19] (0.3038)	1.5365 (0.2269)
White oil N 70(H)	20		1.4609 (0.2620)	1.5115 (0.3396)	1.4856 (0.3148)	1.4256 (0.2261)
White oil N 70(A)	20		1.5252[19] (0.3000)	1.4132 (0.2211)	1.3828 (0.2823)	1.4002 (0.2099)
White oil P 15(H)	20		1.3975 (0.2607)	1.4928 (0.2695)	1.3313 (0.2371)	1.5672* (0.2571)
White oil N 10(A)	20		1.5892** (0.2625)	1.4648 (0.2886)	1.4612 (0.2454)	1.5802[19]* (0.2444)
White oil P 100(H)	20		1.4617 (0.2748)	1.5122 (0.1832)	1.4641 (0.2212)	1.5086 (0.2534)
Low melting point wax	20		1.5193[19] (0.2267)	1.4191 (0.2903)	1.4513 (0.2605)	1.4143 (0.1833)
High melting point wax	20		1.4480 (0.2536)	1.4710 (0.2882)	1.3512[19] (0.2974)	1.3778 (0.1538)
High sulphur wax	20		1.3522 (0.1784)	1.3821 (0.3203)	1.5283 (0.2776)	1.5983** (0.2772)
Coconut oil	20					1.4793 (0.2982)

continued....

Table 30. continued.

ORGAN: CAECUM - EMPTY (Relative weight)

GROUP	n	DOSE LEVEL (% in diet) 0	0.002	0.02	0.2	2.0
Control	58	0.4660 (0.0992)				
White oil N 15(H)	20		0.5299 (0.1627)	0.4575 (0.1093)	0.5003 (0.1878)	0.4913[19] (0.1071)
White oil N 70(H)	20		0.4823 (0.1230)	0.4848[19] (0.1150)	0.4769 (0.1213)	0.4731 (0.1105)
White oil N 70(A)	20		0.5529** (0.1389)	0.5094 (0.1307)	0.5048 (0.1124)	0.4526[19] (0.1017)
White oil P 15(H)	20		0.4636 (0.0934)	0.4696 (0.0899)	0.4801 (0.1203)	0.4920 (0.1208)
White oil N 10(A)	20		0.5107 (0.1663)	0.4798 (0.1317)	0.4790 (0.1133)	0.5062 (0.1134)
White oil P 100(H)	20		0.5454* (0.1887)	0.4674 (0.0814)	0.4637 (0.1220)	0.4643 (0.1073)
Low melting point wax	20		0.5056 (0.1317)	0.4686 (0.1236)	0.4930 (0.1182)	0.4724 (0.1025)
High melting point wax	20		0.5060 (0.1639)	0.5136 (0.1440)	0.4656 (0.1122)	0.4786 (0.0891)
High sulphur wax	20		0.4286 (0.0950)	0.4300 (0.1001)	0.5249 (0.1370)	0.5012 (0.1696)
Coconut oil	20					0.4905 (0.1419)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:
Ovaries: Results calculated from data transformed by $\log_e$;
Caecum - Empty: Results calculated from data transformed by $\log_e$.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$
Superscripts indicate the sample size (n) when it is different from that given.
Individual data not reported, but calculated from Appendix 40.

Table 31. Organ weights (g) of female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Adrenal	Kidneys	Ovaries	Thymus	Heart
0% Control	30	188.7 (7.21)	0.0569 (0.0096)	1.2807 (0.1341)	0.0666 (0.0093)	0.2228 (0.0375)	0.6831 (0.0920)
2% White oil N15 (H)	10	191.1 (6.12)	0.0554 (0.0075)	1.2960 (0.1006)	0.0716 (0.0158)	0.2506 (0.0421)	0.7176 (0.1050)
2% White oil N70 (H)	10	184.6 (9.70)	0.0505 (0.0077)	1.3133 (0.1117)	0.0730 (0.0142)	0.2626* (0.0555)	0.6668 (0.0763)
2% White oil N70 (A)	10	195.8* (14.34)	0.0481* (0.0161)	1.2894 (0.1271)	0.0651 (0.0108)	0.2401 (0.0495)	0.6777 (0.0611)
2% White oil P15 (H)	10	191.0 (9.94)	0.0579 (0.0066)	1.2722 (0.1030)	0.0777*[9] (0.0116)	0.2520 (0.0491)	0.6836 (0.0829)
2% White oil N10 (A)	10	182.0* (6.00)	0.0529 (0.0105)	1.2182 (0.0956)	0.0705 (0.0164)	0.2348 (0.0527)	0.6283 (0.0774)
2% White oil P100 (H)	10	190.4 (6.69)	0.0532 (0.0071)	1.3460 (0.1297)	0.0652 (0.0085)	0.2551 (0.0508)	0.6917 (0.0814)
2% Low melting point wax	9	184.2 (4.66)	0.0557 (0.0105)	1.2554 (0.1275)	0.0681 (0.0115)	0.2380 (0.0634)	0.6641 (0.0619)
2% High melting point wax	10	184.9[9] (11.37)	0.0497* (0.0051)	1.2291 (0.1516)	0.0647 (0.0098)	0.2049[9] (0.0468)	0.6411 (0.0709)
2% High sulphur wax	10	185.8[9] (10.62)	0.0516 (0.0048)	1.2552 (0.1109)	0.0735 (0.0120)	0.2328 (0.0276)	0.6770 (0.0900)
2% Coconut oil	10	192.5 (10.36)	0.0542 (0.0121)	1.3418 (0.1275)	0.0705 (0.0141)	0.2346 (0.0457)	0.6841 (0.0722)

continued....

Table 31. continued

Group	n	Body weight	Brain	Liver	Spleen	Caecum full	Caecum empty
0% Control	30	188.7 (7.21)	1.8122 (0.0869)	4.6548 (0.3314)	0.4960 (0.0395)	2.5512 (0.5066)	0.8878 (0.2700)
2% White oil N15 (H)	10	191.1 (6.12)	1.8057 (0.0454)	5.0136** (0.3669)	0.5343* (0.0453)	2.4337 (0.3160)	0.9255 (0.1078)
2% White oil N70 (H)	10	184.6 (9.70)	1.8446 (0.0969)	4.9838* (0.7513)	0.5369* (0.0516)	2.4919 (0.3489)	0.9536 (0.1927)
2% White oil N70 (A)	10	195.8* (14.34)	1.8238 (0.0720)	5.0396** (0.3551)	0.5252 (0.0425)	2.7583 (0.4547)	1.0630* (0.3321)
2% White oil P15 (H)	10	191.0 (9.94)	1.8141 (0.0654)	4.9871* (0.2402)	0.5515*** (0.0437)	2.8050 (0.4068)	0.9794 (0.2252)
2% White oil N10 (A)	10	182.0 (6.00)	1.7929 (0.0953)	4.6725 (0.2681)	0.5135 (0.0244)	2.6004 (0.4924)	0.8812 (0.1870)
2% White oil P100 (H)	10	190.4 (6.69)	1.8269 (0.0852)	4.7357 (0.3545)	0.5147 (0.0447)	2.7484 (0.4553)	1.0518^{9} (0.1780)
2% Low melting point wax	9	184.2 (4.66)	1.7653 (0.0648)	5.2840*** (0.3161)	0.6889*** (0.0564)	2.7170 (0.5652)	0.9468 (0.2860)
2% High melting point wax	10	184.9^{9} (11.37)	1.8140 (0.0711)	4.6523 (0.2429)	0.4921 (0.0317)	2.7939 (0.5873)	0.9264 (0.2570)
2% High sulphur wax	10	185.8^{9} (10.62)	1.7630 (0.0723)	4.6099 (0.3062)	0.4761 (0.0458)	2.5992 (0.4366)	0.9045 (0.2393)
2% Coconut oil	10	192.5 (10.36)	1.8567 (0.1184)	4.7493 (0.3246)	0.5027 (0.0508)	2.6530 (0.4190)	0.8819 (0.1742)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. * $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$. Superscripts indicate the sample size (n) when it is different from that given. Individual data reported in Appendix 41.

Table 32. Organ weights relative to body weight (g/100g body weight) of female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Adrenal	Kidneys	Ovaries	Thymus	Heart
0% Control	30	188.7 (7.21)	0.0301 (0.0045)	0.6783 (0.0627)	0.0353 (0.0051)	0.1179 (0.0186)	0.3617 (0.0451)
2% White oil N15 (H)	10	191.1 (6.12)	0.0290 (0.0040)	0.6785 (0.0517)	0.0374 (0.0076)	0.1312 (0.0212)	0.3757 (0.0553)
2% White oil N70 (H)	10	184.6 (9.70)	0.0273 (0.0037)	0.7116 (0.0507)	0.0397 (0.0085)	0.1426** (0.0317)	0.3613 (0.0383)
2% White oil N70 (A)	10	195.8* (14.34)	0.0245** (0.0080)	0.6594 (0.0581)	0.0333 (0.0057)	0.1224 (0.0213)	0.3469 (0.0316)
2% White oil P15 (H)	10	191.0 (9.94)	0.0303 (0.0034)	0.6666 (0.0510)	0.0410*[9] (0.0067)	0.1325 (0.0282)	0.3593 (0.0533)
2% White oil N10 (A)	10	182.0* (6.00)	0.0291 (0.0059)	0.6689 (0.0402)	0.0387 (0.0089)	0.1290 (0.0284)	0.3460 (0.0482)
2% White oil P100 (H)	10	190.4 (6.69)	0.0279 (0.0034)	0.7065 (0.0592)	0.0343 (0.0049)	0.1337 (0.0243)	0.3629 (0.0374)
2% Low melting point wax	9	184.2 (4.66)	0.0302 (0.0054)	0.6809 (0.0596)	0.0369 (0.0059)	0.1292 (0.0339)	0.3607 (0.0349)
2% High melting point wax	9	184.9 (11.37)	0.0270 (0.0041)	0.6673 (0.0675)	0.0347 (0.0057)	0.1169[8] (0.0184)	0.3520 (0.0399)
2% High sulphur wax	9	185.8 (10.62)	0.0275 (0.0036)	0.6754 (0.0557)	0.0394 (0.0074)	0.1248 (0.0145)	0.3575 (0.0399)
2% Coconut oil	10	192.5 (10.36)	0.0284 (0.0076)	0.6979 (0.0655)	0.0368 (0.0084)	0.1216 (0.0215)	0.3549 (0.0249)

continued....

Table 32. continued

Group	n	Body weight	Brain	Liver	Spleen	Caecum full	Caecum empty
0% Control	30	188.7 (7.21)	0.9610 (0.0483)	2.4658 (0.1379)	0.2627 (0.0170)	1.3508 (0.2615)	0.4699 (0.1414)
2% White oil N15 (H)	10	191.1 (6.12)	0.9455 (0.0302)	2.6230** (0.1636)	0.2795* (0.0209)	1.2744 (0.1672)	0.4853 (0.0620)
2% White oil N70 (H)	10	184.6 (9.70)	1.0005* (0.0530)	2.6986*** (0.3612)	0.2904*** (0.0171)	1.3550 (0.2173)	0.5174 (0.1032)
2% White oil N70 (A)	10	195.8* (14.34)	0.9346 (0.0565)	2.5761 (0.1065)	0.2684 (0.0134)	1.4102 (0.2217)	0.5465 (0.1788)
2% White oil P15 (H)	10	191.0 (9.94)	0.9529 (0.0726)	2.6138** (0.1181)	0.2889*** (0.0205)	1.4711 (0.2176)	0.5156 (0.1271)
2% White oil N10 (A)	10	182.0* (6.00)	0.9855 (0.0493)	2.5669 (0.1106)	0.2824** (0.0149)	1.4255 (0.2403)	0.4844 (0.1019)
2% White oil P100 (H)	10	190.4 (6.69)	0.9601 (0.0451)	2.4868 (0.1596)	0.2704 (0.0231)	1.4394 (0.2100)	0.5503[9] (0.0820)
2% Low melting point wax	9	184.2 (4.66)	0.9585 (0.0351)	2.8675*** (0.1384)	0.3739*** (0.0282)	1.4739 (0.2936)	0.5143 (0.1546)
2% High melting point wax	9	184.9 (11.37)	0.9848 (0.0751)	2.5208 (0.1562)	0.2675 (0.0184)	1.5315 (0.3118)	0.5223 (0.1680)
2% High sulphur wax	9	185.8 (10.62)	0.9497 (0.0489)	2.4666 (0.1048)	0.2566 (0.0263)	1.3788 (0.2678)	0.4758 (0.1309)
2% Coconut oil	10	192.5 (10.36)	0.9659 (0.0649)	2.4691 (0.1480)	0.2612 (0.0222)	1.3800 (0.2146)	0.4588 (0.0935)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:
Liver :- Results calculated from data transformed by $\log_e$
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data not reported, but calculated from Appendix 4

Table 33. Organ weights (g) of male rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	317.0 (13.96)	7.7968 (0.5288)	0.1070 (0.0256)	1.7022 (0.0775)	0.8020 (0.0865)	1.7342 (0.2497)
2% White oil N 15(H)	5	305.0 (10.00)	8.3324 (0.4983)	0.2358* (0.1266)	1.7548 (0.0838)	0.8224 (0.0663)	1.5038 (0.6407)
2% White oil N 70(H)	5	318.0 (2.74)	7.9122 (0.1906)	0.1244 (0.0423)	1.7508 (0.0351)	0.7658 (0.0814)	2.1548 (0.2824)
2% White oil N 70(A)	5	316.4 (11.50)	8.1008 (0.3905)	0.1468 (0.0691)	1.7540 (0.0928)	0.7918 (0.0226)	2.0392 (0.5071)
2% White oil P 15(H)	5	321.0 (17.82)	8.9184* (0.5343)	0.5350*** (0.4752)	1.8778** (0.0721)	0.8612 (0.0655)	1.9428 (0.3667)
2% White oil N 10(A)	5	316.0 (18.17)	8.8224* (0.6854)	0.3466*** (0.0630)	1.8032 (0.1460)	0.8432 (0.0860)	2.0610 (0.5346)
2% White oil P 100(H)	5	310.0 (15.81)	7.6530 (0.4725)	0.1346 (0.0313)	1.6806 (0.1118)	0.8338 (0.0474)	2.0404 (0.2383)
2% Low melting point wax	5	320.0 (14.58)	9.9948*** (1.6901)	0.3316*** (0.1854)	1.6414 (0.0482)	0.9240** (0.0550)	1.9968 (0.4437)
2% High melting point wax	5	313.0 (16.05)	7.7016 (0.5689)	0.1380 (0.0236)	1.7324 (0.0840)	0.7456 (0.0750)	1.8110 (0.2220)
2% High sulphur wax	5	310.0 (30.21)	7.8152 (0.8288)	0.1218 (0.0183)	1.6818 (0.1755)	0.7480 (0.0772)	2.3784* (0.7473)
2% Coconut oil	5	331.0 (22.75)	8.2602 (0.6482)	0.1158 (0.0489)	1.7638 (0.0768)	0.7668 (0.0665)	2.4722* (0.5100)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Lymph node:- Results calculated from data transformed by $\log_e y$.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Appendix 42.

Table 34. Organ weights relative to body weight (g/100g body weight) of male rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	317.0 (13.96)	2.4577 (0.0708)	0.0339 (0.0088)	0.5372 (0.0184)	0.2529 (0.0240)	0.5460 (0.0626)
2% White oil N 15(H)	5	305.0 (10.00)	2.7301***P (0.0784)	0.0770* (0.0420)	0.5754** (0.0214)	0.2694 (0.0158)	0.4892 (0.2059)
2% White oil N 70(H)	5	318.0 (2.74)	2.4881 (0.0550)	0.0392 (0.0135)	0.5506 (0.0147)	0.2408 (0.0252)	0.6775 (0.0875)
2% White oil N 70(A)	5	316.4 (11.50)	2.5599*P (0.0618)	0.0466 (0.0218)	0.5542 (0.0148)	0.2505 (0.0100)	0.6443 (0.1594)
2% White oil P 15(H)	5	321.0 (17.82)	2.7786***P (0.0751)	0.1691*** (0.1552)	0.5857*** (0.0214)	0.2688 (0.0219)	0.6057 (0.1089)
2% White oil N 10(A)	5	316.0 (18.17)	2.7896***P (0.0802)	0.1100*** (0.0208)	0.5700** (0.0140)	0.2671 (0.0268)	0.6485 (0.1470)
2% White oil P 100(H)	5	310.0 (15.81)	2.4683 (0.0741)	0.0432 (0.0089)	0.5420 (0.0208)	0.2693 (0.0157)	0.6599 (0.0887)
2% Low melting point wax	5	320.0 (14.58)	3.1246*t (0.5082)	0.1043*** (0.0582)	0.5136 (0.0223)	0.2887** (0.0093)	0.6273 (0.1507)
2% High melting point wax	5	313.0 (16.05)	2.4588 (0.0855)	0.0442 (0.0078)	0.5539 (0.0226)	0.2381 (0.0191)	0.5780 (0.0579)
2% High sulphur wax	5	310.0 (30.21)	2.5195 (0.0436)	0.0395 (0.0056)	0.5424 (0.0154)	0.2420 (0.0213)	0.7633* (0.1987)
2% Coconut oil	5	331.0 (22.75)	2.4959 (0.1064)	0.0350 (0.0150)	0.5338 (0.0220)	0.2318 (0.0165)	0.7437* (0.1252)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Lymph node:- Results calculated from data transformed by $\log_e y$.
Liver: Results calculated using P two-sided pooled two sample t-tests, or t two-sided two sample t test with untransformed data.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
In idual data not reported, but calcu ted from Appendi).

Table 35. Organ weights (g) of female rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	183.6 (13.13)	4.3998 (0.4093)	0.1038 (0.0209)	1.0666 (0.0339)	0.4550 (0.0284)	0.9478 (0.2757)
2% White oil N 15(H)	5	169.0** (8.22)	5.1274*** (0.1168)	0.3472*** (0.0843)	1.0878 (0.0467)	0.4886 (0.0158)	1.7056 (1.4657)
2% White oil N 70(H)	5	173.0 (4.47)	4.4826 (0.2663)	0.1310 (0.0186)	1.0720 (0.0912)	0.4312 (0.0242)	1.8388 (1.0135)
2% White oil N 70(A)	5	176.2 (4.15)	4.6888 (0.2036)	0.1264 (0.0449)	1.1186 (0.0588)	0.4628 (0.0324)	1.2286 (0.4474)
2% White oil P 15(H)	5	170.0* (9.35)	4.9242** (0.1788)	0.3480*** (0.0584)	1.0488 (0.0314)	0.5010 (0.0673)	1.4586 (0.4198)
2% White oil N 10(A)	5	179.0 (10.84)	5.3086*** (0.3331)	0.3320*** (0.1076)	1.1346 (0.0649)	0.5238 (0.0487)	1.0778 (0.6914)
2% White oil P 100(H)	5	185.0 (10.00)	4.5448 (0.1940)	0.1324 (0.0268)	1.1488 (0.0982)	0.4594 (0.0561)	1.9112 (1.4156)
2% Low melting point wax	5	173.0 (9.08)	5.1808*** (0.4764)	0.3742*** (0.1430)	1.0708 (0.0835)	0.5882 (0.0599)	1.3252 (0.8014)
2% High melting point wax	5	177.0 (6.71)	4.1218 (0.0398)	0.1150 (0.0242)	1.0610 (0.0446)	0.4098 (0.0259)	1.4796 (0.4669)
2% High sulphur wax	5	168.0** (5.70)	4.1602 (0.1152)	0.1082 (0.0305)	1.0340 (0.0600)	0.4374 (0.0244)	1.2672 (0.7554)
2% Coconut oil	5	183.0 (8.37)	4.4824 (0.2918)	0.1188 (0.0226)	0.9820 (0.2452)	0.4164 (0.0318)	1.8544 (1.5354)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Liver :- Results calculated from data transformed by $\log_e y$.
Lymph node:- Results calculated from data transformed by $\log_e y$.
Kidneys :- Results calculated from data transformed by y^2.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Appendix 44.

Table 36. Organ weights relative to body weight (g/100g body weight) of female rats on the tissue level study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	183.6 (13.13)	2.3972 (0.1592)	0.0569 (0.0131)	0.5825 (0.0304)	0.2483 (0.0150)	0.5229 (0.1746)
2% White oil N 15(H)	5	169.0** (8.22)	3.0376*** (0.1039)	0.2042*** (0.0424)	0.6442* (0.0262)	0.2899** (0.0215)	0.9908 (0.8008)
2% White oil N 70(H)	5	173.0 (4.47)	2.5897* (0.0971)	0.0756 (0.0091)	0.6194 (0.0458)	0.2492 (0.0120)	1.0560 (0.5700)
2% White oil N 70(A)	5	176.2 (4.15)	2.6610*** (0.0929)	0.0716 (0.0249)	0.6348* (0.0283)	0.2627 (0.0173)	0.6982 (0.2598)
2% White oil P 15(H)	5	170.0* (9.35)	2.8995*** (0.0843)	0.2064*** (0.0430)	0.6179 (0.0270)	0.2940** (0.0283)	0.8631 (0.2658)
2% White oil N 10(A)	5	179.0 (10.84)	2.9655*** (0.0318)	0.1857*** (0.0602)	0.6342* (0.0211)	0.2926** (0.0208)	0.6195 (0.4353)
2% White oil P 100(H)	5	185.0 (10.00)	2.4607 (0.1384)	0.0716 (0.0146)	0.6202 (0.0211)	0.2487 (0.0317)	1.0294 (0.7478)
2% Low melting point wax	5	173.0 (9.08)	2.9915*** (0.1695)	0.2155*** (0.0798)	0.6186 (0.0290)	0.3399*** (0.0295)	0.7553 (0.4339)
2% High melting point wax	5	177.0 (6.71)	2.3309 (0.0732)	0.0647 (0.0116)	0.5995 (0.0162)	0.2314 (0.0087)	0.8301 (0.2381)
2% High sulphur wax	5	168.0** (5.70)	2.4784 (0.1031)	0.0644 (0.0180)	0.6160 (0.0399)	0.2604 (0.0137)	0.7524 (0.4390)
2% Coconut oil	5	183.0 (8.37)	2.4500 (0.1264)	0.0654 (0.0149)	0.5377 (0.1362)	0.2280 (0.0211)	1.0156 (0.8178)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Lymph nodes - Results calculated from data transformed by $\log_e y$.
Kidneys - Results calculated from data transformed by y^3.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data not reported, but calculated from Appendix 14.

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Table 37. Organ weights (g) of male rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	339.6 (19.48)	8.1448 (0.6315)	0.1428 (0.0373)	1.7694 (0.1207)	0.7776 (0.0465)	2.5070 (0.4296)
2% White oil N 15(H)	5	347.8 (16.19)	8.5028 (0.5733)	0.2118 (0.0441)	1.7762 (0.0985)	0.8420 (0.0698)	2.4090 (0.9850)
2% White oil N 70(H)	5	335.6 (19.39)	7.9010 (0.5500)	0.1752 (0.0350)	1.7050 (0.0590)	0.7644 (0.0322)	2.1246 (0.6592)
2% White oil N 70(A)	5	340.4 (15.27)	8.2622 (0.3396)	0.1778 (0.0341)	1.8208 (0.1552)	0.8002 (0.0330)	2.4848 (0.6721)
2% White oil P 15(H)	5	344.6 (16.20)	8.3654 (0.6301)	0.3088*** (0.1406)	1.7686 (0.0607)	0.7640 (0.0449)	2.6990 (0.9845)
2% White oil N 10(A)	5	359.0 (17.19)	8.7276 (0.5121)	0.2762** (0.0426)	1.8578 (0.0999)	0.8204 (0.1242)	2.2814 (0.7572)
2% White oil P 100(H)	5	340.8 (16.81)	8.1576 (0.4828)	0.1860 (0.1024)	1.7054 (0.1140)	0.7956 (0.0534)	2.7308 (0.6928)
2% Low melting point wax	5	343.0 (21.22)	8.6870 (0.6441)	0.3414*** (0.0574)	1.7284 (0.1652)	0.9714*** (0.1215)	1.5944 (0.5526)
2% High melting point wax	5	342.6 (19.07)	8.1288 (0.5930)	0.1692 (0.0587)	1.8006 (0.1179)	0.8244 (0.0476)	1.8472 (0.9993)
2% High sulphur wax	5	344.6 (31.61)	8.2638 (0.8055)	0.1626 (0.0358)	1.7386 (0.1448)	0.7978 (0.1112)	1.7140 (0.2604)
2% Coconut oil	5	352.2 (20.54)	8.0300 (0.8835)	0.1278 (0.0340)	1.6496 (0.1205)	0.7580 (0.1173)	2.3472 (0.6520)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Individual data reported in Appendix 43.

