TSCA HEALTH & SAFETY STUDY COVER SHEET - revised 6/25/96

TSCA CBI STATUS:

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1.0 SUBMISSION TYPE ☐*Contains CBI*

☐ 8(d) X 8(e) ☐ FYI ☐ 4 ☐ OTHER: Specify _____

☐ Intial Submission X Follow-up Submission ☐ Final Report Submission

Previous EPA Submission Number or Title if update or follow-up: 8/31/95 Submission - Acute Inhalation Tox Study of 2-Chloroacrylonitrile

Docket Number, if any: # 8eHQ-0995-13503

☐ continuation sheet attached

2.1 SUMMARY/ABSTRACT ATTACHED (may be required for 8(e): optional for §4, 8(d) & FYI)

X YES ☐ NO

2.2 SUBMITTER TRACKING NUMBER OR INTERNAL ID

Cert# P 921654978

96-2-9

2.3 FOR EPA USE ONLY

3.0 CHEMICAL/TEST SUBSTANCE IDENTITY ☐*Contains CBI*

Reported Chemical Name (specify nomenclature if other than CAS name):

CAS#: 920-37-6 2-Chloroacrylonitrile (2-CAN)

Purity ___>97_%

X Single Ingredient

☐ Commerical/Tech Grade

☐-Mixture *Trade Name:* _____ *Comn*

8EHQ-0996-13503

8EHQ-95-13503

4.0 REPORT/STUDY TITLE ☐*Contains CBI*

Pilot Study on the RD50 Determination on Mice

☐ Continuation sheet attached

5.1 STUDY/TSCATS INDEXING TERMS

[CHECK ONE]

HEALTH EFFECTS (HE): X ENVIRONMENTAL EFFECTS (EE): ____ ENVIRONMENTAL FATE (EF): ____

5.2 STUDY/TSCATS INDEXING TERMS (see instructions for 4 digit codes)

STUDY TYPE: _____ *Other:* Sensory Irritation

SUBJECT ORGANISM (HE, EE only): MICE *Other:* _____

ROUTE OF EXPOSURE (HE only): _____ *Other:* Nose Only

VEHICLE OF EXPOSURE (HE only) _____ *Other:* _____

6.0 REPORT/STUDY INFORMATION ☐*Contains CBI* ☐ Study is GLP

Laboratory Institute for Industrial Toxicity - Wuppertal Report/Study Date 6/18/96

Source of Data/Study Sponsor (if different than submitter) Bayer AG Number of pages 288

☐ continuation sheet attached

7.0 SUBMITTER INFORMATION ☐*Contains CBI*

Submitter: Donald W. Lamb, Ph.D Title: V. P., Prod. Safety & Reg. Affrs Phone: 412-777-7431

Company Name: Bayer Corporation Company Address: 100 Bayer Road

Pittsburgh, PA 15205-9741 Submitter Address (if different): _____

Technical Contact: Donald W. Lamb, Ph.D Phone: (412)777-7431

☐ continuation sheet attached

8.0 ADDITIONAL/OPTIONAL STUDY COMMENTS ☐*Contains CBI*

CONTAINS NO CBI

☐ continuation sheet attached

Submitter Signature: Donald W Lamb **Date:** 8/27/96

Page 1 of 2

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Tracking # 96-2-9

BAYER AG
DEPARTMENT OF TOXICOLOGY
FRIEDRICH-EBERT-STR. 217-333
D - 42096 WUPPERTAL

Report-No.: 25167

Date: 13.06.1996

2-CHLOROACRYLONITRILE (2-CAN)

PILOT STUDY ON THE RD_{50}-DETERMINATION ON MICE

by

PD Dr. J. Pauluhn

Study No.: T2060844

CONTAINS NO CBI

As long as the results contained in this report have not been published, they may be used only with the consent of Bayer AG. Further reproduction of this report, in whole or in part, is not permitted.

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GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

This study conforms to the OECD Principles of Good Laboratory Practice (GLP) and to the Principles of Good Laboratory Practice (GLP) according to Appendix 1 ChemG (1994). As a departure from the GLP-Principles this report was not audited by QAU.

PD Dr. J. Pauluhn D.A.B.T.
Board Approved Toxicologist (DGPT)
Study Director

Date: May 29, 1996

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2. QUALITY ASSURANCE STATEMENT

Test Substance: **2-CHLOROACRYLONITRILE**

Study No.: **T2060844**

The study was audited by Quality Assurance on the dates given below. Audit reports have been submitted in writing to the study director and, if necessary, also the laboratory management, or other persons affected.

Date of audit	**Date of report to study director/management**
May 14, 1996 (study plan)	May 14, 1996
May 14, 1996	May 14, 1996
May 20, 1996	May 20, 1996

To the best of my knowledge, the results of the study and the methods used have been correctly reported.-

Quality Assurance Unit
PH-QA-C/GLP, Bayer AG

Date: June 07, 1996

Responsible: Dr.R.Rauchschwalbe

3. SIGNATURES

Study Director: _____ Date: May 29, 1996
Dr. J. Pauluhn

Analytical Chemistry: _____ Date: May 30, 1996
Dr. W.Rüngeler

Department Head: _____ Date: June 3, 96
Prof. E. Löser

4. SUMMARY

A study focusing on the acute respiratory tract sensory irritation potency of evaporized 2-CHLOROACRYLONITRILE (2-CAN), hereafter referred to as *test substance*, in male mice of the OF1 strain had been conducted. Groups of mice (n = 4) were exposed to the analytically determined vapor concentrations of the test substance of 7.8, 15.2, 28.6. 61.5 and 80.8 mg/m³ air. For reference purposes one additional group served as concurrent control, *viz.* this group was exposed to conditioned air. The duration of exposure to the test substance was 45 minutes followed by a brief recovery period of 15 minutes. After an postexposure period of 1 week all animals were sacrificed. The procedures applied were consistent with the ASTM E981-84 method which stipulates the use of mice.

The results can be summarized as follows:

Vapor concentrations of 7.8 mg/m³ did not produce marked effects on breathing patterns. Higher concentrations of the evaporized test substance proved to have a high potency to evoke *upper respiratory tract sensory irritation*. The RD_{50}-concentration was approximately 21 mg 2-CAN/m³ air whereas the calculated RD_0-concentration was 3.9 mg/m³ air.

The evoked changes on breathing patterns resemble those stereotypic changes known to occur following exposure to '*upper respiratory tract sensory irritants*', i.e., a reflexively induced pause between inspiration and expiration.

5. INTRODUCTION

This study was performed for the assessment of the irritant-induced immediate-onset changes in respiratory function following a single 45-min exposure according to previously published methods (Pauluhn and Eben, 1991) using 2-CHLOROACRYLONITRILE as test substance. The study was performed on male mice (nose-only exposure over 45 minutes to the evaporized test substance, dynamic exposure conditions, 1 week postexposure observation period). The procedures applied were consistent with the ASTM E981-84 method which stipulates the use of mice.

The study was conducted at the test facility of the Institute of Toxicology, Industrial Chemicals, Department of Toxicology, Bayer AG, D-42096 Wuppertal, Germany.

Study No.: T2060844

Study period: May 13, 1996 - May 22, 1996

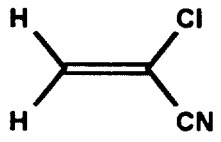
6. RESPONSIBILITIES

Head of the Institute of Toxicology - Agrochemicals: ..... Prof. E. Löser
Study Director and Report Author: ..... Dr. J. Pauluhn
Biometric evaluation: ..... Dr. J. Pauluhn
Supply of test compound: ..... Dr. Paetz
Analytical characterization of test atmospheres: ..... Dr. W. Rüngeler
Analytical characterization of test compound (identity): ..... Prof. Seelemann
Central Animal Supply Department: ..... Dr. K. Hoffmann
Air conditioning/air make-up ..... Dipl. Ing. G. Strietholt
Archiving the study data: ..... Prof. G. Schlüter
Quality Assurance: ..... Dr. H. Lehn
Gross pathology: ..... Dr. Rosenbruch

7. MATERIALS AND METHODS

7.1. Test substance

Test substance:	2-CHLOROACRYLONITRILE (2-CAN)
Batch-no.-BALK-no.:	B 0006 - 95/008
Purity:	> 97%
Producer:	Bayer AG, Leverkusen, Germany
Stability:	guaranteed for the duration of this study
Appearance:	translucent liquid
Storage:	Room temperature / darkness
Chemical name:	2-Chloroacrylonitrile
CAS-no.:	920-37-06
Molecular weight:	87.5 g/mol
Empirical formula:	C_3H_2ClN
Molecular formular:	



7.2. Test system and housing of animals

Species and species justification: The study was carried out in male mice, a rodent species commonly used in inhalation toxicity studies and stipulated by the respective ASTM method.

Healthy young adult SPF bred mice, strain OF1-ICO, from the experimental animal breeder IFFA Credo, Belgique, were used. Animals of this strain have been used at Bayer AG in this type of studies for years. Historical data on their physiology, diseases and spontaneous alterations are available. The state of health of the strain is randomly checked regularly at the instance of the Central Animal Supply Department, Bayer AG, for the most important specific infectious pathogens. The results of these examinations are archived.

Acclimatization: The animals were acclimatized to the animal room conditions for at least 5 days before use [animal registry no.: 94346, date of delivery: May 8, 1996].

Identification: Animals were identified by both individual color-marking and cage-labels. All animals from this study were located on one cage-rack.

Randomization: Before the start of the study the health status of each animal was assessed. Animals were subsequently assigned to exposure groups at random (randomization procedure is described in the respective section 'Statistical Evaluation of Data').

Health status: Only healthy animals free of signs were used for this study. The animals were not vaccinated or treated with anti-infective agents either before their arrival or during the acclimatization or study periods.

Age and weight: At the study start the variation of individual weights did not exceed ± 10 per cent of the mean (see Appendix). Animals of the weight class used are approximately 2-3 months old.