Table 38. Organ weights relative to body weight (g/100g body weight) of male rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	339.6 (19.48)	2.3974 (0.0996)	0.0425 (0.0130)	0.5211 (0.0218)	0.2294 (0.0160)	0.7443 (0.1603)
2% White oil N 15(H)	5	347.8 (16.19)	2.4430 (0.0690)	0.0608 (0.0121)	0.5106 (0.0119)	0.2419 (0.0125)	0.6849 (0.2635)
2% White oil N 70(H)	5	335.6 (19.39)	2.3540 (0.0797)	0.0523 (0.0105)	0.5086 (0.0128)	0.2283 (0.0140)	0.6288 (0.1809)
2% White oil N 70(A)	5	340.4 (15.27)	2.4276 (0.0253)	0.0524 (0.0109)	0.5346 (0.0312)	0.2352 (0.0071)	0.7334 (0.2060)
2% White oil P 15(H)	5	344.6 (16.20)	2.4252 (0.0826)	0.0910*** (0.0432)	0.5137 (0.0168)	0.2217 (0.0067)	0.7919 (0.3155)
2% White oil N 10(A)	5	359.0 (17.19)	2.4306 (0.0611)	0.0773** (0.0144)	0.5177 (0.0196)	0.2280 (0.0284)	0.6357 (0.2043)
2% White oil P 100(H)	5	340.8 (16.81)	2.3935 (0.0712)	0.0543 (0.0295)	0.5001 (0.0124)	0.2334 (0.0096)	0.7993 (0.1991)
2% Low melting point wax	5	343.0 (21.22)	2.5324* (0.0965)	0.1001*** (0.0198)	0.5039 (0.0370)	0.2830*** (0.0286)	0.4719* (0.1804)
2% High melting point wax	5	342.6 (19.07)	2.3717 (0.0813)	0.0492 (0.0160)	0.5254 (0.0069)	0.2412 (0.0185)	0.5357 (0.2803)
2% High sulphur wax	5	344.6 (31.61)	2.3972 (0.0295)	0.0475 (0.0112)	0.5049 (0.0117)	0.2311 (0.0199)	0.5029 (0.1032)
2% Coconut oil	5	352.2 (20.54)	2.2778* (0.1784)	0.0363 (0.0098)	0.4696** (0.0420)	0.2145 (0.0250)	0.6663 (0.1784)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
* $p <= 0.05$; ** $p <= 0.01$; *** $p <= 0.001$.
Individual data not reported, but calculated from Appendix 43.

Table 39. Organ weights (g) of female rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	184.0 (1.41)	4.2230 (0.1745)	0.0916 (0.0290)	1.0866 (0.0873)	0.4262 (0.0254)	1.6374 (1.0664)
2% White oil N 15(H)	5	184.2 (11.69)	4.6252 (0.3432)	0.2608*** (0.0241)	1.0852 (0.1018)	0.4786 (0.0346)	1.2672 (0.3826)
2% White oil N 70(H)	5	189.8 (15.27)	4.4038 (0.6607)	0.1454* (0.0550)	1.1032 (0.0913)	0.4656 (0.0428)	2.2426 (1.0842)
2% White oil N 70(A)	5	184.0 (9.62)	4.3124 (0.2555)	0.1728** (0.0428)	1.0968 (0.0639)	0.4442 (0.0220)	1.4504 (0.7001)
2% White oil P 15(H)	5	190.0 (14.54)	4.5942 (0.3480)	0.2872*** (0.0360)	1.1354 (0.0546)	0.4862* (0.0477)	1.3662 (0.8439)
2% White oil N 10(A)	5	184.4 (5.59)	4.5152 (0.1669)	0.2704*** (0.0356)	1.0762 (0.0413)	0.4928* (0.0200)	1.9398 (0.5743)
2% White oil P 100(H)	5	186.4 (6.11)	4.4004 (0.2963)	0.1188 (0.0296)	1.1016 (0.0605)	0.4656 (0.0271)	1.7842 (1.0571)
2% Low melting point wax	5	188.4 (5.94)	5.0034*** (0.3582)	0.2882*** (0.0519)	1.1324 (0.0727)	0.6478*** (0.1289)	2.1852 (0.5839)
2% High melting point wax	5	183.6 (5.46)	4.2182 (0.2225)	0.1356 (0.0365)	1.0856 (0.0589)	0.4460 (0.0252)	1.6774 (0.2918)
2% High sulphur wax	5	183.8 (12.48)	4.2002 (0.2053)	0.1306 (0.0312)	1.0900 (0.0722)	0.4370 (0.0547)	1.3226 (0.6475)
2% Coconut oil	5	204.2** (16.56)	4.6000 (0.3518)	0.1124 (0.0286)	1.1644 (0.0712)	0.4716 (0.0180)	1.9082 (1.1442)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Body weight: - Results calculated from data transformed by $\log_e y$.
Spleen : - Results calculated from data transformed by $\log_e y$.
* $p <= 0.05$; ** $p <= 0.01$; *** $p <= 0.001$.
Individual data reported in Appendix 45.

Table 40. Organ weights relative to body weight (g/100g body weight) of female rats on the tissue level reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Body weight	Liver	Lymph node	Kidneys	Spleen	Perirenal fat
0% Control	5	184.0 (1.41)	2.2956 (0.1059)	0.0498 (0.0160)	0.5908 (0.0511)	0.2317 (0.0145)	0.8903 (0.5809)
2% White oil N 15(H)	5	184.2 (11.69)	2.5109** (0.0916)	0.1424*** (0.0184)	0.5884 (0.0214)	0.2603* (0.0202)	0.6856 (0.1907)
2% White oil N 70(H)	5	189.8 (15.27)	2.3111 (0.1704)	0.0754* (0.0223)	0.5816 (0.0277)	0.2454 (0.0124)	1.2008 (0.6320)
2% White oil N 70(A)	5	184.0 (9.62)	2.3439 (0.0728)	0.0933*** (0.0187)	0.5963 (0.0226)	0.2420 (0.0186)	0.7859 (0.3714)
2% White oil P 15(H)	5	190.0 (14.54)	2.4189 (0.0674)	0.1522*** (0.0246)	0.5988 (0.0260)	0.2557 (0.0103)	0.7177 (0.4545)
2% White oil N 10(A)	5	184.4 (5.59)	2.4501* (0.1079)	0.1463*** (0.0155)	0.5837 (0.0171)	0.2675** (0.0150)	1.0543 (0.3197)
2% White oil P 100(H)	5	186.4 (6.11)	2.3621 (0.1672)	0.0637 (0.0160)	0.5908 (0.0190)	0.2501 (0.0182)	0.9470 (0.5294)
2% Low melting point wax	5	188.4 (5.94)	2.6535*** (0.1232)	0.1527*** (0.0247)	0.6007 (0.0226)	0.3431*** (0.0630)	1.1537 (0.2842)
2% High melting point wax	5	183.6 (5.46)	2.2992 (0.1405)	0.0741* (0.0208)	0.5919 (0.0402)	0.2432 (0.0174)	0.9119 (0.1464)
2% High sulphur wax	5	183.8 (12.48)	2.2878 (0.0651)	0.0705 (0.0120)	0.5933 (0.0199)	0.2374 (0.0200)	0.7296 (0.3806)
2% Coconut oil	5	204.2** (16.56)	2.2568 (0.1481)	0.0558 (0.0159)	0.5723 (0.0451)	0.2318 (0.0147)	0.9251 (0.5505)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Body weight: - Results calculated from data transformed by $\log_e y$.
Spleen : - Results calculated from data transformed by $\log_e y$.
* $p <= 0.05$; ** $p <= 0.01$; *** $p <= 0.001$.
Individual data not reported, but calculated from Appendix 45.

Table 41. Haematological findings in male rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0% Control	60	8.067 (0.2738)	0.181 (0.0735)	13.94 (0.365)	45.48 (2.760)	56.43 (3.562)	17.28 (0.350)	30.73 (1.834)
0.002% White oil N15 (H)	20	7.978 (0.2520)	0.195 (0.0766)	13.88 (0.421)	45.49 (2.674)	57.07 (3.590)	17.39 (0.324)	30.59 (1.717)
0.02% White oil N15 (H)	20	8.217* (0.3341)	0.157 (0.0381)	14.10 (0.426)	46.71 (3.980)	56.85 (4.299)	17.18 (0.414)	30.40 (2.369)
0.2% White oil N15 (H)	20	8.065 (0.2614)	0.174 (0.0735)	13.98 (0.357)	46.01 (2.716)	57.05 (3.110)	17.33 (0.336)	30.45 (1.700)
2% White oil N15 (H)	20	7.988 (0.2802)	0.159 (0.0489)	13.96 (0.403)	45.71 (3.206)	57.24 (3.767)	17.46 (0.298)	30.62 (1.801)
0.002% White oil N70 (H)	20	8.064 (0.2384)	0.176 (0.0770)	13.93 (0.391)	45.11 (3.016)	55.98 (4.105)	17.29 (0.257)	31.02 (2.324)
0.02% White oil N70 (H)	20	8.137 (0.3110)	0.164[19] (0.0499)	14.04 (0.403)	45.82 (2.837)	56.32 (3.139)	17.26 (0.377)	30.72 (1.593)
0.2% White oil N70 (H)	20	8.206* (0.2319)	0.171 (0.0619)	14.17* (0.337)	46.30 (3.018)	56.43 (3.046)	17.26 (0.333)	30.68 (1.639)
2% White oil N70 (H)	20	7.956 (0.2583)	0.166 (0.0500)	13.97 (0.376)	45.56 (2.849)	57.26 (3.163)	17.57** (0.252)	30.76 (1.556)
0.002% White oil N70 (A)	20	8.000 (0.2580)	0.201 (0.0575)	13.82 (0.329)	45.21 (2.686)	56.51 (2.750)	17.27 (0.283)	30.65 (1.379)
0.02% White oil N70 (A)	20	8.061 (0.2236)	0.198 (0.0583)	13.89 (0.299)	45.46 (3.326)	56.40 (3.888)	17.24 (0.335)	30.70 (2.195)
0.2% White oil N70 (A)	20	8.085 (0.3199)	0.195 (0.0558)	13.97 (0.406)	45.86 (3.281)	56.72 (3.778)	17.29 (0.415)	30.60 (1.902)
2% White oil N70 (A)	20	8.124 (0.2099)	0.174 (0.0630)	14.15* (0.310)	46.36 (2.342)	57.09 (2.948)	17.42 (0.408)	30.59 (1.566)

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Table 41. continued

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0.002% White oil P15 (H)	20	8.102 (0.2702)	0.196 (0.0652)	13.95 (0.430)	45.91 (3.266)	56.69 (3.803)	17.22 (0.362)	30.52 (1.991)
0.02% White oil P15 (H)	20	8.141 (0.2556)	0.212 (0.0951)	14.02 (0.398)	46.36 (3.068)	56.94 (3.301)	17.24 (0.322)	30.34 (1.685)
0.2% White oil P15 (H)	20	8.019 (0.2233)	0.193 (0.0759)	13.84 (0.324)	45.80 (3.418)	57.11 (4.081)	17.28 (0.295)	30.39 (2.006)
2% White oil P15 (H)	20	8.155 (0.2599)	0.178 (0.0714)	14.00 (0.586)	45.81 (2.636)	56.22 (3.722)	17.16 (0.736)	30.64 (1.793)
0.002% White oil N10 (A)	19	8.133 (0.3431)	0.175 (0.0695)	14.05 (0.430)	45.69 (2.854)	56.25 (3.650)	17.28 (0.394)	30.84 (1.749)
0.02% White oil N10 (A)	20	8.109 (0.1858)	0.181 (0.0637)	13.93 (0.260)	46.01 (2.853)	56.79 (3.524)	17.19 (0.271)	30.39 (1.966)
0.2% White oil N10 (A)	20	8.144 (0.3035)	0.185 (0.0762)	14.07 (0.384)	46.24 (3.642)	56.78 (3.917)	17.29 (0.408)	30.57 (2.005)
2% White oil N10 (A)	20	8.074 (0.1706)	0.162 (0.0622)	13.98 (0.292)	46.11 (3.220)	57.13 (4.185)	17.32 (0.387)	30.44 (2.075)
0.002% White oil P100 (H)	19	8.068 (0.2147)	0.199 (0.0619)	13.88 (0.236)	46.02 (2.912)	57.08 (3.696)	17.21 (0.326)	30.25 (1.767)
0.02% White oil P100 (H)	20	8.164 (0.3173)	0.200 (0.0951)	14.13 (0.489)	45.88 (3.825)	56.19 (3.945)	17.31 (0.306)	30.93 (2.083)
0.2% White oil P100 (H)	20	8.116 (0.2602)	0.194 (0.0651)	14.10 (0.447)	45.97 (2.763)	56.64 (3.142)	17.37 (0.335)	30.74 (1.656)
2% White oil P100 (H)	20	8.100 (0.2712)	0.164 (0.0605)	14.03 (0.468)	46.09 (3.160)	56.90 (3.443)	17.32 (0.337)	30.53 (1.677)

Table 41. continued

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0.002% Low melting point wax	19	8.172 (0.2479)	0.201 (0.0712)	14.05 (0.464)	46.28 (2.098)	56.68 (3.011)	17.20 (0.302)	30.41 (1.698)
0.02% Low melting point wax	20	8.217* (0.4195)	0.189 (0.0687)	14.16* (0.706)	46.51 (3.483)	56.63 (3.167)	17.21 (0.361)	30.47 (1.666)
0.2% Low melting point wax	20	8.113 (0.2641)	0.186 (0.0908)	13.72* (0.380)	45.44 (3.145)	55.99 (3.288)	16.91*** (0.353)	30.30 (1.700)
2% Low melting point wax	20	8.059 (0.3577)	0.211 (0.0912)	13.63** (0.380)	45.02 (3.837)	55.86 (3.968)	16.95*** (0.456)	30.49 (2.386)
0.002% High melting point wax	20	8.129 (0.2222)	0.181 (0.0650)	14.12 (0.305)	45.62 (2.629)	56.15 (3.089)	17.38 (0.327)	31.03 (1.730)
0.02% High melting point wax	20	8.024 (0.2979)	0.213 (0.0918)	13.88 (0.413)	44.86 (3.351)	55.89 (3.526)	17.30 (0.315)	31.04 (1.959)
0.2% High melting point wax	20	8.138 (0.1708)	0.199 (0.0577)	14.04 (0.241)	45.95 (3.715)	56.46 (4.321)	17.23 (0.303)	30.72 (2.423)
2% High melting point wax	20	8.153 (0.2688)	0.174 (0.0769)	14.20** (0.352)	46.21 (2.392)	56.71 (3.208)	17.41 (0.367)	30.80 (1.401)
0.002% High sulphur wax	20	8.090 (0.2816)	0.195 (0.0532)	14.03 (0.378)	45.35 (2.754)	56.09 (3.276)	17.34 (0.330)	31.02 (1.863)
0.02% High sulphur wax	18	8.068 (0.1922)	0.189 (0.0730)	13.96 (0.279)	46.11 (2.367)	57.16 (2.622)	17.30 (0.270)	30.36 (1.360)
0.2% High sulphur wax	18	8.097 (0.2116)	0.158 (0.0531)	13.97 (0.287)	46.24 (2.898)	57.13 (3.206)	17.23 (0.361)	30.26 (1.647)
2% High sulphur wax	20	8.204* (0.2653)	0.171 (0.0604)	14.25** (0.436)	46.40 (3.028)	56.59 (3.434)	17.36 (0.300)	30.78 (1.709)
2% Coconut oil	20	8.266** (0.2243)	0.173 (0.0641)	14.18* (0.283)	46.03 (2.476)	55.71 (3.034)	17.16 (0.359)	30.89 (1.655)

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Table 41. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0% Control	60	2.574 (0.6404)	0.743 (0.2473)	1.666 (0.4586)	0.075 (0.0319)	0.048 (0.0176)	0.001 (0.0034)	684.6 (69.74)	11.484 (1.4432)
0.002% White oil N15 (H)	20	2.534 (0.6576)	0.709 (0.1818)	1.671 (0.4843)	0.069 (0.0280)	0.041* (0.0200)	0.001 (0.0031)	670.8 (88.46)	11.238 (1.2076)
0.02% White oil N15 (H)	20	2.367 (0.8275)	0.672 (0.2057)	1.537 (0.6446)	0.077 (0.0341)	0.041 (0.0171)	0.001 (0.0037)	662.7 (56.26)	11.440 (1.7235)
0.2% White oil N15 (H)	20	2.545 (0.8460)	0.762 (0.3001)	1.624 (0.5456)	0.079 (0.0430)	0.044 (0.0164)	0.001 (0.0037)	656.6 (82.94)	11.595 (1.1114)
2% White oil N15 (H)	20	3.008* (0.7084)	1.133*** (0.2475)	1.664 (0.5738)	0.102** (0.0286)	0.049 (0.0235)	0.003 (0.0047)	721.7* (68.82)	11.880 (1.2081)
0.002% White oil N70 (H)	20	2.353 (0.7005)	0.631 (0.1326)	1.584 (0.5654)	0.064 (0.0204)	0.041 (0.0190)	0.000 (0.0000)	686.5 (74.14)	11.500 (1.5281)
0.02% White oil N70 (H)	20	2.635 (0.5336)	0.713 (0.1943)	1.768 (0.3778)	0.067 (0.0215)	0.049 (0.0117)	0.002 (0.0044)	672.5 (70.75)	11.105 (0.9238)
0.2% White oil N70 (H)	20	2.765 (0.8752)	0.767 (0.1500)	1.823 (0.7444)	0.079 (0.0407)	0.051 (0.0141)	0.003* (0.0049)	699.7 (76.26)	11.128 (1.0329)
2% White oil N70 (H)	20	2.502 (0.7896)	0.723 (0.1903)	1.622 (0.5960)	0.069 (0.0253)	0.049 (0.0173)	0.001 (0.0031)	714.0 (62.55)	11.229[19] (0.5731)
0.002% White oil N70 (A)	20	2.632 (0.6577)	0.725 (0.2207)	1.732 (0.5328)	0.087 (0.0491)	0.043 (0.0198)	0.002 (0.0044)	681.9 (61.65)	11.348 (1.3032)
0.02% White oil N70 (A)	20	2.436 (0.6787)	0.684 (0.1780)	1.597 (0.5054)	0.068 (0.0286)	0.050 (0.0329)	0.000 (0.0022)	664.5 (67.77)	11.415 (1.2885)
0.2% White oil N70 (A)	20	2.691 (0.8273)	0.797 (0.1907)	1.707 (0.6460)	0.091 (0.0349)	0.048 (0.0153)	0.002 (0.0044)	678.0 (65.76)	11.582 (1.7702)
2% White oil N70 (A)	20	2.584 (0.6629)	0.804 (0.3129)	1.597 (0.4560)	0.083 (0.0324)	0.053 (0.0475)	0.001 (0.0031)	700.4 (69.96)	11.635 (0.8315)

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Table 41. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0.002% White oil P15 (H)	20	2.507 (0.6436)	0.679 (0.1541)	1.657 (0.5205)	0.080 (0.0332)	0.050 (0.0154)	0.002 (0.0041)	655.5 (67.88)	11.693 (1.4727)
0.02% White oil P15 (H)	20	2.732 (1.1060)	0.729 (0.2253)	1.817 (0.8563)	0.092 (0.0511)	0.047 (0.0172)	0.001 (0.0037)	667.5 (63.18)	11.150 (1.2288)
0.2% White oil P15 (H)	20	2.649 (0.6699)	0.737 (0.1681)	1.733 (0.5535)	0.082 (0.0382)	0.049 (0.0125)	0.001 (0.0031)	682.1 (60.57)	11.850 (1.5390)
2% White oil P15 (H)	20	3.077* (0.8058)	1.084*** (0.3148)	1.780 (0.5917)	0.108** (0.0581)	0.052 (0.0188)	0.001 (0.0037)	707.6 (87.73)	11.790 (1.3056)
0.002% White oil N10 (A)	20	2.786(19) (0.8972)	0.776(19) (0.3955)	1.846(19) (0.5977)	0.074(19) (0.0311)	0.050(19) (0.0238)	0.002(19) (0.0042)	686.2(19) (75.92)	11.497 (1.3907)
0.02% White oil N10 (A)	20	2.598 (0.8569)	0.674 (0.2214)	1.775 (0.6611)	0.065 (0.0338)	0.045 (0.0139)	0.001 (0.0031)	652.3 (74.65)	11.393 (1.2058)
0.2% White oil N10 (A)	20	2.881 (0.7015)	0.776 (0.2076)	1.930 (0.5375)	0.084 (0.0258)	0.045 (0.0139)	0.001 (0.0037)	658.8 (77.41)	11.800 (1.1887)
2% White oil N10 (A)	20	2.945 (0.6985)	1.046*** (0.2704)	1.704 (0.4584)	0.096* (0.0375)	0.047 (0.0125)	0.003* (0.0049)	707.3 (62.78)	11.993 (1.4925)
0.002% White oil P100 (H)	20	2.644(19) (0.7678)	0.707(19) (0.1866)	1.781(19) (0.6097)	0.082(19) (0.0466)	0.039*(19) (0.0185)	0.002(19) (0.0037)	664.7(19) (56.03)	11.165 (1.1544)
0.02% White oil P100 (H)	20	2.426 (0.5733)	0.651 (0.1741)	1.619 (0.4788)	0.072 (0.0267)	0.042 (0.0112)	0.000 (0.0022)	683.9 (73.71)	11.462 (1.3468)
0.2% White oil P100 (H)	20	2.719 (0.7194)	0.840 (0.2582)	1.691 (0.6267)	0.084 (0.0363)	0.059 (0.0405)	0.001 (0.0037)	678.0 (63.71)	11.183 (1.3159)
2% White oil P100 (H)	20	2.739 (0.8435)	0.772 (0.2202)	1.785 (0.6262)	0.089 (0.0431)	0.048 (0.0204)	0.000 (0.0022)	720.0 (64.70)	11.155 (0.9347)

Table 41. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0.002% Low melting point wax	20	2.980*(19) (0.7115)	0.769(19) (0.2070)	2.014*(19) (0.5104)	0.099*(19) (0.0459)	0.053(19) (0.0157)	0.002(19) (0.0037)	666.6(19) (56.07)	11.478 (1.1882)
0.02% Low melting point wax	20	3.045* (1.3203)	0.771 (0.2227)	2.060* (0.9599)	0.100 (0.0748)	0.055 (0.0359)	0.004 (0.0094)	664.3 (87.35)	11.087 (1.1609)
0.2% Low melting point wax	20	2.469 (0.6943)	0.909** (0.2931)	1.380* (0.4848)	0.077 (0.0356)	0.051 (0.0259)	0.001 (0.0037)	634.8** (70.56)	11.035 (1.1315)
2% Low melting point wax	20	2.780 (0.8915)	0.914** (0.2493)	1.662 (0.6341)	0.090 (0.0356)	0.051 (0.0363)	0.000 (0.0022)	596.6*** (77.65)	10.930 (1.3983)
0.002% High melting point wax	20	2.758 (0.5836)	0.759 (0.2607)	1.821 (0.4756)	0.086 (0.0370)	0.049 (0.0225)	0.003 (0.0047)	688.6 (77.04)	11.100 (0.9721)
0.02% High melting point wax	20	2.731 (0.8048)	0.738 (0.2566)	1.814 (0.6801)	0.077 (0.0348)	0.063 (0.0531)	0.001 (0.0037)	674.3 (106.55)	11.215 (1.4282)
0.2% High melting point wax	20	2.613 (0.7541)	0.729 (0.1914)	1.705 (0.5364)	0.090 (0.0825)	0.043 (0.0160)	0.001 (0.0031)	672.9 (65.65)	11.478 (1.2707)
2% High melting point wax	20	2.793 (0.4802)	0.780 (0.1972)	1.837 (0.3631)	0.090 (0.0441)	0.044 (0.0161)	0.002 (0.0041)	699.5 (54.57)	11.165 (1.3258)
0.002% High sulphur wax	20	2.837 (0.6438)	0.861* (0.1853)	1.786 (0.4840)	0.086 (0.0250)	0.062 (0.0554)	0.002 (0.0044)	678.9 (66.19)	11.425 (1.6193)
0.02% High sulphur wax	18	2.802 (0.3727)	0.764 (0.1284)	1.867 (0.3242)	0.083 (0.0202)	0.049 (0.0149)	0.002 (0.0038)	686.8 (56.08)	11.231 (1.6041)
0.2% High sulphur wax	19	2.693(18) (0.7452)	0.766(18) (0.2429)	1.756(18) (0.5829)	0.084(18) (0.0322)	0.048(18) (0.0156)	0.002(18) (0.0055)	651.1(18) (113.85)	11.274 (1.0856)
2% High sulphur wax	20	2.758 (0.8865)	0.706 (0.1740)	1.883 (0.6850)	0.084 (0.0561)	0.045 (0.0161)	0.001 (0.0031)	669.0 (54.02)	11.250 (1.4733)
2% Coconut oil	20	2.492 (0.5947)	0.751 (0.2902)	1.575 (0.4554)	0.077 (0.0354)	0.053 (0.0266)	0.001 (0.0031)	671.4 (72.77)	11.787 (1.7166)

Table 41. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Retics :- Results calculated from data transformed by $\log_e$
WBC :- Results calculated from data transformed by SQRT
L :- Results calculated from data transformed by SQRT
M :- Results calculated from data transformed by $\log_e$
E, B :- Results of two-sided Mann Whitney tests.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 46.

Table 42. Haematological findings in male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at levels of 2.0% or coconut oil at a level of 2.0%

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0% Control	30	8.341 (0.2905)	0.175 (0.0461)	14.06 (0.325)	46.28 (1.715)	55.46 (0.868)	16.86 (0.542)	30.40 (0.955)
2% White oil N15 (H)	10	8.389 (0.2595)	0.163 (0.0603)	14.24 (0.417)	46.81 (1.263)	55.82 (0.950)	17.01 (0.423)	30.46 (0.888)
2% White oil N70 (H)	10	8.222 (0.1730)	0.188 (0.0625)	14.04 (0.375)	46.18 (1.759)	56.16* (1.296)	17.09 (0.159)	30.44 (0.583)
2% White oil N70 (A)	10	8.299 (0.2832)	0.172 (0.0476)	13.95 (0.284)	46.23 (1.716)	55.72 (1.012)	16.83 (0.483)	30.19 (0.814)
2% White oil P15 (H)	10	8.209 (0.3312)	0.143 (0.0489)	14.10 (0.476)	45.79 (1.936)	55.76 (0.873)	17.18* (0.388)	30.80 (0.747)
2% White oil N10 (A)	10	8.505 (0.2874)	0.191 (0.0542)	14.22 (0.235)	46.75 (1.590)	54.97 (0.587)	16.74 (0.613)	30.46 (0.972)
2% White oil P100 (H)	10	8.259 (0.1631)	0.156 (0.0430)	14.02 (0.262)	45.82 (1.287)	55.45 (0.811)	16.99 (0.292)	30.65 (0.652)
2% Low melting point wax	10	8.341 (0.2131)	0.169 (0.0930)	13.71** (0.425)	45.89 (0.858)	55.03 (0.770)	16.45* (0.389)	29.91 (0.540)
2% High melting point wax	10	8.269 (0.2890)	0.170 (0.0410)	14.06 (0.350)	46.03 (1.793)	55.64 (0.872)	17.02 (0.394)	30.59 (0.812)
2% High sulphur wax	9	8.299 (0.1748)	0.176 (0.0617)	14.06 (0.219)	46.39 (1.173)	55.92 (1.547)	16.94 (0.430)	30.29 (0.674)
2% Coconut oil	10	8.344 (0.1673)	0.166 (0.0508)	14.22 (0.290)	45.73 (1.218)	54.82 (0.847)	17.03 (0.323)	31.09* (0.695)

Table 42. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0% Control	30	2.940 (0.7639)	0.826 (0.2132)	1.931 (0.5980)	0.086 (0.0323)	0.048 (0.0185)	0.002 (0.0041)	541.0 (49.73)	10.918 (0.6763)
2% White oil N15 (H)	10	3.156 (0.9217)	1.081** (0.3873)	1.860 (0.5082)	0.111* (0.0491)	0.049 (0.0191)	0.004 (0.0052)	502.4* (40.00)	11.190 (0.7210)
2% White oil N70 (H)	10	2.859 (0.6253)	0.821 (0.2514)	1.835 (0.4744)	0.103 (0.0389)	0.055 (0.0201)	0.003 (0.0048)	527.1 (60.74)	10.895 (0.6016)
2% White oil N70 (A)	10	2.513 (0.5684)	0.807$^{(9)}$ (0.2278)	1.493*$^{(9)}$ (0.4202)	0.079$^{(9)}$ (0.0271)	0.044$^{(9)}$ (0.0124)	0.001$^{(9)}$ (0.0033)	533.7 (60.42)	11.095 (0.6327)
2% White oil P15 (H)	10	2.503 (0.5643)	0.741 (0.2606)	1.595 (0.3951)	0.085 (0.0288)	0.042 (0.0079)	0.003 (0.0048)	512.2 (47.95)	10.705 (0.5895)
2% White oil N10 (A)	10	3.000 (0.5489)	0.919 (0.1241)	1.887 (0.5258)	0.090 (0.0267)	0.055 (0.0108)	0.001 (0.0032)	556.4 (73.36)	11.450* (0.8141)
2% White oil P100 (H)	10	2.549 (0.6228)	0.674 (0.1351)	1.697 (0.4865)	0.078 (0.0199)	0.056 (0.0107)	0.000 (0.0000)	547.8 (49.43)	11.090 (0.5394)
2% Low melting point wax	10	2.590 (0.7949)	0.754 (0.2418)	1.646 (0.5200)	0.086 (0.0288)	0.044 (0.0126)	0.003 (0.0048)	494.0* (52.34)	10.260** (0.6703)
2% High melting point wax	10	2.791 (0.7527)	0.811 (0.1334)	1.789 (0.5945)	0.098 (0.0346)	0.050 (0.0149)	0.012 (0.0312)	520.0 (37.12)	11.055 (0.7388)
2% High sulphur wax	10	2.922$^{(9)}$ (0.7392)	0.873$^{(9)}$ (0.1199)	1.813$^{(9)}$ (0.7707)	0.089$^{(9)}$ (0.0423)	0.069***$^{(9)}$ (0.0127)	0.002$^{(9)}$ (0.0044)	518.6$^{(9)}$ (45.27)	11.175 (0.7273)
2% Coconut oil	10	2.750 (0.5250)	0.850 (0.1543)	1.723 (0.4144)	0.085 (0.0331)	0.054 (0.0151)	0.001 (0.0032)	554.1 (49.15)	11.130 (0.7685)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
N :- Results calculated from data transformed by log$_e$
B :- Results of two-sided Mann Whitney tests.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 47.

Table 43. Haematological findings in female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0% Control	60	7.602 (0.2605)	0.138 (0.0587)	13.92 (0.331)	44.69 (1.907)	58.81 (2.032)	18.32 (0.407)	31.20 (1.127)
0.002% White oil N15 (H)	20	7.658 (0.2323)	0.114 (0.0346)	14.04 (0.376)	44.91 (2.249)	58.63 (2.557)	18.32 (0.290)	31.30 (1.371)
0.02% White oil N15 (H)	20	7.662 (0.2721)	0.136 (0.0499)	14.04 (0.378)	44.78 (1.857)	58.45 (1.744)	18.34 (0.361)	31.37 (1.099)
0.2% White oil N15 (H)	19	7.478 (0.2801)	0.129 (0.0451)	13.76 (0.356)	43.59 (2.773)	58.31 (2.910)	18.40 (0.356)	31.68 (1.894)
2% White oil N15 (H)	20	7.299*** (0.2766)	0.155 (0.0620)	13.51*** (0.352)	43.42* (2.127)	59.49 (1.431)	18.51* (0.375)	31.14 (1.118)
0.002% White oil N70 (H)	20	7.602 (0.2142)	0.135 (0.0268)	13.95 (0.252)	44.95 (2.428)	59.13 (2.723)	18.35 (0.389)	31.12 (1.784)
0.02% White oil N70 (H)	20	7.599 (0.3254)	0.132 (0.0493)	13.91 (0.433)	44.76 (2.496)	58.86 (2.017)	18.34 (0.356)	31.16 (1.199)
0.2% White oil N70 (H)	20	7.631 (0.2188)	0.125 (0.0600)	14.02 (0.271)	44.93 (1.521)	58.85 (1.374)	18.37 (0.383)	31.24 (1.004)
2% White oil N70 (H)	20	7.407** (0.2537)	0.152 (0.0563)	13.68** (0.327)	44.10 (1.679)	59.56 (1.760)	18.48 (0.364)	31.04 (1.034)
0.002% White oil N70 (A)	20	7.588 (0.2109)	0.143 (0.0597)	13.97 (0.303)	44.96 (2.174)	59.25 (2.161)	18.41 (0.424)	31.10 (1.405)
0.02% White oil N70 (A)	20	7.571 (0.2809)	0.137 (0.0519)	13.87 (0.391)	44.44 (2.539)	58.72 (2.276)	18.33 (0.380)	31.28 (1.453)
0.2% White oil N70 (A)	20	7.588 (0.1863)	0.124 (0.0636)	14.02 (0.255)	44.45 (1.691)	58.58 (1.633)	18.48 (0.374)	31.58 (1.140)
2% White oil N70 (A)	20	7.451* (0.2322)	0.160 (0.0688)	13.81 (0.363)	44.21 (1.877)	59.31 (1.657)	18.53* (0.307)	31.29 (1.222)

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Table 43. continued

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0.002% White oil P15 (H)	20	7.636 (0.1789)	0.114 (0.0482)	14.03 (0.360)	45.57 (2.121)	59.66 (2.126)	18.39 (0.276)	30.86 (1.224)
0.02% White oil P15 (H)	20	7.574 (0.1698)	0.130 (0.0503)	13.93 (0.254)	44.48 (1.646)	58.71 (2.131)	18.40 (0.374)	31.37 (1.077)
0.2% White oil P15 (H)	20	7.452* (0.3029)	0.158 (0.0493)	13.75* (0.408)	44.05 (2.209)	59.13 (1.244)	18.47 (0.384)	31.24 (0.886)
2% White oil P15 (H)	20	7.367*** (0.2188)	0.158 (0.0609)	13.60*** (0.311)	43.54* (1.695)	59.12 (1.744)	18.46 (0.375)	31.27 (1.097)
0.002% White oil N10 (A)	18	7.723 (0.2582)	0.149 (0.0599)	14.15* (0.268)	45.68 (2.541)	59.14 (2.565)	18.31 (0.371)	31.04 (1.593)
0.02% White oil N10 (A)	20	7.597 (0.2590)	0.116 (0.0594)	13.95 (0.373)	45.22 (2.250)	59.50 (1.998)	18.37 (0.334)	30.91 (1.222)
0.2% White oil N10 (A)	20	7.466* (0.1930)	0.126 (0.0416)	13.67** (0.292)	43.21** (1.906)	57.91 (2.469)	18.33 (0.323)	31.69 (1.409)
2% White oil N10 (A)	20	7.369*** (0.2539)	0.141 (0.0579)	13.49*** (0.387)	43.88 (2.096)	59.53 (1.451)	18.33 (0.326)	30.79 (1.089)
0.002% White oil P100 (H)	20	7.580 (0.2943)	0.126 (0.0468)	13.91 (0.345)	44.60 (2.720)	58.84 (2.320)	18.36 (0.349)	31.28 (1.534)
0.02% White oil P100 (H)	19	7.672 (0.2519)	0.111 (0.0475)	14.06 (0.273)	45.23 (2.588)	58.93 (2.699)	18.31 (0.368)	31.15 (1.765)
0.2% White oil P100 (H)	20	7.671 (0.1818)	0.148 (0.0583)	14.04 (0.298)	45.40 (1.954)	59.20 (2.353)	18.29 (0.302)	30.95 (1.316)
2% White oil P100 (H)	20	7.598 (0.3123)	0.146 (0.0632)	14.02 (0.423)	44.99 (2.707)	59.21 (1.968)	18.47 (0.382)	31.20 (1.456)

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Table 43. continued

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0.002% Low melting point wax	20	7.607 (0.2437)	0.127 (0.0468)	13.97 (0.350)	44.74 (1.614)	58.84 (2.034)	18.37 (0.286)	31.24 (1.149)
0.02% Low melting point wax	20	7.634 (0.2750)	0.112 (0.0570)	13.96 (0.296)	45.36 (1.861)	59.44 (2.293)	18.31 (0.362)	30.84 (1.186)
0.2% Low melting point wax	20	7.592 (0.2961)	0.160 (0.0683)	13.78 (0.418)	44.68 (2.375)	58.90 (2.350)	18.17 (0.306)	30.88 (1.420)
2% Low melting point wax	20	7.304*** (0.3026)	0.197*** (0.0697)	13.07*** (0.588)	42.72*** (1.692)	58.54 (1.926)	17.89*** (0.421)	30.59 (1.272)
0.002% High melting point wax	20	7.699 (0.1766)	0.117 (0.0439)	14.05 (0.287)	45.77 (1.738)	59.44 (2.438)	18.26 (0.332)	30.76 (1.336)
0.02% High melting point wax	20	7.617 (0.2714)	0.133 (0.0486)	13.93 (0.308)	45.33 (2.110)	59.53 (1.969)	18.27 (0.347)	30.76 (1.213)
0.2% High melting point wax	20	7.640 (0.1688)	0.147 (0.0542)	13.97 (0.249)	44.90 (2.353)	58.78 (2.866)	18.29 (0.309)	31.19 (1.624)
2% High melting point wax	20	7.582 (0.2377)	0.133 (0.0448)	13.93 (0.366)	44.51 (1.829)	58.74 (2.347)	18.37 (0.318)	31.31 (1.352)
0.002% High sulphur wax	20	7.628 (0.2912)	0.127 (0.0486)	13.97 (0.362)	45.24 (2.453)	59.31 (2.172)	18.31 (0.379)	30.92 (1.399)
0.02% High sulphur wax	20	7.650 (0.2005)	0.122 (0.0501)	14.01 (0.335)	44.16 (2.333)	57.71 (2.312)	18.34 (0.375)	31.81 (1.397)
0.2% High sulphur wax	20	7.694 (0.2909)	0.136 (0.0414)	14.08 (0.425)	45.57 (2.522)	59.21 (2.173)	18.29 (0.373)	30.92 (1.390)
2% High sulphur wax	20	7.643 (0.2676)	0.134 (0.0489)	14.09 (0.385)	44.71 (2.749)	58.52 (3.086)	18.45 (0.353)	31.59 (1.827)
2% Coconut oil	20	7.767* (0.2156)	0.112 (0.0373)	14.22*** (0.238)	45.34 (3.647)	58.39 (4.649)	18.31 (0.363)	31.58 (3.083)

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Table 43. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0% Control	60	1.347 (0.3412)	0.318 (0.1161)	0.937 (0.2789)	0.037 (0.0179)	0.032 (0.0222)	0.000 (0.0018)	615.3 (74.00)	9.632 (0.6004)
0.002% White oil N15 (H)	20	1.489 (0.5020)	0.339 (0.1146)	1.053 (0.3966)	0.040 (0.0218)	0.031 (0.0093)	0.001 (0.0031)	606.3 (52.71)	9.750 (0.4853)
0.02% White oil N15 (H)	20	1.377 (0.3290)	0.296 (0.0769)	0.998 (0.2798)	0.034 (0.0110)	0.027 (0.0107)	0.000 (0.0022)	589.5 (69.75)	9.650 (0.5127)
0.2% White oil N15 (H)	20	1.288[19] (0.3223)	0.332[19] (0.1055)	0.864[19] (0.2420)	0.037[19] (0.0166)	0.035[19] (0.0161)	0.003[19] (0.0116)	608.4[19] (49.71)	9.490 (0.5505)
2% White oil N15 (H)	20	1.638** (0.3636)	0.581*** (0.1658)	0.936 (0.2426)	0.052** (0.0167)	0.034 (0.0167)	0.000 (0.0022)	652.6 (79.56)	9.438 (0.6605)
0.002% White oil N70 (H)	20	1.533 (0.4605)	0.349 (0.1584)	1.084 (0.3412)	0.042 (0.0202)	0.034 (0.0167)	0.000 (0.0000)	582.2 (69.97)	9.618 (0.6062)
0.02% White oil N70 (H)	20	1.438 (0.2319)	0.358 (0.0860)	0.983 (0.2011)	0.040 (0.0132)	0.031 (0.0142)	0.000 (0.0000)	587.3 (74.24)	9.693 (0.5827)
0.2% White oil N70 (H)	20	1.360 (0.3351)	0.353 (0.1876)	0.895 (0.3008)	0.039 (0.0207)	0.043 (0.0465)	0.000 (0.0022)	603.3 (82.78)	9.580 (0.5483)
2% White oil N70 (H)	20	1.335 (0.2237)	0.323 (0.0978)	0.912 (0.1524)	0.037 (0.0166)	0.039 (0.0227)	0.000 (0.0000)	611.8 (87.27)	9.633 (0.6508)
0.002% White oil N70 (A)	20	1.237 (0.3303)	0.258* (0.0595)	0.900 (0.2812)	0.032 (0.0162)	0.025 (0.0095)	0.001 (0.0031)	602.5 (69.42)	9.533 (0.7017)
0.02% White oil N70 (A)	20	1.451 (0.5620)	0.348 (0.1376)	0.993 (0.4587)	0.046 (0.0211)	0.034 (0.0193)	0.000 (0.0022)	570.6* (73.09)	9.665 (0.4066)
0.2% White oil N70 (A)	20	1.398 (0.3210)	0.345 (0.1572)	0.951 (0.3120)	0.038 (0.0179)	0.037 (0.0333)	0.001 (0.0031)	591.2 (87.44)	9.520 (0.6420)
2% White oil N70 (A)	20	1.413 (0.2415)	0.342 (0.0724)	0.962 (0.2099)	0.044 (0.0170)	0.039 (0.0220)	0.001 (0.0037)	626.1 (67.92)	9.532 (0.5027)

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Table 43. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0.002% White oil P15 (H)	20	1.558 (0.5357)	0.348 (0.1058)	1.108* (0.4470)	0.044 (0.0206)	0.034 (0.0182)	0.001 (0.0031)	578.2 (77.00)	9.505 (0.4815)
0.02% White oil P15 (H)	20	1.450 (0.3311)	0.343 (0.1632)	0.998 (0.2870)	0.043 (0.0169)	0.038 (0.0366)	0.001 (0.0037)	577.7 (52.80)	9.565 (0.4777)
0.2% White oil P15 (H)	20	1.343 (0.4750)	0.353 (0.1405)	0.892 (0.3527)	0.038 (0.0157)	0.038 (0.0235)	0.000 (0.0000)	508.8*** (99.18)	9.597 (0.6895)
2% White oil P15 (H)	20	1.647** (0.3795)	0.547*** (0.2249)	0.956 (0.2250)	0.058*** (0.0261)	0.055*** (0.0298)	0.004** (0.0094)	604.3 (88.31)	9.577 (0.4756)
0.002% White oil N10 (A)	19	1.346[18] (0.3048)	0.296[18] (0.0808)	0.955[18] (0.2584)	0.039[18] (0.0135)	0.033[18] (0.0145)	0.000[18] (0.0000)	596.8[18] (63.75)	9.500 (0.5979)
0.02% White oil N10 (A)	20	1.356 (0.3042)	0.350 (0.0963)	0.912 (0.2564)	0.036 (0.0123)	0.033 (0.0179)	0.000 (0.0022)	574.1* (71.83)	9.558 (0.4623)
0.2% White oil N10 (A)	20	1.509 (0.3997)	0.352 (0.1038)	1.054 (0.3439)	0.044 (0.0164)	0.032 (0.0124)	0.001 (0.0031)	591.2 (76.36)	9.479[19] (0.6176)
2% White oil N10 (A)	20	1.659** (0.4919)	0.556*** (0.1563)	0.968 (0.4106)	0.056*** (0.0248)	0.044** (0.0214)	0.001 (0.0031)	634.3 (83.52)	9.545 (0.5549)
0.002% White oil P100 (H)	20	1.433 (0.3230)	0.350 (0.1228)	0.977 (0.2537)	0.041 (0.0157)	0.038 (0.0243)	0.000 (0.0000)	601.3 (67.92)	9.555 (0.5256)
0.02% White oil P100 (H)	19	1.495 (0.2777)	0.342 (0.0808)	1.059 (0.2444)	0.039 (0.0108)	0.033 (0.0099)	0.001 (0.0023)	574.6* (63.09)	9.626 (0.4970)
0.2% White oil P100 (H)	20	1.304 (0.2847)	0.310 (0.1037)	0.904 (0.2170)	0.038 (0.0142)	0.033 (0.0142)	0.000 (0.0000)	594.8 (62.85)	9.578 (0.6250)
2% White oil P100 (H)	20	1.412 (0.3263)	0.325 (0.1192)	0.979 (0.2244)	0.037 (0.0145)	0.042 (0.0501)	0.000 (0.0000)	618.0 (73.33)	9.673 (0.5639)

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Table 43. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0.002% Low melting point wax	20	1.519 (0.5452)	0.352 (0.1255)	1.067 (0.4314)	0.040 (0.0175)	0.034 (0.0241)	0.000 (0.0022)	601.3 (86.49)	9.567 (0.6319)
0.02% Low melting point wax	20	1.556 (0.4399)	0.323 (0.1230)	1.138* (0.3641)	0.040 (0.0154)	0.033 (0.0211)	0.001 (0.0031)	591.9 (61.81)	9.715 (0.5336)
0.2% Low melting point wax	20	1.703*** (0.4567)	0.462*** (0.1914)	1.106* (0.2893)	0.050** (0.0211)	0.041 (0.0298)	0.003*** (0.0047)	528.3*** (82.75)	9.647 (0.7033)
2% Low melting point wax	20	1.993*** (0.4742)	0.600*** (0.1996)	1.207*** (0.3117)	0.075*** (0.0300)	0.045* (0.0239)	0.004*** (0.0051)	517.0*** (78.27)	9.578 (0.5628)
0.002% High melting point wax	20	1.465 (0.4021)	0.332 (0.1216)	1.035 (0.2975)	0.037 (0.0180)	0.035 (0.0150)	0.000 (0.0022)	599.5 (77.13)	9.478 (0.7155)
0.02% High melting point wax	20	1.279 (0.3183)	0.293 (0.0998)	0.912 (0.2295)	0.031 (0.0133)	0.025 (0.0089)	0.000 (0.0000)	600.5 (56.54)	9.640 (0.5203)
0.2% High melting point wax	20	1.393 (0.4157)	0.343 (0.1131)	0.959 (0.3392)	0.037 (0.0142)	0.032 (0.0246)	0.000 (0.0022)	583.0 (67.14)	9.655 (0.4944)
2% High melting point wax	20	1.282 (0.3132)	0.320 (0.0933)	0.870 (0.2916)	0.034 (0.0139)	0.034 (0.0258)	0.000 (0.0022)	590.5 (85.81)	9.505 (0.6888)
0.002% High sulphur wax	20	1.315 (0.3428)	0.365 (0.1247)	0.841 (0.3479)	0.040 (0.0173)	0.051* (0.0472)	0.000 (0.0022)	579.5 (79.45)	9.578 (0.5213)
0.02% High sulphur wax	20	1.411 (0.3545)	0.313 (0.0992)	1.006 (0.2668)	0.037 (0.0174)	0.033 (0.0190)	0.001 (0.0031)	593.4 (97.59)	9.450 (0.5865)
0.2% High sulphur wax	20	1.312 (0.3558)	0.334 (0.1167)	0.886 (0.2507)	0.034 (0.0147)	0.034 (0.0254)	0.000 (0.0000)	565.8* (111.55)	9.610 (0.4962)
2% High sulphur wax	20	1.660*** (0.5560)	0.376 (0.1555)	1.172** (0.3932)	0.048* (0.0248)	0.039* (0.0211)	0.000 (0.0022)	557.5** (64.90)	9.650 (0.5451)
2% Coconut oil	20	1.404 (0.4952)	0.352[19] (0.1413)	0.979[19] (0.3841)	0.043[19] (0.0270)	0.031[19] (0.0191)	0.000[19] (0.0000)	610.6 (64.71)	9.597 (0.5512)

continued....

Table 43. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
WBC :- Results calculated from data transformed by $\log_e$
N :- Results calculated from data transformed by $\log_e$
E, B :- Results of two-sided Mann Whitney tests.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 48.

Table 44. Haematological findings in female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at levels of 2.0% or coconut oil at a level of 2.0%

Group	n	RBC $x10^6$/ul	Retics $x10^6$/ul	Hb g/dl	HCT %	MCV um^3	MCH pg	MCHC g/dl
0% Control	30	7.605 (0.2570)	0.095 (0.0511)	14.08 (0.280)	44.98 (2.210)	59.17 (2.725)	18.54 (0.602)	31.38 (1.653)
2% White oil N15 (H)	9	7.723 (0.2467)	0.110 (0.0674)	14.17 (0.283)	45.29 (1.699)	58.69 (2.640)	18.36 (0.416)	31.32 (1.221)
2% White oil N70 (H)	9	7.879** (0.2701)	0.106 (0.0401)	14.32* (0.311)	45.86 (1.750)	58.24 (2.407)	18.19 (0.476)	31.26 (1.477)
2% White oil N70 (A)	10	7.652(9) (0.2111)	0.094(9) (0.0490)	14.24 (0.255)	45.11(9) (2.650)	58.97(9) (2.872)	18.63(9) (0.283)	31.68(9) (1.372)
2% White oil P15 (H)	10	7.701 (0.2901)	0.120 (0.0390)	14.33* (0.343)	45.68 (2.511)	59.32 (2.853)	18.58 (0.402)	31.39 (1.314)
2% White oil N10 (A)	10	7.711 (0.2429)	0.131* (0.0513)	14.24 (0.392)	46.34 (2.950)	60.10 (3.081)	18.47 (0.510)	30.79 (1.839)
2% White oil P100 (H)	10	7.763 (0.2265)	0.092 (0.0352)	14.20 (0.149)	45.48 (1.329)	58.62 (2.105)	18.28 (0.543)	31.22 (0.780)
2% Low melting point wax	9	7.554 (0.4100)	0.161*** (0.0478)	13.53*** (0.469)	44.06 (2.545)	58.30 (1.673)	17.91** (0.417)	30.74 (1.131)
2% High melting point wax	10	7.675 (0.2952)	0.091 (0.0367)	14.17 (0.343)	45.06 (1.872)	58.75 (2.588)	18.45 (0.515)	31.46 (1.057)
2% High sulphur wax	10	7.701 (0.2615)	0.111 (0.0393)	14.27 (0.347)	46.30 (2.974)	60.13 (2.958)	18.54 (0.474)	30.88 (1.463)
2% Coconut oil	10	7.587 (0.1940)	0.109 (0.0618)	14.02 (0.253)	44.87 (2.223)	59.17 (2.904)	18.50 (0.359)	31.32 (1.553)

continued....

Table 44. continued

Group	n	WBC x10^3/ul	N x10^3/ul	L x10^3/ul	M x10^3/ul	E x10^3/ul	B x10^3/ul	Platelets x10^3/ul	PT secs.
0% Control	30	1.106 (0.2919)	0.289 (0.0993)	0.738 (0.2399)	0.031 (0.0118)	0.030 (0.0089)	0.003 (0.0047)	488.7 (56.28)	9.165 (0.2244)
2% White oil N15 (H)	10	1.472**(9) (0.4265)	0.371(9) (0.1071)	0.988*(9) (0.3162)	0.051***(9) (0.0203)	0.034(9) (0.0088)	0.001(9) (0.0033)	460.9(9) (53.62)	9.245 (0.3523)
2% White oil N70 (H)	10	1.306(9) (0.3278)	0.376*(9) (0.1357)	0.817(9) (0.2335)	0.042*(9) (0.0164)	0.040*(9) (0.0122)	0.002(9) (0.0044)	479.1(9) (53.75)	9.060 (0.4618)
2% White oil N70 (A)	10	1.202 (0.3527)	0.345 (0.1154)	0.744 (0.2825)	0.041* (0.0129)	0.043 (0.0267)	0.002 (0.0042)	483.7 (85.56)	9.020 (0.2889)
2% White oil P15 (H)	10	1.371* (0.4019)	0.373* (0.1312)	0.895 (0.4271)	0.038 (0.0132)	0.033 (0.0142)	0.001 (0.0032)	469.2 (44.80)	9.210 (0.2623)
2% White oil N10 (A)	10	1.353 (0.4438)	0.326 (0.1000)	0.940 (0.3567)	0.031 (0.0074)	0.028 (0.0079)	0.006 (0.0070)	484.8 (54.16)	9.140 (0.4241)
2% White oil P100 (H)	10	1.514*** (0.2872)	0.442*** (0.1429)	0.964* (0.3031)	0.037 (0.0106)	0.038 (0.0132)	0.003 (0.0067)	490.6 (62.70)	9.340 (0.1969)
2% Low melting point wax	9	1.710*** (0.5660)	0.402* (0.1180)	1.156*** (0.4260)	0.058*** (0.0222)	0.039 (0.0162)	0.006 (0.0053)	402.3*** (31.12)	9.339 (0.3180)
2% High melting point wax	10	1.216(9) (0.2209)	0.293(9) (0.0723)	0.819(9) (0.1736)	0.039(9) (0.0127)	0.033(9) (0.0112)	0.002(9) (0.0044)	484.4 (51.22)	9.175 (0.3352)
2% High sulphur wax	10	1.245 (0.2163)	0.286 (0.1009)	0.850 (0.2329)	0.037 (0.0125)	0.048 (0.0253)	0.003 (0.0067)	498.0 (78.92)	9.290 (0.2119)
2% Coconut oil	10	1.206 (0.3152)	0.294 (0.1531)	0.832 (0.1785)	0.034 (0.0165)	0.021** (0.0057)	0.002 (0.0042)	498.6 (63.76)	9.105 (0.2733)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
M :- Results calculated from data transformed by SQRT
E, B :- Results of two-sided Mann Whitney tests.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 49.

Table 45. Serum analysis in male rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
0% Control	60	2.418 (0.0796)	92.3 (8.86)	50.7 (6.99)	94.7 (12.40)	0.219 (0.3347)	5.6 (0.74)	70.20 (7.562)	8.253 (0.9953)
0.002% White oil N15 (H)	20	2.433 (0.0866)	94.2 (7.16)	49.5 (8.44)	92.7 (9.89)	0.191 (0.2505)	5.6 (0.51)	70.50 (7.338)	8.735 (1.2309)
0.02% White oil N15 (H)	20	2.467* (0.1155)	92.0 (7.21)	51.5 (7.43)	92.4 (13.74)	0.314 (0.3585)	5.7 (0.47)	72.20 (10.061)	8.685 (0.8851)
0.2% White oil N15 (H)	20	2.429 (0.0887)	87.9* (5.91)	52.9 (6.14)	91.2 (8.15)	0.269 (0.3309)	5.3 (0.59)	73.05 (10.002)	8.405 (1.0034)
2% White oil N15 (H)	20	2.440 (0.0934)	84.7*** (8.41)	48.9 (5.47)	94.3 (10.90)	0.279 (0.3459)	5.3 (0.72)	69.65 (8.869)	8.050 (0.8439)
0.002% White oil N70 (H)	20	2.444* (0.0818)	94.8 (10.30)	52.2 (6.81)	91.7 (9.99)	0.381 (0.5602)	5.6 (0.89)	72.85 (6.507)	8.745 (1.0092)
0.02% White oil N70 (H)	20	2.444 (0.0750)	95.2 (8.66)	50.5 (5.24)	96.6 (13.21)	0.294 (0.3344)	5.9 (0.55)	73.35 (7.583)	8.220 (0.9192)
0.2% White oil N70 (H)	20	2.444 (0.0690)	94.4 (8.78)	50.0 (6.37)	94.6 (12.63)	0.300 (0.5121)	5.7 (0.47)	72.70 (10.378)	8.415 (1.2803)
2% White oil N70 (H)	20	2.395 (0.0796)	91.4 (6.62)	53.5 (6.67)	96.8 (13.84)	0.203 (0.2984)	5.3 (0.72)	69.15 (5.122)	7.870 (1.0301)
0.002% White oil N70 (A)	20	2.462 (0.0636)	95.4 (5.38)	51.5 (4.99)	99.4 (18.64)	0.139 (0.1970)	5.7 (0.66)	75.30* (7.961)	8.565 (1.0189)
0.02% White oil N70 (A)	20	2.442 (0.0752)	91.2 (8.80)	50.8 (10.95)	94.6 (13.83)	0.195 (0.3018)	5.4 (0.68)	71.15 (6.877)	8.400 (1.0167)
0.2% White oil N70 (A)	20	2.439 (0.0569)	90.2 (6.36)	50.8 (7.00)	94.6 (10.72)	0.284 (0.4601)	5.6 (0.60)	72.25 (7.063)	8.670 (0.9131)

continued....

Table 45. continued.

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
2% White oil N70 (A)	20	2.453 (0.0966)	93.2 (8.26)	52.7 (7.05)	94.9 (11.96)	0.258 (0.3411)	5.6 (0.82)	68.30 (6.027)	8.100 (1.0172)
0.002% White oil P15 (H)	20	2.439 (0.0845)	94.9 (5.00)	52.8 (5.98)	98.8 (10.87)	0.205 (0.2591)	5.5 (0.61)	73.00 (6.890)	8.575 (1.2052)
0.02% White oil P15 (H)	20	2.426 (0.0824)	91.6 (8.59)	53.0 (6.35)	98.1 (14.32)	0.271 (0.4594)	5.6 (0.89)	74.45 (10.570)	8.285 (0.9762)
0.2% White oil P15 (H)	20	2.455 (0.0934)	85.0*** (6.96)	51.0 (7.64)	91.3 (11.00)	0.294 (0.3535)	5.6 (0.75)	72.95 (12.327)	8.480 (1.0035)
2% White oil P15 (H)	20	2.443 (0.0803)	83.6*** (11.35)	51.5 (9.97)	94.6 (13.22)	0.303 (0.3707)	5.4 (0.82)	67.95 (8.056)	7.890 (0.9475)
0.002% White oil N10 (A)	20	2.429 (0.0743)	98.3** (9.75)	50.0 (6.22)	97.0 (22.67)	0.395 (0.5237)	5.6 (0.60)	71.25 (8.290)	8.245 (1.2420)
0.02% White oil N10 (A)	20	2.451 (0.1070)	91.3 (6.75)	53.5 (6.06)	97.7 (11.01)	0.173 (0.2564)	5.8 (0.79)	75.80* (11.110)	8.355 (1.0909)
0.2% White oil N10 (A)	20	2.435 (0.0840)	87.3* (7.50)	51.7 (7.96)	99.1 (13.63)	0.265 (0.4589)	5.5 (0.51)	73.85 (11.165)	8.330 (1.1859)
2% White oil N10 (A)	20	2.459 (0.0685)	85.2*** (7.62)	47.3 (6.11)	94.2 (12.08)	0.315 (0.6222)	5.7 (0.59)	70.60 (5.144)	8.120 (1.1053)
0.002% White oil P100 (H)	20	2.438 (0.0774)	95.6 (6.25)	49.0 (4.11)	91.1 (10.18)	0.255 (0.4312)	5.6 (0.60)	72.40 (9.104)	8.470 (0.9587)
0.02% White oil P100 (H)	20	2.434 (0.0785)	94.8 (7.30)	50.0 (7.13)	95.9 (17.37)	0.282 (0.3331)	5.6 (0.83)	71.70 (8.405)	8.585 (0.9864)
0.2% White oil P100 (H)	20	2.441 (0.0909)	94.8 (10.46)	54.3 (14.89)	95.0 (14.31)	0.138 (0.2441)	5.7 (0.66)	73.20 (8.402)	8.615 (1.0644)

continued....

Table 45. continued.

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
2% White oil P100 (H)	20	2.427 (0.0830)	94.5 (8.73)	52.0 (5.80)	91.2 (9.28)	0.309 (0.4239)	5.8 (0.70)	69.80 (7.237)	8.480 (0.8847)
0.002% Low melting point wax	20	2.440 (0.0859)	98.2** (7.44)	50.6 (6.90)	93.5 (7.79)	0.330 (0.3234)	5.7 (0.59)	76.95** (10.112)	8.730 (0.7540)
0.02% Low melting point wax	20	2.416 (0.0831)	91.9 (10.76)	57.5 (27.23)	99.0 (29.03)	0.243 (0.3561)	5.4 (0.68)	71.55 (7.409)	8.850* (0.9151)
0.2% Low melting point wax	20	2.400 (0.0868)	89.8 (9.50)	100.9*** (36.15)	147.1*** (42.13)	0.448* (0.4168)	5.6 (0.60)	69.25 (8.366)	8.325 (0.9781)
2% Low melting point wax	20	2.433 (0.0793)	84.2*** (8.37)	110.0*** (38.73)	159.9*** (46.89)	0.699*** (0.5396)	5.9 (0.64)	71.15 (7.727)	8.265 (0.9621)
0.002% High melting point wax	20	2.426 (0.0660)	92.2 (8.03)	50.5 (5.09)	89.9 (7.91)	0.183 (0.2996)	5.5 (0.76)	73.10 (8.979)	8.545 (0.7970)
0.02% High melting point wax	19	2.409 (0.0859)	93.1 (9.47)	50.1 (5.65)	94.6 (9.74)	0.186 (0.2940)	5.6 (0.68)	71.11 (7.680)	8.642 (0.8726)
0.2% High melting point wax	20	2.422 (0.1012)	91.8 (6.07)	50.7 (7.55)	97.1 (12.88)	0.217 (0.3280)	5.7 (0.59)	72.55 (9.891)	8.600 (1.0824)
2% High melting point wax	20	2.444 (0.0699)	93.9 (8.84)	48.3 (6.08)	91.3 (12.39)	0.231 (0.3464)	5.7 (0.67)	68.35 (5.641)	8.445 (1.1954)
0.002% High sulphur wax	19	2.408 (0.0917)	93.0 (7.12)	52.1 (5.79)	94.4 (11.49)	0.215 (0.2810)	5.5 (0.61)	71.68 (6.896)	8.574 (0.7445)
0.02% High sulphur wax	20	2.446 (0.0769)	96.4 (5.72)	72.1*** (93.55)	106.0* (49.02)	0.310 (0.3781)	5.8 (0.75)	74.40 (10.625)	8.435 (0.9275)
0.2% High sulphur wax	19	2.418 (0.0851)	92.4 (7.46)	52.0 (6.86)	93.2 (9.17)	0.322 (0.3841)	5.6 (0.51)	71.79 (9.467)	8.579 (0.9047)

continued....

Table 45. continued.

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
2% High sulphur wax	20	2.430 (0.1021)	89.6 (6.91)	50.1 (6.58)	91.7 (8.44)	0.246 (0.2639)	5.7 (0.66)	70.00 (7.954)	8.705 (0.9605)
2% Coconut oil	20	2.419 (0.0700)	96.9* (11.33)	51.8 (8.72)	92.1 (11.06)	0.235 (0.3487)	5.3 (0.81)	70.30 (8.099)	8.560 (1.1473)

continued....

Table 45. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
0% Control	60	2.419 (0.2041)	1.60 (1.141)	136.6 (2.33)	4.42 (0.322)	106.7 (4.24)	56.050 (2.3101)	34.03 (1.213)	1.5568 (0.1508)
0.002% White oil N15 (H)	20	2.451 (0.2011)	1.67 (1.200)	136.4 (1.32)	4.32 (0.250)	106.7 (4.32)	55.600 (2.7796)	33.64 (1.087)	1.5428 (0.1406)
0.02% White oil N15 (H)	20	2.465 (0.2529)	1.45 (0.888)	136.6 (2.56)	4.57 (0.754)	105.8 (4.18)	56.200 (3.4274)	34.07 (1.227)	1.5557 (0.1548)
0.2% White oil N15 (H)	20	2.459 (0.2455)	1.31 (0.880)	136.5 (2.50)	4.35 (0.216)	106.6 (4.01)	56.600 (2.6238)	34.34 (0.922)	1.5538 (0.1336)
2% White oil N15 (H)	20	2.474 (0.3505)	1.13 (0.952)	136.9 (2.16)	4.23* (0.268)	107.4 (4.84)	56.950 (2.1879)	35.02** (0.989)	1.6048 (0.1222)
0.002% White oil N70 (H)	20	2.495 (0.2646)	1.43 (0.896)	136.5 (2.48)	4.46 (0.350)	106.4 (2.95)	56.550 (3.5314)	34.17 (1.066)	1.5575 (0.2382)
0.02% White oil N70 (H)	20	2.430 (0.2601)	1.59 (1.244)	136.4 (2.04)	4.52 (0.405)	107.5 (3.56)	56.700 (3.2135)	34.30 (1.252)	1.5467 (0.1545)
0.2% White oil N70 (H)	20	2.523 (0.2421)	1.45 (0.917)	136.6 (1.90)	4.43 (0.266)	106.6 (3.59)	56.700 (2.7739)	34.45 (1.097)	1.5656 (0.1780)
2% White oil N70 (H)	20	2.411 (0.2398)	1.33 (1.058)	136.0 (2.32)	4.55 (0.551)	106.9 (5.65)	56.900 (2.8266)	34.62 (1.074)	1.5738 (0.1968)
0.002% White oil N70 (A)	20	2.423 (0.2669)	1.32 (0.890)	136.5 (1.93)	4.54 (0.418)	105.9 (3.71)	56.450 (2.5849)	33.95 (1.227)	1.5214 (0.1541)
0.02% White oil N70 (A)	20	2.449 (0.2410)	1.49 (0.839)	136.3 (3.32)	4.52 (0.375)	105.5 (4.81)	55.600 (2.9272)	33.14** (1.363)	1.4909 (0.1703)
0.2% White oil N70 (A)	20	2.413 (0.2248)	1.39 (0.903)	136.1 (2.04)	4.45 (0.296)	106.6 (3.80)	56.400 (2.0105)	34.01 (1.119)	1.5274 (0.1327)

continued....

Table 45. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
2% White oil N70 (A)	20	2.568* (0.2123)	1.24 (0.815)	136.7 (1.59)	4.42 (0.273)	107.6 (4.42)	55.800 (2.1667)	34.15 (0.685)	1.5894 (0.1388)
0.002% White oil P15 (H)	20	2.415 (0.2741)	1.35 (0.912)	135.7 (2.77)	4.36 (0.252)	106.5 (3.69)	56.100 (2.4900)	34.26 (1.027)	1.5901 (0.2122)
0.02% White oil P15 (H)	20	2.506 (0.2895)	1.44 (0.942)	136.5 (1.85)	4.47 (0.384)	106.7 (4.79)	56.500 (3.7627)	33.99 (1.473)	1.5292 (0.1744)
0.2% White oil P15 (H)	20	2.468 (0.3399)	1.41 (0.843)	136.1 (2.39)	4.47 (0.409)	106.1 (4.54)	56.200 (3.1888)	33.80 (1.338)	1.5256 (0.1743)
2% White oil P15 (H)	20	2.543* (0.1987)	1.31 (0.968)	136.8 (2.93)	4.39 (0.283)	107.1 (3.82)	56.250 (3.2424)	34.14 (1.327)	1.5610 (0.1747)
0.002% White oil N10 (A)	20	2.486 (0.2479)	1.60 (1.175)	136.6 (2.08)	4.42 (0.327)	106.5 (4.29)	56.550 (2.6253)	33.92 (1.318)	1.5132 (0.1613)
0.02% White oil N10 (A)	20	2.525 (0.3377)	1.38 (0.907)	136.4 (2.50)	4.41 (0.206)	105.5 (3.52)	56.650 (3.1166)	33.86 (1.446)	1.5016 (0.1770)
0.2% White oil N10 (A)	20	2.416 (0.2953)	1.25 (0.916)	136.5 (1.88)	4.32 (0.231)	106.3 (4.78)	56.350 (2.7961)	34.40 (1.054)	1.5818 (0.1595)
2% White oil N10 (A)	20	2.495 (0.1972)	1.35 (1.166)	136.8 (1.96)	4.36 (0.237)	106.5 (3.63)	57.500* (3.1372)	34.67* (1.122)	1.5326 (0.1481)
0.002% White oil P100 (H)	20	2.441 (0.2471)	1.46 (1.007)	135.9 (2.25)	4.38 (0.340)	106.1 (3.78)	55.600 (2.1619)	33.25* (0.736)	1.4971 (0.1238)
0.02% White oil P100 (H)	20	2.536 (0.1572)	1.40 (0.997)	136.3 (2.47)	4.56 (0.344)	106.3 (4.03)	56.950 (2.6651)	34.15 (1.203)	1.5090 (0.1413)
0.2% White oil P100 (H)	20	2.423 (0.2424)	1.45 (1.013)	135.8 (1.86)	4.48 (0.329)	106.0 (3.40)	56.500 (3.0522)	33.90 (1.269)	1.5133 (0.1466)

continued....

Table 45. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
2% White oil P100 (H)	20	2.511 (0.2223)	1.50 (0.989)	136.6 (2.16)	4.36 (0.216)	106.1 (3.53)	55.800 (2.3974)	34.10 (0.845)	1.5843 (0.1502)
0.002% Low melting point wax	20	2.422 (0.1807)	1.33 (0.939)	136.4 (2.01)	4.30 (0.299)	107.1 (3.77)	57.250 (2.3814)	34.22 (1.102)	1.4967 (0.1486)
0.02% Low melting point wax	20	2.383[19] (0.2077)	1.39 (0.996)	135.9 (2.39)	4.35[19] (0.237)	106.3 (4.19)	56.400 (3.9789)	33.96 (1.842)	1.5463 (0.2559)
0.2% Low melting point wax	20	2.490 (0.1984)	1.54 (0.957)	136.4 (1.87)	4.36 (0.417)	106.9 (3.52)	55.150 (3.1334)	32.73*** (1.518)	1.4716 (0.1402)
2% Low melting point wax	20	2.493 (0.1834)	1.66 (0.896)	136.4 (2.44)	4.40 (0.385)	106.8 (4.24)	56.050 (2.0384)	32.56*** (0.696)	1.3956*** (0.1279)
0.002% High melting point wax	20	2.339 (0.1622)	1.39 (0.865)	135.9 (2.00)	4.46 (0.333)	107.7 (4.23)	56.100 (3.5821)	34.42 (1.340)	1.6173 (0.2410)
0.02% High melting point wax	19	2.424 (0.1801)	1.76 (1.178)	135.8 (2.15)	4.36 (0.224)	106.2 (3.61)	55.895 (2.9608)	33.79 (1.481)	1.5446 (0.1785)
0.2% High melting point wax	20	2.439 (0.2300)	1.57 (1.203)	136.3 (1.69)	4.33 (0.234)	105.6 (4.54)	56.300 (2.3864)	33.70 (0.736)	1.5037 (0.1429)
2% High melting point wax	20	2.447 (0.2602)	1.45 (0.928)	136.1 (1.79)	4.40 (0.324)	106.2 (4.46)	55.950 (2.6253)	34.12 (1.243)	1.5868 (0.2325)
0.002% High sulphur wax	19	2.379 (0.2657)	1.31 (0.983)	136.3 (1.25)	4.38 (0.249)	106.4 (4.34)	56.105 (2.1316)	33.86 (1.122)	1.5413 (0.1984)
0.02% High sulphur wax	20	2.447[19] (0.3312)	1.56 (1.258)	136.6 (1.96)	4.37[19] (0.316)	106.5 (3.44)	57.050 (2.8373)	34.45 (1.334)	1.5364 (0.1425)
0.2% High sulphur wax	19	2.355 (0.2097)	1.68 (1.280)	135.7 (1.60)	4.31 (0.279)	107.0 (3.57)	56.158 (2.4327)	33.88 (0.788)	1.5303 (0.1159)

continued....

Table 45. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
2% High sulphur wax	20	2.527 (0.1750)	1.46 (0.993)	136.4 (1.79)	4.43 (0.281)	106.3 (3.79)	56.000 (2.7338)	34.21 (0.705)	1.5921 (0.2006)
2% Coconut oil	20	2.452 (0.2174)	1.45 (0.923)	136.4 (1.95)	4.51 (0.311)	106.6 (3.68)	56.400 (2.4149)	34.31 (1.326)	1.5684 (0.1798)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Gamma-GT :- Results calculated from data transformed by SQRT.
Creatinine :- Results calculated from data transformed by Log_e.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 51.

Table 46. Serum analysis in male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
0% Control	30	2.379 (0.0711)	82.0 (7.29)	55.5 (7.82)	90.5 (10.89)	0.065 (0.1537)	5.3 (0.52)	66.1 (4.25)	8.01 (0.730)
2% White oil N15 (H)	10	2.399 (0.0363)	75.2** (3.29)	54.5 (10.65)	87.6 (15.41)	0.076 (0.1047)	5.2 (0.63)	66.3 (2.36)	8.10 (1.251)
2% White oil N70 (H)	10	2.384 (0.0913)	80.0 (5.29)	50.4 (5.78)	86.4 (11.35)	0.065 (0.1531)	5.1 (0.57)	64.7 (3.09)	8.16 (0.734)
2% White oil N70 (A)	10	2.367 (0.0595)	79.1 (4.68)	54.9 (5.65)	87.6 (8.06)	0.162 (0.3301)	5.1 (0.32)	65.0 (3.94)	7.79 (0.848)
2% White oil P15 (H)	10	2.411 (0.1024)	75.5** (3.60)	57.8 (7.45)	93.3 (10.14)	0.184 (0.2621)	5.3 (0.48)	68.4 (5.64)	8.05 (0.994)
2% White oil N10 (A)	10	2.347 (0.0408)	73.9*** (4.91)	51.9 (8.44)	84.2 (7.16)	0.217 (0.2850)	5.0 (0.47)	65.4 (5.23)	8.61 (0.702)
2% White oil P100 (H)	10	2.407 (0.1018)	72.4*** (4.35)	57.5 (12.06)	87.0 (21.47)	0.178 (0.3059)	5.2 (0.63)	68.7 (4.57)	8.64 (0.510)
2% Low melting point wax	10	2.373 (0.0422)	75.1** (4.93)	100.9*** (24.13)	145.0*** (30.57)	0.300* (0.4433)	5.3 (0.67)	66.4 (5.48)	8.05 (1.474)
2% High melting point wax	10	2.388 (0.0469)	82.2 (4.32)	59.0 (13.27)	88.5 (11.46)	0.145 (0.1857)	5.2 (0.42)	66.9 (3.48)	7.72 (0.559)
2% High sulphur wax	10	2.359 (0.0617)	79.6 (7.23)	66.2* (25.97)	96.6 (12.08)	0.095 (0.2204)	5.4 (0.52)	68.8 (4.44)	8.62 (0.644)
2% Coconut oil	10	2.372 (0.0596)	78.5 (5.87)	57.9 (8.67)	85.9 (10.98)	0.230 (0.3130)	5.1 (0.32)	66.9 (5.78)	8.01 (1.200)

continued....

Table 46. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
0% Control	30	2.227 (0.1346)	1.34 (0.448)	136.2 (1.23)	4.45 (0.266)	102.8 (1.60)	58.5 (1.33)	34.30 (0.643)	1.4195 (0.0633)
2% White oil N15 (H)	10	2.198 (0.1837)	1.28 (0.454)	136.5 (1.58)	4.56 (0.353)	103.6 (5.15)	59.1 (1.52)	34.36 (0.943)	1.3917 (0.0769)
2% White oil N70 (H)	10	2.327 (0.2113)	1.26 (0.369)	136.6 (1.07)	4.54 (0.420)	103.1 (1.91)	58.0 (1.25)	33.88 (0.903)	1.4069 (0.0686)
2% White oil N70 (A)	10	2.195 (0.0963)	1.35 (0.420)	135.6 (1.26)	4.37 (0.183)	102.6 (1.35)	59.0 (1.94)	34.54 (0.972)	1.4155 (0.0756)
2% White oil P15 (H)	10	2.249 (0.1966)	1.21 (0.465)	136.3 (1.06)	4.58 (0.371)	102.8 (1.40)	59.6 (1.58)	34.90 (0.713)	1.4164 (0.0760)
2% White oil N10 (A)	10	2.236 (0.0863)	1.43 (0.495)	136.3 (0.82)	4.42 (0.235)	102.3 (1.77)	58.2 (1.40)	34.31 (0.684)	1.4390 (0.0718)
2% White oil P100 (H)	10	2.272 (0.1545)	1.30 (0.602)	136.3 (1.34)	4.65 (0.560)	103.3 (1.34)	58.4 (1.58)	34.14 (1.087)	1.4085 (0.0586)
2% Low melting point wax	10	2.374* (0.1726)	1.56 (0.704)	136.3 (1.42)	4.58 (0.286)	102.7 (2.16)	58.3 (1.70)	33.58* (1.251)	1.3598* (0.0645)
2% High melting point wax	10	2.280 (0.1458)	1.36 (0.425)	136.9 (0.74)	4.49 (0.213)	103.1 (1.79)	60.3** (1.64)	35.20** (0.394)	1.4070 (0.0857)
2% High sulphur wax	10	2.248 (0.4379)	1.26 (0.460)	135.6 (1.07)	4.36^{9} (0.251)	101.3 (1.34)	58.7 (2.58)	34.34 (1.260)	1.4142 (0.0855)
2% Coconut oil	10	2.100 (0.2259)	1.29 (0.401)	136.5 (1.51)	4.37 (0.164)	103.3 (2.11)	58.1 (1.66)	34.46 (0.850)	1.4604 (0.0693)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
ALAT :- Results calculated from data transformed by Log_e.
ASAT :- Results calculated from data transformed by Log_e.
Potassium :- Results calculated from data transformed by Log_e.
Gamma-GT :- Results calculated from data transformed by SQRT.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is differe from that given.
Indiv l data reported in Appendix 50.

Table 47. Serum analysis in female rats on the main study fed either control diet, one of six white mineral oils at levels of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at levels of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
0% Control	60	2.479 (0.0980)	79.4 (9.60)	42.0 (7.87)	84.6 (10.78)	0.564 (0.6259)	6.2 (0.86)	66.32 (7.854)	6.805 (0.8736)
0.002% White oil N15 (H)	20	2.469 (0.0907)	83.6 (10.24)	41.5 (5.87)	86.4 (13.80)	0.579 (0.5304)	6.3 (0.93)	68.55 (9.484)	7.360* (0.8114)
0.02% White oil N15 (H)	20	2.469 (0.0953)	79.8 (13.51)	41.4 (7.76)	83.0 (13.43)	0.668 (0.4432)	6.3 (0.79)	67.70 (5.814)	7.860*** (0.9676)
0.2% White oil N15 (H)	20	2.466 (0.0932)	68.4*** (9.32)	44.0 (8.26)	86.8 (10.48)	0.634 (0.5064)	6.3 (0.72)	66.65 (7.184)	7.500** (1.0916)
2% White oil N15 (H)	20	2.447 (0.1028)	68.3*** (9.23)	46.9 (11.63)	100.8*** (18.66)	1.138*** (0.6310)	6.4 (0.88)	65.00 (6.481)	6.655 (0.9133)
0.002% White oil N70 (H)	20	2.493 (0.1322)	82.7 (8.39)	45.9 (12.83)	91.4 (23.50)	0.545 (0.5211)	6.4 (0.82)	69.30 (7.484)	7.495** (0.9693)
0.02% White oil N70 (H)	20	2.474 (0.1226)	82.8 (8.12)	41.1 (4.25)	83.3 (7.16)	0.540 (0.5020)	6.4 (0.76)	66.25 (9.738)	7.410* (0.8753)
0.2% White oil N70 (H)	20	2.487 (0.0869)	80.7 (12.00)	45.0 (9.05)	89.2 (11.16)	0.484 (0.3786)	6.8* (0.91)	67.90 (7.873)	7.680*** (1.3889)
2% White oil N70 (H)	20	2.454 (0.0818)	79.9 (10.43)	47.0 (12.58)	91.1 (15.50)	0.371 (0.4019)	6.2 (0.67)	66.50 (5.680)	6.875 (0.7376)
0.002% White oil N70 (A)	20	2.486 (0.0866)	77.3 (8.19)	44.7 (8.52)	84.2 (11.06)	0.442 (0.4115)	6.4 (0.94)	66.70 (6.400)	7.105 (0.7000)
0.02% White oil N70 (A)	20	2.474 (0.0860)	79.1 (12.34)	48.4* (18.60)	98.9*** (25.60)	0.466 (0.5586)	6.1 (0.85)	69.10 (8.979)	7.190 (1.0187)
0.2% White oil N70 (A)	20	2.467 (0.1044)	76.6 (9.25)	49.0* (25.20)	89.6 (17.69)	0.467 (0.4527)	6.3 (0.86)	64.80 (7.730)	7.055 (1.1500)

continued....

Table 47. continued.

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
2% White oil N70 (A)	20	2.465 (0.0752)	77.8 (10.62)	42.7 (6.82)	87.8 (10.71)	0.377 (0.3500)	6.5 (0.76)	66.50 (6.573)	7.220 (0.9266)
0.002% White oil P15 (H)	20	2.503 (0.0928)	81.6 (9.63)	43.5 (6.28)	84.8 (11.44)	0.413 (0.3816)	6.4 (0.94)	69.15 (8.604)	7.400* (0.8201)
0.02% White oil P15 (H)	20	2.471 (0.0932)	77.6 (10.12)	43.8 (9.84)	85.2 (11.83)	0.488 (0.3916)	6.4 (0.75)	70.30* (8.761)	7.585** (1.1018)
0.2% White oil P15 (H)	20	2.489 (0.1039)	75.6 (6.95)	47.7 (10.44)	92.6* (14.02)	0.733 (0.4974)	6.3 (0.80)	67.95 (7.695)	7.290 (0.9458)
2% White oil P15 (H)	20	2.504 (0.0988)	67.9*** (6.54)	43.8 (7.09)	91.1 (10.50)	0.987*** (0.6229)	6.3 (0.79)	65.50 (8.727)	7.125 (0.8226)
0.002% White oil N10 (A)	19	2.477 (0.0888)	80.1 (9.17)	41.7 (4.48)	83.5 (8.28)	0.507 (0.4291)	6.4 (0.60)	64.32 (5.498)	7.263 (0.6962)
0.02% White oil N10 (A)	20	2.480 (0.1097)	79.1 (10.11)	45.5 (12.23)	86.8 (14.35)	0.457 (0.3632)	6.5 (0.69)	70.30* (8.927)	7.280 (1.0803)
0.2% White oil N10 (A)	20	2.498 (0.1393)	69.8*** (10.09)	43.5 (15.32)	88.3 (15.72)	0.554 (0.3746)	6.3 (0.81)	67.10 (8.577)	7.315* (0.8592)
2% White oil N10 (A)	20	2.485 (0.1244)	69.3*** (7.00)	40.0 (4.28)	94.7* (11.79)	1.077*** (0.6446)	6.4 (0.68)	64.60 (5.915)	6.700 (0.9706)
0.002% White oil P100 (H)	20	2.492 (0.1068)	80.2 (13.73)	46.0 (11.53)	89.3 (18.62)	0.500 (0.3911)	6.6 (0.82)	70.75* (10.099)	7.570** (0.9493)
0.02% White oil P100 (H)	20	2.503[19] (0.1257)	81.1 (8.58)	46.2 (11.91)	92.7* (27.38)	1.059*** (1.4713)	6.6 (0.94)	66.30 (8.163)	7.268[19] (1.0960)
0.2% White oil P100 (H)	20	2.461 (0.1048)	77.9 (8.39)	42.4 (6.57)	84.7 (8.36)	0.487 (0.3720)	6.3 (0.67)	67.80 (8.108)	6.815 (1.1654)
2% White oil P100 (H)	20	2.485 (0.0943)	78.8 (9.71)	46.4 (11.96)	92.7* (20.79)	0.375 (0.3212)	6.2 (0.95)	68.05 (6.886)	7.220 (1.0536)

continued....

Table 47. continued.

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
0.002% Low melting point wax	20	2.481 (0.1219)	83.3 (11.13)	39.2 (6.00)	81.9 (7.91)	0.450 (0.4121)	6.3 (0.73)	68.20 (8.377)	7.300* (1.0110)
0.02% Low melting point wax	20	2.457 (0.0998)	82.3 (8.80)	45.5 (8.22)	89.1 (10.24)	0.383 (0.4393)	6.3 (0.81)	66.10 (9.464)	7.400* (1.1346)
0.2% Low melting point wax	20	2.468 (0.0892)	77.4 (8.39)	85.0*** (21.22)	133.4*** (31.28)	0.873** (0.4879)	6.5 (1.15)	65.75 (8.416)	7.580** (0.9512)
2% Low melting point wax	20	2.431 (0.1074)	76.2 (12.33)	100.6*** (24.13)	161.1*** (34.24)	1.841*** (0.9473)	6.3 (0.67)	64.15 (7.815)	6.935 (0.8869)
0.002% High melting point wax	20	2.521 (0.0765)	78.3 (7.65)	43.2 (9.16)	85.7 (11.18)	0.375 (0.3245)	6.4 (0.82)	70.30* (11.439)	7.695*** (0.9944)
0.02% High melting point wax	20	2.442 (0.1040)	77.5 (8.86)	43.7 (20.16)	83.6 (11.30)	0.341 (0.3823)	6.1 (0.60)	65.75 (5.794)	7.070 (0.9548)
0.2% High melting point wax	20	2.491 (0.0994)	81.8 (10.98)	41.3 (7.96)	84.7 (8.06)	0.282* (0.4249)	6.6 (1.05)	68.55 (7.619)	7.470** (0.9171)
2% High melting point wax	20	2.481 (0.1107)	82.4 (9.93)	42.5 (7.86)	88.2 (7.90)	0.569 (0.3762)	6.4 (0.68)	65.85 (5.547)	7.325* (1.0577)
0.002% High sulphur wax	20	2.485 (0.1060)	80.8 (7.95)	46.2 (15.93)	87.8 (19.19)	0.506 (0.5718)	6.6 (1.31)	68.35 (8.126)	7.400* (0.8657)
0.02% High sulphur wax	20	2.472 (0.1113)	79.0 (10.24)	41.1 (7.09)	85.0 (13.30)	0.491 (0.4301)	6.3 (0.80)	67.75 (6.980)	7.350* (1.0822)
0.2% High sulphur wax	20	2.444 (0.0920)	82.0 (9.07)	44.3 (8.73)	88.8 (15.70)	0.552 (0.5024)	6.6 (0.69)	66.90 (6.727)	7.575** (1.2221)
2% High sulphur wax	20	2.464 (0.1098)	85.4* (14.44)	45.2 (7.52)	89.5 (12.71)	0.572 (0.4933)	6.6 (0.60)	65.95 (5.790)	7.080 (0.9573)
2% Coconut oil	20	2.475 (0.0847)	82.3 (12.25)	43.8 (10.05)	86.4 (11.28)	0.545 (0.4217)	6.4 (0.82)	63.25 (7.239)	6.920 (0.6023)

continued....

Table 47. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
0% Control	60	2.308 (0.2581)	1.13 (0.481)	139.6 (4.16)	4.29 (0.369)	108.4 (2.89)	59.017 (3.1380)	37.36 (1.750)	1.7386 (0.1652)
0.002% White oil N15 (H)	20	2.241 (0.1758)	1.35 (0.510)	140.1 (5.65)	4.36 (0.333)	108.7 (2.70)	59.000 (3.6850)	37.56 (2.618)	1.7603 (0.1539)
0.02% White oil N15 (H)	20	2.309 (0.2113)	1.32 (0.499)	138.9 (4.61)	4.50 (0.356)	107.0 (3.04)	58.350 (2.8521)	36.80 (1.580)	1.7155 (0.1217)
0.2% White oil N15 (H)	20	2.351 (0.2123)	1.09 (0.458)	138.4 (3.94)	4.28 (0.383)	106.3** (3.39)	59.450 (2.4810)	37.23 (2.349)	1.6855 (0.1833)
2% White oil N15 (H)	20	2.313 (0.3342)	0.86* (0.645)	139.8 (4.48)	4.42 (0.678)	107.5 (2.91)	59.800 (2.8580)	36.64 (1.072)	1.5982** (0.1681)
0.002% White oil N70 (H)	20	2.489* (0.3209)	1.17 (0.637)	139.6 (3.70)	4.59* (0.806)	108.3 (2.97)	58.300 (2.7164)	36.78 (1.458)	1.7218 (0.1626)
0.02% White oil N70 (H)	20	2.318 (0.3272)	1.19 (0.472)	139.8 (5.33)	4.42 (0.415)	108.3 (3.93)	57.700 (2.8116)	36.43 (1.912)	1.7306 (0.2088)
0.2% White oil N70 (H)	20	2.334 (0.3263)	1.17 (0.349)	139.6 (4.85)	4.46 (0.496)	107.3 (3.10)	58.550 (2.6052)	36.77 (1.779)	1.7016 (0.1804)
2% White oil N70 (H)	20	2.213 (0.2504)	1.24 (0.332)	139.6 (4.44)	4.25 (0.259)	108.3 (2.94)	59.050 (2.7429)	37.17 (1.617)	1.7059 (0.1272)
0.002% White oil N70 (A)	20	2.423 (0.2811)	1.21 (0.472)	139.1 (4.69)	4.40 (0.529)	107.8 (2.89)	58.650 (3.0136)	36.69 (2.248)	1.6842 (0.1889)
0.02% White oil N70 (A)	20	2.405 (0.3394)	1.17 (0.529)	139.1 (4.04)	4.54* (0.715)	107.6 (3.59)	57.400 (3.2020)	36.38* (1.530)	1.7585 (0.2511)
0.2% White oil N70 (A)	20	2.326 (0.2833)	1.29 (0.442)	138.1 (3.65)	4.37 (0.566)	107.7 (2.62)	57.850 (2.3902)	36.56 (1.484)	1.7264 (0.1480)

continued....

Table 47. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
2% White oil N70 (A)	20	2.397 (0.2988)	1.16 (0.472)	138.5 (4.25)	4.36 (0.457)	107.2 (2.80)	58.500 (3.2363)	36.28* (1.732)	1.6418* (0.1286)
0.002% White oil P15 (H)	20	2.236 (0.2635)	1.38* (0.488)	139.3 (4.21)	4.43 (0.413)	107.7 (2.70)	59.950 (4.2485)	37.98 (2.083)	1.7566 (0.2339)
0.02% White oil P15 (H)	20	2.218 (0.3347)	1.21 (0.451)	139.4 (4.74)	4.42 (0.349)	107.7 (3.56)	58.750 (2.9714)	36.93 (1.467)	1.7087 (0.1739)
0.2% White oil P15 (H)	20	2.413 (0.3077)	1.05 (0.521)	140.3 (5.30)	4.40 (0.558)	108.8 (2.23)	57.550 (2.5644)	35.55*** (1.947)	1.6232* (0.1421)
2% White oil P15 (H)	20	2.388 (0.4339)	1.01 (0.515)	138.1 (3.04)	4.31 (0.378)	106.4* (2.48)	58.500 (2.6656)	35.49*** (1.635)	1.5566*** (0.1661)
0.002% White oil N10 (A)	19	2.346 (0.2570)	1.34 (0.430)	138.6 (4.43)	4.34 (0.350)	107.4 (3.20)	58.368 (3.1307)	36.81 (2.059)	1.7232 (0.1888)
0.02% White oil N10 (A)	20	2.324 (0.2589)	1.28 (0.516)	140.1 (4.44)	4.46 (0.450)	107.9 (2.48)	59.550 (3.8317)	37.46 (2.134)	1.6924 (0.2340)
0.2% White oil N10 (A)	20	2.317 (0.3003)	1.11 (0.516)	139.3 (4.88)	4.40 (0.483)	107.7 (3.45)	59.400 (4.2476)	37.27 (3.184)	1.7004 (0.2137)
2% White oil N10 (A)	20	2.308 (0.2998)	0.89 (0.415)	140.6 (5.58)	4.27 (0.274)	107.6 (4.10)	60.500 (4.2858)	37.06 (2.033)	1.5969** (0.1562)
0.002% White oil P100 (H)	20	2.377 (0.2493)	1.35 (0.435)	139.4 (5.24)	4.34 (0.325)	107.3 (2.79)	59.900 (3.5229)	37.63 (2.164)	1.7047 (0.1740)
0.02% White oil P100 (H)	20	2.365[19] (0.2908)	1.28[19] (0.501)	139.6 (4.66)	4.68** (0.785)	109.1[19] (3.54)	58.263[19] (4.1878)	36.38[19] (1.781)	1.6878[19] (0.2042)
0.2% White oil P100 (H)	20	2.371 (0.2710)	1.21 (0.401)	138.6 (3.83)	4.42 (0.536)	107.4 (2.37)	59.000 (3.3717)	37.26 (1.660)	1.7283 (0.1670)

continued....

Table 47. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
2% White oil P100 (H)	20	2.323 (0.2527)	1.23 (0.384)	139.9 (4.63)	4.59* (0.723)	108.1 (2.77)	59.900 (4.0898)	37.78 (2.322)	1.7229 (0.1725)
0.002% Low melting point wax	20	2.359 (0.2813)	1.29 (0.494)	139.1 (4.55)	4.47 (0.469)	108.1 (3.63)	57.550 (3.4255)	36.18* (1.832)	1.7135 (0.1980)
0.02% Low melting point wax	20	2.340 (0.2267)	1.19 (0.651)	139.1 (3.98)	4.36 (0.325)	107.7 (3.00)	58.050 (2.7810)	36.84 (1.476)	1.7597 (0.2225)
0.2% Low melting point wax	20	2.363 (0.2306)	1.16 (0.373)	139.6 (5.33)	4.37 (0.421)	107.3 (2.85)	57.100* (3.4167)	34.72*** (2.080)	1.5630*** (0.1550)
2% Low melting point wax	20	2.126* (0.3096)	1.53** (0.696)	138.7 (3.29)	4.43 (0.347)	107.6 (3.30)	56.100*** (3.1103)	32.71*** (2.532)	1.4107*** (0.1771)
0.002% High melting point wax	20	2.434 (0.2067)	1.24 (0.497)	138.3 (3.80)	4.40 (0.284)	107.0 (2.88)	59.750 (3.1267)	37.71 (1.706)	1.7271 (0.1857)
0.02% High melting point wax	20	2.355 (0.2661)	1.29 (0.456)	139.0 (3.67)	4.25 (0.365)	108.1 (3.13)	58.800 (3.0018)	37.50 (1.981)	1.7724 (0.1686)
0.2% High melting point wax	20	2.269 (0.2197)	1.27[19] (0.387)	139.8 (5.05)	4.39 (0.272)	108.2 (3.09)	59.050 (3.1867)	37.41 (1.855)	1.7414 (0.1601)
2% High melting point wax	20	2.373 (0.2733)	1.22 (0.496)	140.1 (4.30)	4.43 (0.289)	108.5 (2.52)	58.700 (2.8672)	37.15 (1.790)	1.7380 (0.1845)
0.002% High sulphur wax	20	2.359 (0.2258)	1.12 (0.441)	139.9 (5.61)	4.42 (0.411)	107.3 (3.23)	59.550 (3.7763)	37.41 (2.190)	1.7041 (0.1662)
0.02% High sulphur wax	20	2.258 (0.2127)	1.33 (0.570)	140.0 (4.61)	4.48 (0.281)	108.7 (3.45)	58.900 (3.3701)	36.91 (1.739)	1.6970 (0.1882)
0.2% High sulphur wax	20	2.404 (0.2555)	1.22 (0.503)	140.1 (5.47)	4.60* (0.589)	108.8 (3.65)	57.850 (2.6011)	36.13* (1.531)	1.6712 (0.1244)

continued....

Table 47. continued.

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
2% High sulphur wax	20	2.395 (0.2637)	1.24 (0.491)	139.6 (5.08)	4.50 (0.419)	108.1 (3.50)	57.600 (2.5629)	35.84** (1.771)	1.6551 (0.1400)
2% Coconut oil	20	2.429 (0.2911)	1.24 (0.469)	139.2 (3.59)	4.37 (0.435)	108.1 (3.18)	58.950 (2.7999)	36.88 (1.878)	1.6800 (0.1448)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
Gamma GT :- Results calculated from data transformed by SQRT.
* p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendix 53.

Table 48. Serum analysis in female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Group	n	Calcium mmol/l	ALKP U/l	ALAT U/l	ASAT U/l	Gamma-GT U/l	Urea mmol/l	Creatinine umol/l	Glucose mmol/l
0% Control	30	2.552 (0.0752)	66.2 (8.36)	45.1 (10.74)	81.6 (11.43)	0.382 (0.6005)	6.2 (0.75)	61.9 (4.85)	6.82 (0.775)
2% White oil N15 (H)	10	2.564 (0.0578)	64.7 (11.46)	41.7 (6.86)	82.4 (10.92)	0.851 (0.6643)	6.1 (0.57)	63.8 (4.16)	7.76*** (0.420)
2% White oil N70 (H)	10	2.504 (0.0606)	63.9 (7.95)	44.2 (10.71)	84.9 (11.15)	0.734 (0.9253)	5.9 (0.57)	60.9 (3.38)	7.02 (0.437)
2% White oil N70 (A)	10	2.625* (0.1027)	61.8 (10.36)	47.6 (12.29)	85.7 (19.99)	0.487 (0.6292)	5.7 (0.67)	66.0* (4.74)	7.31 (1.308)
2% White oil P15 (H)	10	2.536 (0.0568)	61.7 (6.18)	47.2 (10.64)	85.7 (14.34)	0.603 (0.7331)	6.0 (0.94)	64.1 (4.63)	7.02 (0.480)
2% White oil N10 (A)	10	2.543 (0.0907)	69.0 (12.25)	42.9 (10.32)	80.1 (11.06)	1.180** (1.3121)	6.3 (0.67)	62.0 (3.80)	7.53** (0.837)
2% White oil P100 (H)	10	2.493* (0.0898)	68.7 (8.74)	43.4 (9.01)	80.3 (6.41)	0.650 (0.7118)	6.2 (0.79)	61.8 (4.54)	6.72 (0.405)
2% Low melting point wax	9	2.497 (0.1091)	78.1** (5.30)	70.3*** (17.04)	119.9*** (20.20)	1.308** (1.0024)	5.9 (0.60)	60.6 (4.45)	7.49* (1.028)
2% High melting point wax	10	2.612* (0.0609)	68.2 (9.30)	56.0* (20.86)	87.7 (17.78)	0.372 (0.6610)	6.2 (0.42)	62.0 (4.22)	7.12 (0.618)
2% High sulphur wax	10	2.516 (0.0530)	68.0 (9.42)	47.0 (10.34)	86.4 (14.73)	0.627 (0.6677)	6.0 (0.82)	61.6 (2.46)	7.13 (0.447)
2% Coconut oil	10	2.590 (0.0643)	67.8 (12.95)	44.4 (7.35)	79.2 (6.05)	0.519 (0.4890)	5.9 (0.74)	65.4* (6.59)	7.30 (0.589)

continued....

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Table 48. (Continued)

Group	n	Phosphate mmol/l	Bilirubin umol/l	Sodium mmol/l	Potassium mmol/l	Chloride meq/l	Protein g/l	Albumin g/l	Alb/Glob ratio
0% Control	30	2.139 (0.2666)	1.35 (0.584)	137.9 (2.21)	4.78 (0.586)	106.5 (2.47)	61.1 (2.52)	37.36 (1.656)	1.5765 (0.0794)
2% White oil N15 (H)	10	2.049 (0.3482)	1.32 (0.739)	137.0 (2.54)	4.87 (0.492)	105.5 (2.17)	61.0 (2.11)	36.48 (1.245)	1.4887** (0.0412)
2% White oil N70 (H)	10	2.109 (0.2092)	1.67 (0.665)	136.7 (2.71)	4.81 (0.436)	106.1 (1.37)	60.7 (1.83)	36.28 (1.666)	1.4870** (0.0831)
2% White oil N70 (A)	10	2.027 (0.3116)	1.76 (0.613)	137.5 (1.90)	5.14 (0.695)	106.7 (1.70)	64.0** (3.20)	38.46 (2.330)	1.5078* (0.0907)
2% White oil P15 (H)	10	2.151 (0.4032)	1.44 (0.670)	137.2 (2.39)	4.98 (0.880)	105.8 (2.04)	60.3 (3.09)	35.87* (1.788)	1.4708** (0.0696)
2% White oil N10 (A)	10	2.147 (0.2125)	1.60 (0.800)	137.5 (2.76)	4.87 (0.353)	105.2 (3.01)	60.1 (3.07)	35.64** (2.147)	1.4590*** (0.0827)
2% White oil P100 (H)	10	2.107 (0.2549)	1.39 (0.626)	137.0 (1.63)	4.76 (0.401)	106.0 (1.76)	59.8 (2.49)	36.03* (2.292)	1.5177 (0.1105)
2% Low melting point wax	9	2.120 (0.3776)	1.56 (0.456)	138.7 (2.29)	5.08 (0.687)	106.4 (1.01)	55.9*** (1.76)	32.54*** (1.337)	1.3976*** (0.0921)
2% High melting point wax	10	2.141 (0.2570)	1.39 (0.599)	137.8 (1.55)	4.73 (0.291)	105.3 (2.58)	63.6** (2.84)	38.56 (1.299)	1.5453 (0.0901)
2% High sulphur wax	10	2.119 (0.3648)	1.65 (0.626)	136.5 (2.07)	4.99 (0.513)	105.2 (2.70)	59.7 (2.21)	36.14 (1.619)	1.5412 (0.1308)
2% Coconut oil	10	2.110 (0.2446)	1.72 (0.758)	137.4 (2.37)	4.81 (0.644)	105.5 (2.37)	61.6 (2.55)	37.31 (1.758)	1.5383 (0.0831)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data. Except:-
ASAT - Results calculated from data transformed by Log_e.
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in Appendix 52.

Table 49. Serum Vitamin E concentrations (μg/ml) in male and female rats on the tissue level and tissue level reversal studies, fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

	n	Tissue level study		Tissue level reversal study	
		Male	Female.	Male	Female
0% Control	5	5.010 (0.6933)	7.226 (1.7257)	5.014 (0.3973)	7.357[3] (1.9372)
2% White Oil N 15 (H)	5	1.576*** (0.1295)	3.250*** (0.3597)	4.600 (0.4702)	8.685[4] (0.9394)
2% White Oil N 70 (H)	5	2.288*** (0.2676)	5.328** (2.5838)	4.428* (0.2711)	6.400[3] (2.1086)
2% White Oil N 70 (A)	5	1.944*** (0.2519)	4.046*** (0.4610)	4.762 (0.6364)	7.858[4] (1.9914)
2% White Oil P 15 (H)	5	1.510*** (0.1208)	3.130*** (0.2101)	4.494 (0.3584)	8.416 (0.8869)
2% White Oil N 10 (A)	5	1.448*** (0.1305)	3.090*** (0.3256)	4.194** (0.5653)	6.525[4] (1.3876)
2% White Oil P 100 (H)	5	2.586*** (0.2707)	5.302* (0.4930)	5.258 (0.5010)	7.427[4] (0.5516)
2% Low Melting Point Wax	5	6.722*** (0.7914)	9.400* (1.1059)	4.502 (0.4941)	5.045[2] (1.5768)
2% High Melting Point Wax	5	4.196* (0.6106)	7.638 (0.9790)	4.968 (0.4259)	7.883[3] (0.2499)
2% High Sulphur Wax	5	4.674 (0.5930)	8.084 (0.8594)	5.016 (0.1955)	7.117[3] (3.3185)
2% Coconut Oil	5	4.704 (0.5339)	9.282* (1.1661)	5.188 (0.4651)	7.740[3] (0.2931)

continued..

Table 49. continued

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated using the untransformed data.
Except:
Tissue level study
Male:- Results calculated from data transformed by $\log_e$
Female:- Results calculated from data transformed by $1/\sqrt{x}$
* $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in Appendices 54 and 55.

Table 50. Tissue levels of mineral hydrocarbon (mg/kg) in male and female rats on the tissue level and tissue level reversal studies, fed either control diet, one of six white mineral oils at a level of 2.0% or one of three mineral waxes at a level of 2.0%.

KIDNEY		TISSUE LEVEL STUDY		TISSUE LEVEL REVERSAL STUDY	
Group	n	Male	Female	Male	Female
0% Control	5	0.023 (0.0086)	0.036 (0.0118)	0.029 (0.0200)	0.022 (0.0101)
2% White oil N15 (H)	5	0.047 ** (0.0078)	0.047 ns (0.0078)	0.020 nsp (0.0067)	0.030 ns (0.0078)
2% White oil N70 (H)	5	0.012 ns (0.0072)	0.271 *** (0.1364)	0.077 nst (0.0798)	0.202 *** (0.0827)
2% White oil N70 (A)	5	0.040 * (0.0100)	0.067 * (0.0340)	0.025 nsp (0.0081)	0.069 *** (0.0393)
2% White oil P15 (H)	5	0.028 ns (0.0092)	0.052 ns (0.0216)	0.016 nst (0.0030)	0.038 * (0.0092)
2% White oil N10 (A)	5	0.038 * (0.0126)	0.067 ** (0.0101)	0.018 nst (0.0053)	0.070 *** (0.0128)
2% White oil P100 (H)	5	0.022 ns (0.0098)	0.013 *** (0.0040)	0.015 nsp (0.0098)	0.016 ns (0.0094)
2% Low melting point wax	5	0.056 *** (0.0250)	0.070 ** (0.0190)	0.028 nst (0.0046)	0.046 ** (0.0105)
2% High melting point wax	5	0.026 ns (0.0066)	0.048 ns (0.0084)	0.021 nst (0.0040)	0.041 * (0.0057)
2% High sulphur wax	5	0.021 ns (0.0113)	0.014 *** (0.0054)	0.006 nst (0.0019)	0.019 ns (0.0133)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated from data transformed by log10 y. Except:-
Tissue Level Study, Male:- Results of two-sided least significance difference tests calculated using the untransformed data.
Tissue Level Reversal Study, Male:- Results of (p) two-sided pooled two sample t-tests, or (t) two-sided two sample t-tests calculated using the untransformed data.
ns $p > 0.05$, * $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in appendices 56 and 57.

Table 50. (Continued).

LIVER

Group	n	TISSUE LEVEL STUDY Male	TISSUE LEVEL STUDY Female	TISSUE LEVEL REVERSAL STUDY Male	TISSUE LEVEL REVERSAL STUDY Female
0% Control	5	0.231 (0.0821)	0.354 (0.2285)	0.179 (0.1084)	0.216 (0.0991)
2% White oil N15 (H)	5	1.033 *** (0.1145)	4.345 ***p (0.5943)	0.659 *** (0.1038)	3.437 *** (0.4338)
2% White oil N70 (H)	5	0.678 *** (0.2182)	3.223 * t (1.7189)	0.451 *** (0.1146)	2.351 *** (0.7785)
2% White oil N70 (A)	5	0.741 *** (0.2268)	3.981 ***p (0.5871)	0.496 *** (0.1688)	2.735 *** (0.5446)
2% White oil P15 (H)	5	0.492 *** (0.1409)	2.864 ***p (0.4004)	0.328 *** (0.0542)	2.122 *** (0.4338)
2% White oil N10 (A)	5	0.321 * (0.0288)	1.577 **p (0.5399)	0.157 ns (0.0365)	1.145 *** (0.0557)
2% White oil P100 (H)	5	0.427 ** (0.2452)	0.587 nsp (0.2051)	0.206 ns (0.0551)	0.564 *** (0.1837)
2% Low melting point wax	5	4.625 *** (0.6290)	7.642 **t (2.5192)	2.262 *** (0.3626)	3.156 *** (0.8224)
2% High melting point wax	5	0.088 *** (0.0125)	0.169 nst (0.0319)	0.113 ns (0.0222)	0.131 * (0.0363)
2% High sulphur wax	5	0.284 ns (0.0805)	0.541 nsp (0.0826)	0.187 ns (0.0812)	0.280 ns (0.0861)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated from data transformed by log10 y. Except:-
Tissue Level Study, Female:- Results of (p) two-sided pooled two sample t-tests, or (t) two-sided two sample t-tests calculated using the untransformed data.
ns $p > 0.05$, * $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in appendices 56 and 57.

Table 50. (Continued).

3.1010

LYMPH NODE

Group	n	TISSUE LEVEL STUDY		TISSUE LEVEL REVERSAL STUDY	
		Male	Female	Male	Female
0% Control	5	0.313[4] (0.5111)	0.440 (0.6542)	0.112[4] (0.0782)	0.222 (0.1733)
2% White oil N15 (H)	5	2.745 **p (1.1789)	2.962 ***p (0.6281)	2.817 *** (0.5335)	3.378 ***t (0.6611)
2% White oil N70 (H)	5	1.549 nsp (1.1188)	1.600 * p (0.8621)	1.448 *** (0.6326)	2.095 ***p (0.2169)
2% White oil N70 (A)	5	2.047 **p (0.5474)	2.893 **p (1.0179)	1.887 *** (0.4761)	2.330 ***p (0.5187)
2% White oil P15 (H)	5	1.900 * p (1.1668)	3.325 ***p (0.9015)	1.711 *** (0.8022)	3.005 **t (0.7187)
2% White oil N10 (A)	5	2.428 ***p (0.3712)	2.866 **p (0.9260)	2.465 *** (0.7209)	3.116 ***p (0.1387)
2% White oil P100 (H)	5	0.397[4] nst (0.0873)	0.614 nst (0.1933)	0.402 *** (0.0718)	0.664 **p (0.1071)
2% Low melting point wax	5	1.498 * p (0.6102)	3.017 ***p (0.8586)	1.543 *** (0.4229)	2.958 ***p (0.5315)
2% High melting point wax	5	0.094 nst (0.0311)	0.139 nst (0.0452)	0.070 ns (0.0190)	0.159 nst (0.0472)
2% High sulphur wax	5	0.164 nst (0.0439)	0.347 nst (0.0285)	0.176 * (0.0595)	0.257 nst (0.0488)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using (p) two-sided pooled two sample t-tests, or (t) two-sided two sample t-tests calculated using the untransformed data. Except:- Tissue Level Reversal Study, Male:- Results of two-sided least significance difference tests calculated from data transformed by log10y.
ns p > 0.05, * p <= 0.05, ** p <= 0.01, *** p <= 0.001.
Superscripts indicate the sample size (n) when it is different from that given.
Individual data reported in appendices 56 and 57.

Table 50. (Continued).

PERIRENAL FAT

Group	n	TISSUE LEVEL STUDY Male	TISSUE LEVEL STUDY Female	TISSUE LEVEL REVERSAL STUDY Male	TISSUE LEVEL REVERSAL STUDY Female
0% Control	5	0.078 (0.0566)	0.115 (0.1058)	0.076 (0.0409)	0.047 (0.0457)
2% White oil N15 (H)	5	0.256 *** (0.0886)	0.414 *** (0.1138)	0.175 ** (0.0409)	0.302 *** (0.0771)
2% White oil N70 (H)	5	0.101 ns (0.0548)	0.212 ns (0.0815)	0.187 * (0.1190)	0.168 ** (0.0611)
2% White oil N70 (A)	5	0.105 ns (0.0227)	0.174 ns (0.0391)	0.102 ns (0.0284)	0.178 *** (0.0520)
2% White oil P15 (H)	5	0.339 *** (0.1167)	0.440 *** (0.1356)	0.207 ** (0.0561)	0.435 *** (0.0508)
2% White oil N10 (A)	5	0.204 *** (0.0632)	0.418 *** (0.1030)	0.203 ** (0.0599)	0.262 *** (0.0745)
2% White oil P100 (H)	5	0.146 ns (0.1516)	0.149 ns (0.0542)	0.084 ns (0.0246)	0.110 ns (0.0232)
2% Low melting point wax	5	0.482 *** (0.0949)	0.509 *** (0.1357)	0.384 *** (0.1184)	0.517 *** (0.0746)
2% High melting point wax	5	0.050 ns (0.0364)	0.043 ns (0.0186)	0.025 *** (0.0182)	0.024 ns (0.0185)
2% High sulphur wax	5	0.065 ns (0.0205)	0.066 ns (0.0368)	0.065 ns (0.0224)	0.072 ns (0.0129)

Means, standard deviations and levels of significance resulting from comparing 0% Control against other groups using two-sided least significant difference tests calculated from data transformed by log10 y. Except:-
Tissue Level Study, Female:- Results calculated using the untransformed data.
Tissue Level Reversal Study, Female:- Results calculated using the untransformed data.
ns $p > 0.05$, * $p <= 0.05$, ** $p <= 0.01$, *** $p <= 0.001$.
Individual data reported in appendices 56 and 57.

Table 51. Histological findings in male rats on the main study fed either control diet, one of six white mineral oils at a level of 0.002, 0.02, 0.2 or 2%, one of three mineral waxes at a level of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Incidences marked with asterisks are significantly increased compared with control incidences (Fisher's exact test *p<0.05; **p<0.01; ***p<0.001).

Incidences with differing severity were compared with control incidences using a one-sided Mann Whitney U test. Incidences bracketed and marked with an asterisk are significantly increased compared with control incidences (*p<0.05; **p<0.01; ***p<0.001).

The individual findings are shown in Appendix 58.

Table 51.

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	2
Glomerulonephrosis sl		4	0	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	13	14	9	14
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	19
Foci necrosis/inflam. cells		22	0	0	0	0
Coronary artery-periarteritis		0	0	0	0	1
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	2
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		47	20*	20*	20*	19
Foci inflammatory cells		50	20*	20*	20*	20*
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	20**	19*	20**	14
Perivascular lymphocytes		29	5	0	1	3
Inflammation focal		43	15	9	7	10
Foci alveolar macrophages		11	0	0	0	0
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: MALE

		Control	White oil N 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	19
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	0
THYROID	# Ex	60	0	0	0	19

Table 51.

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	4	11	11	5
Histiocytosis, mild		0	0 *	0 ***	7 ***	9 ***
Histiocytosis, moderate		0	0	0	0	1
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	0
Pigmented macrophages		0	2	0	0	1
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	1
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Inflammation focal		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: MALE

		Control	White oil N 70(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	2	1	3	0
Glomerulonephrosis mod		0	0	0	0	1
Tubular basophilia		36	10	13	4	9
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	9
Coronary artery-periarteritis		0	0	0	0	2
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	0
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		47	19	19	18	20*
Foci inflammatory cells		50	20*	20*	20*	20*
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	6	4	6	13
Perivascular lymphocytes		29	14	13	8	9
Inflammation focal		43	7	2	7	10
Foci alveolar macrophages		11	0	0	0	0
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	0
SPINAL CORD	# Ex	60	0	0	0	0
EYE	# Ex	60	0	0	0	0

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 70(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	0
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: MALE

		Control	White oil N 70(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	1
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	1	1	11	3
Histiocytosis, mild		0	0	0	0	1
Histiocytosis, moderate		0	0	0	0 ***	0 *
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	0
Pigmented macrophages		0	0	0	0	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 70(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	0	2	0	2
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	5	4	1	9
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	5
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	1
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	1	2	0	0
Vacuolation diffuse		0	0	1	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		47	17	18	19	20*
Foci inflammatory cells		50	17	18	19	20*
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	1
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	9	11	10	8
Perivascular lymphocytes		29	4	8	8	0
Inflammation focal		43	8	11	8	13
Foci alveolar macrophages		11	2	3	1	3
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: MALE

		Control	White oil N 70(A)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	1
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	1
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	1
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	60	0	0	0	19
Focal hypertrophy, cortex		0	0	0	0	1
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 70(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	18	20	20
Histiocytosis, minimal		4	2	1	11	3
Histiocytosis, mild		0	0	0	2 ***	4 ***
Histiocytosis, moderate		0	0	0	0	3
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	2
Pigmented macrophages		0	0	0	1	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	1
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	1
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:

FATES: ALL
SEX: MALE

		Control	White oil P 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	0	0	0	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	11	5	6	19**
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	10
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	1
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		47	20*	20*	18	20*
Foci inflammatory cells		50	20*	20*	18	20*
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	20**	20**	16	18
Perivascular lymphocytes		29	0	0	0	0
Inflammation focal		43	9	13	8	8
Foci alveolar macrophages		11	0	0	0	0
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	19

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil P 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	1	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	0
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:

FATES: ALL
SEX: MALE

		Control	White oil P 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0.	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	2	7	6	5
Histiocytosis, mild		0	0	1	9	6
Histiocytosis, moderate		0	0	0 ***	0 ***	4 ***
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	0
Pigmented macrophages		0	0	0	0	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 10(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	2	0	1	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	9	8	11	15
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	1
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	10
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	2
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	19	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	1	0	0
ICN Occasional/multiple		47	15	20*	19*	17
Foci inflammatory cells		50	20*	20*	19	20*
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	5	6	3	7
Perivascular lymphocytes		29	12	7	11	9
Inflammation focal		43	3	9	3	4
Foci alveolar macrophages		11	0	0	0	1
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:

FATES: ALL
SEX: MALE

		Control	White oil N 10(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	1
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	1
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	0
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil N 10(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	1
Mesenteric arteritis		1	0	0	0	1
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	2
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	19
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	1	2	4	3
Histiocytosis, mild		0	0	0	10 ***	1 ***
Histiocytosis, moderate		0	0	0	2	12
Histiocytosis, marked		0	0	0	1	1
Haemorrhage		2	0	0	0	0
Pigmented macrophages		0	0	0	0	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil P 100(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	1	0
Glomerulonephrosis sl		4	0	0	1	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	1	2	5	8
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	1
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	3
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	0
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	1	0
ICN Occasional/multiple		47	19	18	17	20*
Foci inflammatory cells		50	19	18	17	20*
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	1	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	12	9	10	7
Perivascular lymphocytes		29	11	6	9	0
Inflammation focal		43	11	11	10	13
Foci alveolar macrophages		11	6	5	3	0
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	1
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil P 100(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	18
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	1
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	1
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	19
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	1
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	White oil P 100(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	1
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	0	0	1	0
Histiocytosis, mild		0	0	0	0	0
Histiocytosis, moderate		0	0	0	0	0
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	4*
Pigmented macrophages		0	0	1	0	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	Low melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	0	1	0	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	6	3	4	6
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	20	20	20	20
Foci necrosis/inflam. cells		22	2	1	0	7
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	2
Inflammation base mitral valve		1	0	0	1	11***
Haemosiderin base mitral valve		0	0	1	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	1	0	20***
Vacuolation PP		0	0	0	4**	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	1	0
ICN Occasional/multiple		47	15	17	12	9
Foci inflammatory cells		50	15	16	18	7
Inflammation peribil lg duct		0	1	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	15***	7***
Micro granuloma Many		0	0	0	1	8***
Granuloma Few		0	0	0	2	2
Granuloma Many		0	0	0	0	3*
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	11	14	14	11
Perivascular lymphocytes		29	12	9	5	1
Inflammation focal		43	9	13	13	15
Foci alveolar macrophages		11	2	2	5	1
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	1
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	[illegible]
SPINAL CORD	# Ex	60	0	0	0	[illegible]
EYE	# Ex	60	0	0	0	[illegible]

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	Low melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	4**	7***
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	2
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	1
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	1
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	19
ADRENAL	# Ex	60	0	0	0	19
Focal hypertrophy, cortex		0	0	0	0	0
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	Low melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	2
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	1	0
Small granuloma surface		0	0	0	1	0
THYMUS	# Ex	60	0	0	0	19
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	0	5	0	0
Histiocytosis, mild		0	0	0	10	2
Histiocytosis, moderate		0	0	0 *	7 ***	7 ***
Histiocytosis, marked		0	0	0	3	11
Haemorrhage		2	0	0	0	1
Pigmented macrophages		0	0	0	0	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	19

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	High melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	0	2	2	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	2	7	6	12
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	1
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	7
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	0
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		47	20*	19	19	17
Foci inflammatory cells		50	20*	20*	20*	19
Inflammation peribil lg duct		0	0	0	0	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	4	5	3	12
Perivascular lymphocytes		29	8	7	13	8
Inflammation focal		43	4	4	6	8
Foci alveolar macrophages		11	1	1	1	5
Alveolar thickening		2	0	0	0	2
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	High melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	19
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	0	1	0	0
Peyer's patch calcification		0	0	0	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	20
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	19
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	0
THYROID	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	High melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	2	1	2	1
Histiocytosis, mild		0	0	0	0	0
Histiocytosis, moderate		0	0	0	0	0
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	1
Pigmented macrophages		0	0	0	0	0
Area granulomatous inflam mes		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulosclerosis		0	0	0	0	0
Glomerulonephrosis sl		4	0	1	1	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		36	5	6	3	12
Inflammation cortical		1	0	0	0	0
Focal scar		0	0	0	0	0
Eosinophilic vacuolation tub.		0	0	0	0	0
Lymphocytic infiltration		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		22	0	0	0	2
Coronary artery-periarteritis		0	0	0	0	0
Subendocardial necrosis lt.ven		0	0	0	0	0
Inflammation base mitral valve		1	0	0	0	0
Haemosiderin base mitral valve		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	1	1	0
Vacuolation PP		0	0	0	0	0
Vacuolation diffuse		0	0	0	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		47	13	20*	19	20*
Foci inflammatory cells		50	19	20*	19	20*
Inflammation peribil lg duct		0	0	0	1	0
Subcaps area chronic inflam		0	0	0	0	0
Necrosis subcapsular		2	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		45	10	8	10	10
Perivascular lymphocytes		29	7	11	6	4
Inflammation focal		43	11	11	8	13
Foci alveolar macrophages		11	1	4	3	5
Alveolar thickening		2	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
Granuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20
SPINAL CORD	# Ex	60	0	0	0	20
EYE	# Ex	60	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Squamous cyst		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
DUODENUM	# Ex	60	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Peyer's patch calcification		0	0	1	0	0
Peyer's patch granuloma		0	0	0	0	0
Mesentery area foamy mac.		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Intersusseption (agonal)		0	0	0	0	0
RECTUM	# Ex	59	0	0	0	19
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	60	0	0	0	20
Foci foamy mac./necrosis seros		0	0	0	0	0
Transitional cell hyperplasia		0	0	0	0	0
EPIDIDYMIS	# Ex	60	0	0	0	20
Fat:fatty polyp (Hern)		0	0	0	0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	0	0	0	20
TESTIS	# Ex	60	0	0	0	20
Reduced tub cellularity		1	0	0	0	0
Area haemorrhage		1	0	0	0	0
Atrophy, unilateral		0	0	0	0	0
Atrophy bilateral		0	0	0	0	0
PITUITARY	# Ex	59	0	0	0	18
ADRENAL	# Ex	60	0	0	0	20
Focal hypertrophy, cortex		0	0	0	0	3*

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
THYROID	# Ex	60	0	0	0	19
SALIVARY GLAND	# Ex	60	0	0	0	20
PANCREAS	# Ex	60	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	1
Duct hyperplasia		0	0	0	0	0
Mesenteric arteritis		1	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam cells		1	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
SPLEEN	# Ex	60	20	20	20	19
Foci eosin foamy mac		0	1	2	4**	3*
Small granuloma surface		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	19
ICN cortex		0	0	0	0	0
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		4	1	1	0	1
Histiocytosis, mild		0	0	0	0	0
Histiocytosis, moderate		0	0	0	0	0
Histiocytosis, marked		0	0	0	0	0
Haemorrhage		2	0	0	0	2
Pigmented macrophages		0	0	0	0	1
Area granulomatous inflam mes		0	0	0	0	1
Granuloma multi focal		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Small inflam foci P.Carnosus		0	0	0	0	0
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	1
STERNUM & FEMUR	# Ex	60	0	0	0	20
PERIRENAL FAT	# Ex	59	0	0	0	20

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: MALE

		Control	Coconut oil
DOSE: (% in diet)		0	2.0
NUMBER OF ANIMALS:		60	20
		#	#
AORTA	# Ex	60	20
VEIN	# Ex	60	20
KIDNEY	# Ex	60	20
Glomerulosclerosis		0	0
Glomerulonephrosis sl		4	0
Glomerulonephrosis mod		0	0
Tubular basophilia		36	13
Inflammation cortical		1	0
Focal scar		0	0
Eosinophilic vacuolation tub.		0	0
Lymphocytic infiltration		0	0
HEART	# Ex	60	20
Foci necrosis/inflam. cells		22	[illegible]
Coronary artery-periarteritis		0	[illegible]
Subendocardial necrosis lt.ven		0	[illegible]
Inflammation base mitral valve		1	[illegible]
Haemosiderin base mitral valve		0	[illegible]
LIVER	# Ex	60	[illegible]
Vacuolation CL		0	[illegible]
Vacuolation PP		0	[illegible]
Vacuolation diffuse		0	[illegible]
Vacuolation focal		0	[illegible]
ICN Occasional/multiple		47	[illegible]
Foci inflammatory cells		50	[illegible]
Inflammation peribil lg duct		0	[illegible]
Subcaps area chronic inflam		0	[illegible]
Necrosis subcapsular		2	[illegible]
Micro granuloma Few		0	[illegible]
Micro granuloma Many		0	[illegible]
Granuloma Few		0	[illegible]
Granuloma Many		0	[illegible]
LUNG	# Ex	60	[illegible]
Peribronchial lymphocytes		45	[illegible]
Perivascular lymphocytes		29	[illegible]
Inflammation focal		43	[illegible]
Foci alveolar macrophages		11	[illegible]
Alveolar thickening		2	[illegible]
Occasional microgranuloma		0	[illegible]
Granuloma		0	[illegible]
BRAIN	# Ex	60	[illegible]
SPINAL CORD	# Ex	60	[illegible]
EYE	# Ex	60	[illegible]

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: MAIN

TREATMENT:		Control	Coconut oil
DOSE: (% in diet)		0	2.0
NUMBER OF ANIMALS:		60	20
		#	#
NERVE	# Ex	60	20
STOMACH	# Ex	60	20
Squamous cyst		0	0
Mesenteric arteritis		0	0
DUODENUM	# Ex	60	20
ILEUM & JEJUNUM	# Ex	60	20
Peyer's patch macrophage acc.		0	0
Peyer's patch histiocytosis		0	0
Peyer's patch calcification		0	1
Peyer's patch granuloma		0	1
Mesentery area foamy mac.		0	0
Mesenteric arteritis		0	0
CAECUM	# Ex	60	20
COLON	# Ex	60	20
Intersusseption (agonal)		0	0
RECTUM	# Ex	59	20
TRACHEA	# Ex	60	20
OESOPHAGUS	# Ex	60	19
DIAPHRAGM	# Ex	60	20
BLADDER	# Ex	60	20
Foci foamy mac./necrosis seros		0	0
Transitional cell hyperplasia		0	1
EPIDIDYMIS	# Ex	60	20
Fat:fatty polyp (Hern)		0	0
SEMINAL VESICLE & PROSTATE	# Ex	60	20
TESTIS	# Ex	60	20
Reduced tub cellularity		1	0
Area haemorrhage		1	0
Atrophy, unilateral		0	0
Atrophy bilateral		0	0
PITUITARY	# Ex	59	19
ADRENAL	# Ex	60	20
Focal hypertrophy, cortex		0	0

Table 51. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: MALE

		Control	Coconut oil
		0	2.0
		60	20
		#	#
THYROID	# Ex	60	20
SALIVARY GLAND	# Ex	60	20
PANCREAS	# Ex	60	20
Acinar deg/inflam focal		0	0
Duct hyperplasia		0	0
Mesenteric arteritis		1	0
HARDERIAN	# Ex	60	20
Foci inflam cells		1	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	20
SPLEEN	# Ex	60	20
Foci eosin foamy mac		0	0
Small granuloma surface		0	0
THYMUS	# Ex	60	20
ICN cortex		0	0
LYMPH NODES	# Ex	60	20
Histiocytosis, minimal		4	0
Histiocytosis, mild		0	0
Histiocytosis, moderate		0	0
Histiocytosis, marked		0	0
Haemorrhage		2	0
Pigmented macrophages		0	0
Area granulomatous inflam mes		0	0
Granuloma multi focal		0	0
SKIN AND SUBCUTIS	# Ex	60	20
Small inflam foci P.Carnosus		0	0
TONGUE	# Ex	60	20
SKELETAL MUSCLE	# Ex	60	20
NASAL BONES	# Ex	60	20
Focal inflammation		1	0
STERNUM & FEMUR	# Ex	60	20
PERIRENAL FAT	# Ex	59	20

Table 52. Histological findings in male rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Incidences marked with asterisks are significantly increased compared with control incidences (Fisher's exact test *p<0.05; **p<0.01; ***p<0.001).

Incidences with differing severity were compared with control incidences using a one-sided Mann Whitney U test. Incidences bracketed and marked with an asterisk are significantly increased compared with control incidences (*p<0.05; **p<0.01; ***p<0.001).

The individual findings are shown in Appendix 59.

Table 52.

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL
TREATMENT:

FATES: ALL
SEX: MALE

		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
AORTA	# Ex	30	10	10	10	10	10	10
VEIN	# Ex	30	10	10	10	10	10	10
KIDNEY	# Ex	30	10	10	10	10	10	10
Glomerulonephrosis sl		3	1	1	0	1	1	1
Tubular basophilia		19	6	2	1	8	7	1
Arteritis		1	0	0	0	0	0	0
HEART	# Ex	30	10	10	10	10	10	10
Foci necrosis/inflam. cells		6	1	0	2	0	4	4
Inflammation base mitral valve		0	0	0	0	0	0	1
LIVER	# Ex	30	10	10	10	10	10	10
Vacuolation CL		0	0	0	0	0	0	0
Vacuolation PP		2	0	0	0	0	0	0
Vacuolation focal		0	0	0	0	0	0	0
ICN Occasional/multiple		30	10	9	10	10	10	9
Foci inflammatory cells		30	10	10	10	10	10	10
Micro granuloma Few		0	0	0	0	0	0	0
Micro granuloma Many		0	0	0	0	0	0	0
Granuloma Many		0	0	0	0	0	0	0
Granuloma Focal		0	0	0	0	0	0	0
Focus clear cell		0	0	0	0	1	0	0

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: MALE

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
LIVER	# Ex	30	10	10	10	10	10	10
Focus basophilic		1	0	0	0	0	0	0
Cyst keratinised		1	0	0	0	0	0	0
Bile duct hyperplasia		0	0	0	0	1	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0	0	0
LUNG	# Ex	30	10	10	10	10	10	10
Peribronchial lymphocytes		7	6*	4	5	7*	4	7*
Perivascular lymphocytes		3	0	2	3	0	1	1
Inflammation focal		4	6**	1	0	3	0	2
Foci alveolar macrophages		3	2	0	0	0	0	0
BRAIN	# Ex	30	10	10	10	10	10	10
SPINAL CORD	# Ex	30	10	10	10	10	10	10
EYE	# Ex	30	10	10	10	10	10	10
NERVE	# Ex	30	10	9	10	10	10	9
STOMACH	# Ex	30	10	10	10	10	10	10
DUODENUM	# Ex	30	10	10	10	10	10	10

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL
TREATMENT:

FATES: ALL
SEX: MALE

		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
ILEUM & JEJUNUM	# Ex	30	10	10	10	10	10	10
CAECUM	# Ex	30	10	10	10	10	10	10
COLON	# Ex	30	10	10	10	10	10	10
RECTUM	# Ex	30	10	10	10	10	10	10
TRACHEA	# Ex	30	10	10	10	10	10	10
OESOPHAGUS	# Ex	30	10	9	10	10	10	10
DIAPHRAGM	# Ex	30	10	10	10	10	10	10
BLADDER	# Ex	30	10	10	10	10	10	10
EPIDIDYMIS	# Ex	30	10	10	10	10	10	10
Fat necrosis		1	0	0	0	0	0	0
Area steatitis ass fat		0	0	0	0	0	0	1
SEMINAL VESICLE & PROSTATE	# Ex	30	10	10	10	10	10	10
TESTIS	# Ex	30	10	10	10	10	10	10
Atrophy unilateral		1	0	0	0	0	0	0

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: MALE

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
PITUITARY	# Ex	30	10	10	10	10	10	10
ADRENAL	# Ex	29	10	10	9	10	10	10
Focal hypertrophy, cortex		2	0	0	0	0	0	0
THYROID	# Ex	30	10	10	9	10	10	10
Squamous cyst		1	0	0	0	0	0	1
SALIVARY GLAND	# Ex	30	10	10	10	10	10	9
PANCREAS	# Ex	30	10	10	10	10	10	10
Acinar deg/inflam focal		1	0	1	1	0	0	0
HARDERIAN	# Ex	29	10	10	10	10	10	10
Foci inflam cells		0	1	0	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	29	10	10	10	9	10	10
SPLEEN	# Ex	30	10	10	10	10	10	10
Foci eosin foamy mac		0	0	0	2	0	0	1
THYMUS	# Ex	29	10	10	10	10	10	10

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: MALE
STUDY: REVERSAL

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
LYMPH NODES	# Ex	29	10	10	10	10	10	10
Histiocytosis, minimal		9	3	5	0	3	3	4
Histiocytosis, mild		0	4 ***	2 ***	4 ***	5 ***	3 ***	0
Histiocytosis, moderate		0	1	2	3	1	1	0
Histiocytosis, marked		0	0	0	2	0	3	0
Pigmented macrophages		2	0	1	0	0	0	0
SKIN AND SUBCUTIS	# Ex	29	10	10	10	10	10	10
TONGUE	# Ex	29	10	10	10	10	10	10
SKELETAL MUSCLE	# Ex	29	10	10	10	10	10	10
NASAL BONES	# Ex	30	10	10	10	10	10	10
Focal inflammation		1	0	0	0	1	0	0
STERNUM & FEMUR	# Ex	30	10	10	10	10	10	10
PERIRENAL FAT	# Ex	30	10	10	10	10	10	10

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Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: MALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
AORTA	# Ex	30	10	10	10	10
VEIN	# Ex	30	10	10	10	10
KIDNEY	# Ex	30	10	10	10	10
Glomerulonephrosis sl		3	0	0	1	0
Tubular basophilia		19	3	5	3	2
Arteritis		1	0	0	0	0
HEART	# Ex	30	10	10	10	10
Foci necrosis/inflam. cells		6	2	3	4	2
Inflammation base mitral valve		0	8***	0	0	0
LIVER	# Ex	30	10	10	10	10
Vacuolation CL		0	0	0	1	0
Vacuolation PP		2	3	0	1	0
Vacuolation focal		0	0	0	0	1
ICN Occasional/multiple		30	2	10	9	9
Foci inflammatory cells		30	5	10	9	10
Micro granuloma Few		0	6***	0	0	0
Micro granuloma Many		0	2	0	0	0
[illegible] Many		0	2	0	0	0
[illegible]		0	0	1	0	0
[illegible]		0	0	0	0	0

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Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: MALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
LIVER	# Ex	30	10	10	10	10
Focus basophilic		1	0	0	0	0
Cyst keratinised		1	0	0	0	0
Bile duct hyperplasia		0	0	0	0	0
Lymphocytic infil ass gran mar		0	4**	0	0	0
LUNG	# Ex	30	10	10	10	10
Peribronchial lymphocytes		7	3	6*	4	5
Perivascular lymphocytes		3	0	0	1	0
Inflammation focal		4	0	1	5*	0
Foci alveolar macrophages		3	1	0	0	0
BRAIN	# Ex	30	10	10	10	10
SPINAL CORD	# Ex	30	10	10	10	10
EYE	# Ex	30	10	10	10	10
NERVE	# Ex	30	10	10	10	10
STOMACH	# Ex	30	10	10	10	10
DUODENUM	# Ex	30	10	10	10	10

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL
TREATMENT:

FATES: ALL
SEX: MALE

		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
ILEUM & JEJUNUM	# Ex	30	10	10	10	10
CAECUM	# Ex	30	10	10	10	10
COLON	# Ex	30	9	10	10	10
RECTUM	# Ex	30	10	10	10	10
TRACHEA	# Ex	30	10	10	10	10
OESOPHAGUS	# Ex	30	10	10	10	10
DIAPHRAGM	# Ex	30	10	10	10	10
BLADDER	# Ex	30	10	10	10	10
EPIDIDYMIS	# Ex	30	10	10	10	10
Fat necrosis		1	0	0	0	0
Area steatitis ass fat		0	0	0	0	0
SEMINAL VESICLES & PROSTATE	# Ex	30	10	10	10	10
TESTIS	# Ex	30	10	10	10	10
Atrophy unilateral		1	0	0	0	0

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: MALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
PITUITARY	# Ex	30	10	10	10	9
ADRENAL	# Ex	29	10	10	10	10
Focal hypertrophy, cortex		2	0	0	0	0
THYROID	# Ex	30	10	10	10	9
Squamous cyst		1	0	0	0	0
SALIVARY GLAND	# Ex	30	10	10	10	10
PANCREAS	# Ex	30	10	10	10	10
Acinar deg/inflam focal		1	0	0	1	0
HARDERIAN	# Ex	29	10	10	10	10
Foci inflam cells		0	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	29	10	10	10	10
SPLEEN	# Ex	30	10	10	10	10
Foci eosin foamy mac		0	3*	0	0	0
THYMUS	# Ex	29	10	10	10	10

Table 52. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: MALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
LYMPH NODES	# Ex	29	10	10	10	10
Histiocytosis, minimal		9	0	2	5	1
Histiocytosis, mild		0	3 ***	0	0	0
Histiocytosis, moderate		0	6	0	0	0
Histiocytosis, marked		0	1	0	0	0
Pigmented macrophages		2	0	0	0	0
SKIN AND SUBCUTIS	# Ex	29	10	10	10	10
TONGUE	# Ex	29	10	10	10	10
SKELETAL MUSCLE	# Ex	29	10	10	10	10
NASAL BONES	# Ex	30	10	10	10	10
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	30	10	10	10	10
PERIRENAL FAT	# Ex	30	10	10	10	10

Table 53. Histological findings in female rats on the main study fed either control diet, one of six white mineral oils at a level of 0.002, 0.02, 0.2 or 2.0%, one of three mineral waxes at a level of 0.002, 0.02, 0.2 or 2.0% or coconut oil at a level of 2.0%

Incidences marked with asterisks are significantly increased compared with control incidences (Fisher's exact test *p<0.05; **p<0.01; ***p<0.001).

Incidences with differing severity were compared with control incidences using a one-sided Mann Whitney U test. Incidences bracketed and marked with an asterisk are significantly increased compared with control incidences (*p<0.05; **p<0.01; ***p<0.001).

The individual findings are shown in Appendix 60.

Table 53.

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	White oil N 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	0	1	5
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	4
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	0	1	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		37	10	19**	18*	20***
Foci inflammatory cells		48	11	19	18	12
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	0	0	0	0
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	0	1	2
Micro granuloma Many		0	0	0	0	6***
Granuloma Few		0	0	0	0	2
Granuloma Many		0	0	0	0	1
Granuloma Focal		0	0	0	0	4**
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	1	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	6	6	7	20*
Perivascular lymphocytes		10	0	0	0	2
Inflammation focal		10	9*	7	10**	4
Foci alveolar macrophages		4	0	3	1	0
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil N 15(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	1
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	1
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	0
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	19
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	0
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	19
Squamous cyst		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	White oil N 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	2	12	2	3
Histiocytosis, mild		0	0	5 ***	11 ***	7 ***
Histiocytosis, moderate		0	0	0	7	10
Histiocytosis, marked		0	0	0	0	0
Pigmented macrophages		5	0	0	0	0
Granuloma multi focal		0	0	0	0	1
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	19
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	White oil N 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	20
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	20
PERIRENAL FAT	# Ex	60	0	0	0	19

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Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	White oil N 70(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	0	0	0
Glomerulonephrosis mod		0	0	0	1	0
Tubular basophilia		5	0	0	1	0
Nephrocalcinosis cort/med		3	1	0	1	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	1
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	1	0
Vacuolation MZ		0	0	1	0	0
Vacuolation PP		4	5*	3	1	2
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		37	10	9	16	17*
Foci inflammatory cells		48	19	19	20*	19
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	0	1	1	0
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	0	0	4**
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	13	10	7	1
Perivascular lymphocytes		10	5	5	2	8*
Inflammation focal		10	9*	7	3	1
Foci alveolar macrophages		4	0	0	0	1
Alveolar thickening		0	0	0	0	1
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

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Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	White oil N 70(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	1	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	1
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	1
Calcification epithelium		0	0	0	0	1
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	0
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	20
Squamous cyst		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	White oil N 70(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	1
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	8	10	11	6
Histiocytosis, mild		0	0	2 ***	4 ***	2 *
Histiocytosis, moderate		0	0	1	0	1
Histiocytosis, marked		0	0	0	0	0
Pigmented macrophages		5	8**	7**	4	3
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	19
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil N 70(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	1
CERVIX	# Ex	60	0	0	0	20
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	20
PERIRENAL FAT	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil N 70(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	0	0	1
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0.	20
Foci necrosis/inflam. cells		6	0	0	0	3
Foci intra calcification		0	0	0	0	1
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	4	4	2	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		37	11	8	7	15
Foci inflammatory cells		48	17	14	16	19
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	2	0	0	1
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	1	0	3*
Micro granuloma Many		0	0	1	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	1
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	10	7	8	7
Perivascular lymphocytes		10	1	5	7	0
Inflammation focal		10	7	4	6	3
Foci alveolar macrophages		4	2	2	1	1
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil N 70(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	19
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	1
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	3
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	1
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	20
Small squamous cyst		0	0	0	0	1

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study

FATES: ALL
SEX: FEMALE

		Control	White oil N 70(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	1
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	1
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	7	8	4	5
Histiocytosis, mild		0	0	1	12	3
Histiocytosis, moderate		0	0	1	2	7
Histiocytosis, marked		0	0	1	0	0
Pigmented macrophages		5	14***	8**	3	2
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	20
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	1
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	19
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil N 70(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	20
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	20
PERIRENAL FAT	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil P 15(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	0	0	3
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	0
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	0	0	0	0
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		37	13	13	14	20***
Foci inflammatory cells		48	13	13	14	19
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	0	1	0	0
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	1	2	1
Micro granuloma Many		0	0	0	0	1
Granuloma Few		0	0	0	0	1
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	1
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	1	0
Fibrosis peribiliary		0	0	0	0	1
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	7	12	1	20*
Perivascular lymphocytes		10	0	0	1	0
Inflammation focal		10	11**	13***	5	9*
Foci alveolar macrophages		4	1	1	4	1
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil P 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	2
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	0
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	0
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	20
Squamous cyst		0	0	0	0	0

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Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil P 15(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	19	20	19
Histiocytosis, minimal		16	7	12	1	5
Histiocytosis, mild		0	0	2	10	8
Histiocytosis, moderate		0	0	0 ***	7 ***	5 ***
Histiocytosis, marked		0	0	0	1	0
Pigmented macrophages		5	0	0	0	1
Granuloma multi focal		0	0	0	1	0
Fat acute inflam. giant cell		0	0	0	0	1
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	19
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	1

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil P 15(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	20
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	20
PERIRENAL FAT	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study

FATES: ALL
SEX: FEMALE

		Control	White oil N 10(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	1	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	3	0	1
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	1
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	1
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	1	5*	1	0
Vacuolation focal		0	0	1	0	0
ICN Occasional/multiple		37	10	9	17*	11
Foci inflammatory cells		48	16	18	20*	16
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	0	0	0	0
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	0	0	9***
Micro granuloma Many		0	0	0	0	7***
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	11	10	12	8
Perivascular lymphocytes		10	4	2	7	5
Inflammation focal		10	2	2	3	1
Foci alveolar macrophages		4	0	1	0	0
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil N 10(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	19
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	2
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	3*
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	0
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	19
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	0
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	20
Squamous cyst		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil N 10(A)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	2
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	1
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	7	14	1	2
Histiocytosis, mild		0	1	4 ***	6 ***	2 ***
Histiocytosis, moderate		0	0	1	7	8
Histiocytosis, marked		0	0	0	3	8
Pigmented macrophages		5	9***	1	3	0
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	1
MAMMARY	# Ex	58	0	0	0	20
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil N 10(A)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	19
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	19
PERIRENAL FAT	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study

FATES: ALL
SEX: FEMALE

		Control	White oil P 100(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	1	0	0
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	1	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	3
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	4	4	7**	2
Vacuolation focal		0	0	1	0	0
ICN Occasional/multiple		37	9	10	4	11
Foci inflammatory cells		48	15	17	14	15
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	1	0	0	1
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	7	11	11	13
Perivascular lymphocytes		10	5	7	4	0
Inflammation focal		10	6	5	5	8*
Foci alveolar macrophages		4	1	0	1	0
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil P 100(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	1
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	3*
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	20
Small squamous cyst		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	White oil P 100(H)			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	2
Foci inflam. cells		1	0	0	0	1
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	8	6	3	5
Histiocytosis, mild		0	0	0	0	0
Histiocytosis, moderate		0	0	0	0	0
Histiocytosis, marked		0	0	0	0	0
Pigmented macrophages		5	6*	13***	13***	4
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	20
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	White oil P 100(H)			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	20
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	20
PERIRENAL FAT	# Ex	60	0	0	0	20

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Table 33. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study

FATES: ALL
SEX: FEMALE

		Control	Low melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	0	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	0	0	0
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	20	20	20	20
Foci necrosis/inflam. cells		6	2	0	0	2
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	1	1	5***	11***
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	11***	5*	5*	19***
Vacuolation focal		0	0	1	0	0
ICN Occasional/multiple		37	5	0	0	0
Foci inflammatory cells		48	12	16	0	1
Foci vac hepatocyte deg		0	0	0	0	1
Inflammation peribil lg duct		0	0	0	1	0
Necrosis focal		0	0	0	0	0
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	0	7***	0
Micro granuloma Many		0	0	0	2	14***
Granuloma Few		0	0	0	6***	0
Granuloma Many		0	0	0	4**	5***
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	3*	4**
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	11	13	11	[illegible]
Perivascular lymphocytes		10	0	4	2	0
Inflammation focal		10	3	5	1	4*
Foci alveolar macrophages		4	0	0	2	0
Alveolar thickening		0	0	0	0	[illegible]
Occasional microgranuloma		0	0	0	0	[illegible]
BRAIN	# Ex	60	0	0	0	[illegible]

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	Low melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	4**	5***
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	1
Increased mac infil l. propria		0	0	0	1	4**
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	0
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	2
Area of haemorrhage cortex		0	0	0	0	1
THYROID	# Ex	58	0	0	0	20
Squamous cyst		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	Low melting point wax			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	19
Acinar deg/inflam focal		0	0	0	0	1
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	1
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	1	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	11	13	0	0
Histiocytosis, mild		0	0	2	9	3
Histiocytosis, moderate		0	0	1	7	2
Histiocytosis, marked		0	0	0	4	14
Pigmented macrophages		5	18***	9***	0	0
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	17
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	1
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	Low melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	20
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	20
PERIRENAL FAT	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	High melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0		0	1
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	0	0	0
Nephrocalcinosis cort/med		3	0	0	0	1
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	0
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	0
Vacuolation PP		4	3	4	6*	3
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		37	4	15	6	7
Foci inflammatory cells		48	16	19	19	15
Foci vac hepatocyte deg		0	0	0	0	1
Inflammation peribil lg duct		0	0	0	1	0
Necrosis focal		0	0	0	1	0
Necrosis subcapsular		0	0	0	0	0
Necrosis extensive		0	0	0	0	0
Micro granuloma Few		0	0	0	0	1
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	14	9	7	4
Perivascular lymphocytes		10	9*	5	6	7
Inflammation focal		10	4	2	2	1
Foci alveolar macrophages		4	0	0	0	1
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	0
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	High melting point wax			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	19
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	0	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	0
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	19
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	0
Area of haemorrhage cortex		0	0	0	0	0
THYROID	# Ex	58	0	0	0	19
Squamous cyst		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT:		Control	High melting point wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	1
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	0
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	20	20	20	20
Histiocytosis, minimal		16	5	3	6	3
Histiocytosis, mild		0	0	0	0	0
Histiocytosis, moderate		0	0	0	0	0
Histiocytosis, marked		0	0	0	0	0
Pigmented macrophages		5	9***	5	6*	6*
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	18
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT:
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	High melting point wax			
		0	0.002	0.02	0.2	2.0
		60	20	20	20	20
		#	#	#	#	#
UTERUS						
Dilated	# Ex	60	0	0	0	20
		0	0	0	0	0
CERVIX						
Keratin retention cyst	# Ex	60	0	0	0	19
		1	0	0	0	0
VAGINA						
	# Ex	59	0	0	0	20
PERIRENAL FAT						
	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
AORTA	# Ex	60	0	0	0	20
VEIN	# Ex	60	0	0	0	20
KIDNEY	# Ex	60	20	20	20	20
Glomerulonephrosis sl		0	0	1	0	0
Glomerulonephrosis mod		0	0	0	0	0
Tubular basophilia		5	0	0	0	1
Nephrocalcinosis cort/med		3	0	0	0	0
Calcinosis		0	0	0	0	0
HEART	# Ex	60	0	0	0	20
Foci necrosis/inflam. cells		6	0	0	0	0
Foci intra calcification		0	0	0	0	0
Inflammation base mitral valve		0	0	0	0	0
Endocarditis		0	0	0	0	0
LIVER	# Ex	60	20	20	20	20
Vacuolation CL		0	0	0	0	0
Vacuolation MZ		0	0	0	0	1
Vacuolation PP		4	0	4	3	4
Vacuolation focal		0	0	0	0	0
ICN Occasional/multiple		37	3	5	3	13
Foci inflammatory cells		48	13	16	12	15
Foci vac hepatocyte deg		0	0	0	0	0
Inflammation peribil lg duct		0	0	0	0	0
Necrosis focal		0	3*	2	0	0
Necrosis subcapsular		0	0	1	0	0
Necrosis extensive		0	1	0	0	0
Micro granuloma Few		0	0	0	0	0
Micro granuloma Many		0	0	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	0	0	0	0
Granuloma Focal		0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0
Cyst keratinised		0	0	0	0	0
Focus clear cell		0	0	0	0	0
Fibrosis peribiliary		0	0	0	0	0
Telangiectasis		0	0	0	0	0
LUNG	# Ex	60	20	20	20	20
Peribronchial lymphocytes		47	16	12	13	9
Perivascular lymphocytes		10	4	5	6	1
Inflammation focal		10	4	6	7	7
Foci alveolar macrophages		4	0	2	2	1
Alveolar thickening		0	0	0	0	0
Occasional microgranuloma		0	0	0	0	1
BRAIN	# Ex	60	0	0	0	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SPINAL CORD	# Ex	60	0	0	0	20
Keratin cyst (dev abnormality)		1	0	0	0	0
EYE	# Ex	60	0	0	0	20
NERVE	# Ex	60	0	0	0	20
STOMACH	# Ex	60	0	0	0	20
Small cyst gl. region		0	0	0	0	0
DUODENUM	# Ex	58	20	20	20	20
ILEUM & JEJUNUM	# Ex	60	20	20	20	20
Peyer's patch macrophage acc.		0	0	1	0	0
Peyer's patch pyknotic lymphs		0	0	0	0	0
Peyer's patch histiocytosis		0	0	0	0	0
Areas inflam l. propria/muscle		0	0	0	0	0
Increased mac infil l. propria		0	0	0	0	0
Vacuolation lamina propria		0	0	0	0	0
Calcification lamina propria		0	0	0	0	0
CAECUM	# Ex	60	0	0	0	20
COLON	# Ex	60	0	0	0	20
Calcification epithelium		0	0	0	0	0
Nematodes in lumen		2	0	0	0	0
RECTUM	# Ex	60	0	0	0	20
Nematodes in lumen		4	0	0	0	0
Calcification epithelium		0	0	0	0	0
TRACHEA	# Ex	60	0	0	0	20
OESOPHAGUS	# Ex	60	0	0	0	20
DIAPHRAGM	# Ex	60	0	0	0	20
BLADDER	# Ex	58	0	0	0	20
PITUITARY	# Ex	59	0	0	0	20
ADRENAL	# Ex	59	0	0	0	20
Focus of calcification		1	0	0	0	0
Focal hypertrophy, cortex		0	0	0	0	1
Area of haemorrhage cortex		0	0	0	0	1
THYROID	# Ex	58	0	0	0	20
Squamous cyst		0	0	0	0	1

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
SALIVARY GLAND	# Ex	60	0	0	0	20
Focal atrophy		0	0	0	0	0
PANCREAS	# Ex	58	0	0	0	20
Acinar deg/inflam focal		0	0	0	0	0
Mesenteric arteritis		0	0	0	0	0
Duct hyperplasia		0	0	0	0	0
Hyperplastic lymph node		0	0	0	0	0
HARDERIAN	# Ex	60	0	0	0	20
Foci inflam. cells		3	0	0	0	1
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	0	0	0	20
Foci ductal hyperplasia		1	0	0	0	1
Foci vacuolation		1	0	0	0	0
Foci inflam. cells		1	0	0	0	0
SPLEEN	# Ex	60	20	20	20	20
Foci eosin foamy mac		0	0	0	0	0
Small histocytic foci		0	0	0	0	0
THYMUS	# Ex	60	0	0	0	20
LYMPH NODES	# Ex	60	19	20	20	20
Histiocytosis, minimal		16	5	4	7	3
Histiocytosis, mild		0	0	0	0	0
Histiocytosis, moderate		0	0	0	0	0
Histiocytosis, marked		0	0	0	0	0
Pigmented macrophages		5	9***	13***	13***	0
Granuloma multi focal		0	0	0	0	0
Fat acute inflam. giant cell		0	0	0	0	0
SKIN AND SUBCUTIS	# Ex	60	0	0	0	20
Inflam. cell infilt. epidermis		0	0	0	0	0
MAMMARY	# Ex	58	0	0	0	20
TONGUE	# Ex	60	0	0	0	20
SKELETAL MUSCLE	# Ex	60	0	0	0	20
Foci mononuclear cells		0	0	0	0	0
NASAL BONES	# Ex	60	0	0	0	20
Focal inflammation		1	0	0	0	0
STERNUM & FEMUR	# Ex	60	0	0	0	20
OVARIES	# Ex	60	0	0	0	20
Cyst follicular		0	0	0	0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	High sulphur wax			
DOSE: (% in diet)		0	0.002	0.02	0.2	2.0
NUMBER OF ANIMALS:		60	20	20	20	20
		#	#	#	#	#
UTERUS	# Ex	60	0	0	0	20
Dilated		0	0	0	0	0
CERVIX	# Ex	60	0	0	0	19
Keratin retention cyst		1	0	0	0	0
VAGINA	# Ex	59	0	0	0	19
PERIRENAL FAT	# Ex	60	0	0	0	19

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	Coconut oil
DOSE: (% in diet)		0	2.0
NUMBER OF ANIMALS:		60	20
		#	#
AORTA	# Ex	60	20
VEIN	# Ex	60	20
KIDNEY	# Ex	60	20
Glomerulonephrosis sl		0	0
Glomerulonephrosis mod		0	0
Tubular basophilia		5	0
Nephrocalcinosis cort/med		3	1
Calcinosis		0	0
HEART	# Ex	60	20
Foci necrosis/inflam. cells		6	0
Foci intra calcification		0	0
Inflammation base mitral valve		0	0
Endocarditis		0	0
LIVER	# Ex	60	20
Vacuolation CL		0	0
Vacuolation MZ		0	0
Vacuolation PP		4	2
Vacuolation focal		0	1
ICN Occasional/multiple		37	9
Foci inflammatory cells		48	19
Foci vac hepatocyte deg		0	0
Inflammation peribil lg duct		0	0
Necrosis focal		0	0
Necrosis subcapsular		0	0
Necrosis extensive		0	0
Micro granuloma Few		0	1
Micro granuloma Many		0	0
Granuloma Few		0	0
Granuloma Many		0	0
Granuloma Focal		0	0
Lymphocytic infil ass gran mar		0	0
Cyst keratinised		0	0
Focus clear cell		0	0
Fibrosis peribiliary		0	0
Telangiectasis		0	0
LUNG	# Ex	60	20
Peribronchial lymphocytes		47	0
Perivascular lymphocytes		10	9*
Inflammation focal		10	2
Foci alveolar macrophages		4	1
Alveolar thickening		0	0
Occasional microgranuloma		0	0
BRAIN	# Ex	60	20

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	Coconut oil
		0	2.0
		60	20
		#	#
SPINAL CORD	# Ex	60	20
Keratin cyst (dev abnormality)		1	0
EYE	# Ex	60	20
NERVE	# Ex	60	20
STOMACH	# Ex	60	20
Small cyst gl. region		0	0
DUODENUM	# Ex	58	20
ILEUM & JEJUNUM	# Ex	60	20
Peyer's patch macrophage acc.		0	0
Peyer's patch pyknotic lymphs		0	0
Peyer's patch histiocytosis		0	0
Areas inflam l. propria/muscle		0	0
Increased mac infil l. propria		0	0
Vacuolation lamina propria		0	0
Calcification lamina propria		0	0
CAECUM	# Ex	60	20
COLON	# Ex	60	20
Calcification epithelium		0	0
Nematodes in lumen		2	0
RECTUM	# Ex	60	20
Nematodes in lumen		4	1
Calcification epithelium		0	0
TRACHEA	# Ex	60	20
OESOPHAGUS	# Ex	60	20
DIAPHRAGM	# Ex	60	20
BLADDER	# Ex	58	20
PITUITARY	# Ex	59	18
ADRENAL	# Ex	59	20
Focus of calcification		1	0
Focal hypertrophy, cortex		0	0
Area of haemorrhage cortex		0	0
THYROID	# Ex	58	20
Squamous cyst		0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: MAIN

TREATMENT: Main study		Control	Coconut oil
DOSE: (% in diet)		0	2.0
NUMBER OF ANIMALS:		60	20
		#	#
SALIVARY GLAND	# Ex	60	20
Focal atrophy		0	0
PANCREAS	# Ex	58	20
Acinar deg/inflam focal		0	0
Mesenteric arteritis		0	0
Duct hyperplasia		0	1
Hyperplastic lymph node		0	0
HARDERIAN	# Ex	60	20
Foci inflam. cells		3	1
EXTRAORBITAL LACRIMAL GLAND	# Ex	60	20
Foci ductal hyperplasia		1	0
Foci vacuolation		1	0
Foci inflam. cells		1	0
SPLEEN	# Ex	60	20
Foci eosin foamy mac		0	0
Small histocytic foci		0	0
THYMUS	# Ex	60	20
LYMPH NODES	# Ex	60	20
Histiocytosis, minimal		16	1
Histiocytosis, mild		0	0
Histiocytosis, moderate		0	0
Histiocytosis, marked		0	0
Pigmented macrophages		5	0
Granuloma multi focal		0	0
Fat acute inflam. giant cell		0	0
SKIN AND SUBCUTIS	# Ex	60	20
Inflam. cell infilt. epidermis		0	0
MAMMARY	# Ex	58	19
TONGUE	# Ex	60	20
SKELETAL MUSCLE	# Ex	60	20
Foci mononuclear cells		0	0
NASAL BONES	# Ex	60	20
Focal inflammation		1	0
STERNUM & FEMUR	# Ex	60	20
OVARIES	# Ex	60	19
Cyst follicular		0	0

Table 53. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: MAIN
TREATMENT: Main study
DOSE: (% in diet)
NUMBER OF ANIMALS:

FATES: ALL
SEX: FEMALE

		Control	Coconut oil
		0	2.0
		60	20
		#	#
UTERUS	# Ex	60	20
Dilated		0	0
CERVIX	# Ex	60	20
Keratin retention cyst		1	0
VAGINA	# Ex	59	20
PERIRENAL FAT	# Ex	60	20

Table 54. Histological findings in female rats on the reversal study fed either control diet, one of six white mineral oils at a level of 2.0%, one of three mineral waxes at a level of 2.0% or coconut oil at a level of 2.0%

Incidences marked with asterisks are significantly increased compared with control incidences (Fisher's exact test *p<0.05; **p<0.01; ***p<0.001).

Incidences with differing severity were compared with control incidences using a one-sided Mann Whitney U test. Incidences bracketed and marked with an asterisk are significantly increased compared with control incidences (*p<0.05; **p<0.01; ***p<0.001).

The individual findings are shown in Appendix 61.

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
AORTA	# Ex	30	10	10	10	10	10	10
VEIN	# Ex	30	10	10	10	10	10	10
KIDNEY	# Ex	30	10	10	10	10	10	10
Tubular basophilia		0	2	0	0	0	0	0
HEART	# Ex	30	10	10	10	10	10	10
Foci necrosis/inflam. cells		2	0	1	1	1	0	2
Inflammation base mitral valve		0	0	0	0	0	0	0
LIVER	# Ex	30	10	10	10	10	10	10
Vacuolation PP		1	0	0	0	0	0	0
Vacuolation focal		0	6***	0	1	0	0	1
ICN Occasional/multiple		9	8**	6	7*	10***	2	1
Foci inflammatory cells		26	10	10	10	10	10	5
Foci vac hepatocyte deg		0	0	0	1	0	0	0
Necrosis focal		2	0	0	2	0	0	1
Micro granuloma Few		1	4**	8***	5**	5**	8***	0
Micro granuloma Many		0	0	0	0	0	0	0
Granuloma Few		0	0	0	0	1	0	0
Granuloma Many		0	0	0	0	0	0	0
Lymphocytic infil ass gran mar		0	0	0	0	0	0	0
Diaph. hernia anomaly		1	0	0	0	0	0	0

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
LUNG	# Ex	30	10	10	10	10	10	10
Peribronchial lymphocytes		9	4	1	5	8**	6	2
Perivascular lymphocytes		2	0	1	0	0	0	2
Inflammation focal		3	1	1	0	2	1	1
Foci alveolar macrophages		0	0	0	0	0	0	0
BRAIN	# Ex	30	10	10	10	10	10	10
SPINAL CORD	# Ex	30	10	10	10	10	10	10
EYE	# Ex	30	10	10	10	10	10	10
NERVE	# Ex	30	10	10	10	10	10	10
STOMACH	# Ex	30	10	10	10	9	10	10
DUODENUM	# Ex	30	10	10	10	9	10	10
ILEUM & JEJUNUM	# Ex	30	10	10	10	10	10	10
CAECUM	# Ex	30	10	10	10	10	10	10
COLON	# Ex	30	10	10	10	10	10	10
Nematodes		0	0	0	0	0	0	1

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
RECTUM	# Ex	30	10	10	10	10	10	10
Nematodes in lumen		4	0	2	3	0	0	0
TRACHEA	# Ex	30	10	10	10	10	10	10
OESOPHAGUS	# Ex	30	10	10	10	10	10	10
DIAPHRAGM	# Ex	30	10	10	10	10	10	10
BLADDER	# Ex	30	10	10	10	10	10	10
PITUITARY	# Ex	30	10	10	10	9	10	10
ADRENAL	# Ex	30	10	10	10	10	10	10
THYROID	# Ex	28	10	10	10	10	10	10
SALIVARY GLAND	# Ex	30	10	10	10	10	10	10
PANCREAS	# Ex	30	10	10	10	10	10	10
Acinar deg/inflam focal		0	0	0	0	1	0	0
Periarteritis		0	0	0	0	0	0	0

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010 FATES: ALL
DAYS: ALL SEX: FEMALE
STUDY: REVERSAL

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
HARDERIAN	# Ex	30	10	10	10	10	10	10
Focal inflam cells		1	0	1	0	0	2	0
EXTRAORBITAL LACRIMAL GLAND	# Ex	30	10	10	10	10	10	10
SPLEEN	# Ex	30	10	10	10	10	10	10
Reduced cellularity-white pulp		0	0	0	0	0	0	0
THYMUS	# Ex	30	10	10	10	10	10	10
LYMPH NODES	# Ex	30	10	10	10	10	10	10
Histiocytosis, minimal		11	5	3	2	1	2	5
Histiocytosis, mild		0	3 **	3 ***	3 ***	6 ***	5 ***	0
Histiocytosis, moderate		0	0	2	4	1	3	0
Histiocytosis, marked		0	0	0	1	0	0	0
Haemorrhage		0	0	0	0	0	0	0
Pigmented macrophages		0	0	0	0	0	0	1
Granuloma multi focal		0	0	1	0	0	0	0
Foci eosin mac		0	0	0	0	0	0	2
SKIN & SUBCUTIS	# Ex	30	10	10	10	10	10	10
MAMMARY	# Ex	30	10	10	9	10	10	9

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	White oil N 15(H)	White oil N 70(H)	White oil N 70(A)	White oil P 15(H)	White oil N 10 (A)	White oil P 100(H)
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10	10	10
		#	#	#	#	#	#	#
TONGUE	# Ex	30	10	10	10	10	10	10
SKELETAL MUSCLE	# Ex	30	10	10	10	10	10	10
NASAL BONES	# Ex	29	10	10	10	10	10	10
STERNUM & FEMUR	# Ex	30	10	10	10	10	10	10
OVARIES	# Ex	30	10	10	10	10	10	10
Cyst bursal		0	1	0	0	0	0	0
UTERUS	# Ex	30	10	10	10	10	10	10
CERVIX	# Ex	30	10	10	10	10	10	10
VAGINA	# Ex	30	10	10	10	10	10	10
PERIRENAL FAT	# Ex	30	10	10	9	10	10	9

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
AORTA	# Ex	30	10	10	10	10
VEIN	# Ex	30	10	10	10	10
KIDNEY	# Ex	30	10	10	10	10
Tubular basophilia		0	0	0	0	0
HEART	# Ex	30	10	10	10	10
Foci necrosis/inflam. cells		2	0	0	0	0
Inflammation base mitral valve		0	3*	0	0	0
LIVER	# Ex	30	10	10	10	10
Vacuolation PP		1	9***	1	1	0
Vacuolation focal		0	0	0	0	1
ICN Occasional/multiple		9	0	2	8**	3
Foci inflammatory cells		26	0	8	10	9
Foci vac hepatocyte deg		0	0	0	0	0
Necrosis focal		2	0	1	2	1
Micro granuloma Few		1	0	2	0	0
Micro granuloma Many		0	9***	0	0	0
Granuloma Few		0	0	0	0	0
Granuloma Many		0	1	0	0	0
Lymphocytic infil ass gran mar		0	6***	0	0	0
Diaph. hernia anomaly		1	0	0	0	0

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
LUNG	# Ex	30	10	10	10	10
Peribronchial lymphocytes		9	4	5	6	7*
Perivascular lymphocytes		2	1	0	2	0
Inflammation focal		3	0	0	2	2
Foci alveolar macrophages		0	0	0	0	1
BRAIN	# Ex	30	10	10	10	10
SPINAL CORD	# Ex	30	10	10	10	10
EYE	# Ex	30	10	10	10	10
NERVE	# Ex	30	10	10	10	10
STOMACH	# Ex	30	10	10	10	10
DUODENUM	# Ex	30	10	10	10	10
ILEUM & JEJUNUM	# Ex	30	10	10	10	10
CAECUM	# Ex	30	10	10	10	10
COLON	# Ex	30	9	10	10	10
Nematodes		0	0	0	0	0

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
RECTUM	# Ex	30	9	10	10	10
Nematodes in lumen		4	0	0	1	0
TRACHEA	# Ex	30	10	10	10	10
OESOPHAGUS	# Ex	30	10	10	10	10
DIAPHRAGM	# Ex	30	10	10	10	10
BLADDER	# Ex	30	9	10	10	10
PITUITARY	# Ex	30	10	10	10	10
ADRENAL	# Ex	30	10	10	10	10
THYROID	# Ex	28	10	10	10	10
SALIVARY GLAND	# Ex	30	10	10	10	10
PANCREAS	# Ex	30	10	10	9	10
Acinar deg/inflam focal		0	0	0	0	1
Periarteritis		0	1	0	0	0

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
HARDERIAN	# Ex	30	10	10	10	10
Focal inflam cells		1	1	0	0	5**
EXTRAORBITAL LACRIMAL GLAND	# Ex	30	9	10	10	10
SPLEEN	# Ex	30	10	10	10	10
Reduced cellularity-white pulp		0	0	0	1	0
THYMUS	# Ex	30	10	10	10	10
LYMPH NODES	# Ex	30	10	10	10	10
Histiocytosis, minimal		11	0	1	4	6
Histiocytosis, mild		0	6 ***	0	0	0
Histiocytosis, moderate		0	3	0	0	0
Histiocytosis, marked		0	1	0	0	0
Haemorrhage		0	2	0	0	0
Pigmented macrophages		0	0	0	0	0
Granuloma multi focal		0	0	0	0	0
Foci eosin mac		0	0	0	0	0
SKIN & SUBCUTIS	# Ex	30	10	10	10	10
MAMMARY	# Ex	30	10	9	10	10

Table 54. continued

Project Summary Table

SUMMARY: Incidence of NON-NEOPLASTIC Microscopic Findings

PROJECT IDENTIFICATION: 3.1010
DAYS: ALL
STUDY: REVERSAL

FATES: ALL
SEX: FEMALE

TREATMENT:		Control	Low melting point wax	High melting point wax	High sulphur wax	Coconut oil
DOSE: (% in diet)		0	2.0	2.0	2.0	2.0
NUMBER OF ANIMALS:		30	10	10	10	10
		#	#	#	#	#
TONGUE	# Ex	30	10	10	10	10
SKELETAL MUSCLE	# Ex	30	10	10	10	10
NASAL BONES	# Ex	29	10	10	10	10
STERNUM & FEMUR	# Ex	30	10	10	10	10
OVARIES	# Ex	30	10	10	10	10
Cyst bursal		0	0	0	0	0
UTERUS	# Ex	30	10	10	10	10
CERVIX	# Ex	30	10	10	10	10
VAGINA	# Ex	30	10	10	10	10
PERIRENAL FAT	# Ex	30	10	10	9	10

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