Animal housing: During the acclimatization and study periods the animals were housed in conventional Makrolon® Type III cages, four per cage (based on A. Spiegel and R. Gönnert, Zschr. Versuchstierkunde, 1, 38 (1961) and G. Meister, Zschr. Versuchstierkunde, 7, 144-153 (1965)). Cages and water bottles were changed twice a week while unconsumed feed was changed once per week. The legal requirements for housing experimental animals (86/609 EEC) were followed.

Bedding: Bedding consisted of type S 8/15 low-dust wood granulate from Ssniff, Soest/ Westfalen, Germany. The wood granulate was randomly checked for harmful constituents at the request of the Central Animal Supply Department, Bayer AG.

Animal rooms: All animals of were housed in a single room. Mistakes in animal assignments were excluded by adequate spatial separation (separate cage racks), clear cage labeling, and appropriate organization of all work procedures.

Environmental conditions in the animal room

The animal room environment was as follows:

Room temperature:	22 ± 2 °C
Relative humidity:	approximately 50 %
Dark/light cycle:	12 h/12 h; artificial light from 6.00 a.m. to 6.00 p.m. Central European Time
Light intensity:	approximately 14 watt/m² floor area
Ventilation:	approximately 10 air changes per hour

The room humidity and temperature were continuously monitored and documented using a calibrated thermohygrograph. Occasional deviations from these conditions occurred, e.g. as a result of animal room cleaning, but these had no detectable influence on the outcome of this study.

Cleaning, disinfection, and pest control: The animal room was regularly cleaned and disinfected once a week with an aqueous solution of Zephirol®. Contamination of the feed and contact with the test system were excluded. Pest control was not conducted in the animal room.

Feeding: Ration consisted of a standard fixed-formula diet (Altromin® 1324 pellets maintenance diet for rats and mice, Altromin GmbH, Lage) and tap water (drinking bottles). Both food and water were available *ad libitum*. The pelletized feed was contained in a rack in the stainless-steel wire cage cover. The nutritive composition and contaminant content of the standard diet was checked regularly by random sampling by the Central Animal Supply Department, Bayer AG. Details concerning general feed and water specifications are provided in the Appendix.

Water: Drinking quality tap-water (Drinking Water Decree of 05.12.1990, Bundesgesetzblatt [federal law gazette] part I, page 2612) was provided *ad libitum* in polycarbonate bottles

containing approximately 700 ml (based on A. Spiegel and R. Gönnert, Zschr. Versuchstierkunde, 1, 38 (1961) and G. Meister, Zschr. Versuchstierkunde, 7, 144-153 (1965)). The results of feed and water analyses are retained by Bayer AG. The available data provided no evidence of an impact on the study objective.

7.3. Test Guidelines

The study described below (exposure technique) was carried out in accordance with OECD Guideline No. 403. The study conditions were adjusted so as to fulfill both the EC Guideline 92/69/EEC and the US EPA (1986) guidelines in so far as was technically possible and reasonable for this type of study. Other recommendations were also considered so as to comply with internationally recognized procedures (Alarie, 1973; ASTM, 1984).

7.4. Exposure Conditions

Mode of exposure: Animals were exposed to the evaporized test substance in Plexiglas restrainers (body plethysmographs). Restrainers/plethysmographs were chosen so that they accommodated the animals' size. This type of exposure corresponds to a *directed-flow* (Moss and Asgharian, 1994) nose-only exposure. The chambers used are commercially available (TSE, 61348 Bad Homburg) and the performance of this type of chamber as well as ist validation have been published (Pauluhn, 1984; Pauluhn, 1988; Pauluhn, 1994).

Vehicle: The test substance was evaporized as vapour without a carrier or vehicle.

7.5. Generation of Atmosphere and Exposure Technique

Vapour generation: Under dynamic conditions the test substance was fed into the intake of the cylindrical inhalation chamber so as shown in Figure 1. Dry nitrogen (for details see Table 1 in the result section) from a pressurised cylinder was metered through the liquid test substance (ca. 8 ml) contained in a glass bubbler (diameter: 1.8 cm, hight of liquid level: ca. 5 cm) using a TELAB PTFE pump {TELAB Labor & Technik, Gesellschaft für Meßtechnik mbH, Duisburg, Germany} and was subsequently diluted with conditioned dry air (15 l/min). The glass bubbler containing the test compound was maintained at 20 °C using a thermostat (JULABO UC, Julabo, Seelbach, Germany). The test atmosphere was then forced through openings in the inner concentric cylinder of the chamber, directly towards the mice' breathing zone. This arrangement minimises re-breathing of exhaled test atmosphere and prevents

degradation of test compound. The stability of the test atmosphere was monitored continuously using a total hydrocarbon analyser equipped with a flame ionization detector (Compur, Munic, Germany).

All metering devices, flow meters, and sensors were calibrated and/or checked for proper performance prior to the study.

Inhalation Chamber: The aluminum inhalation chamber has the following dimensions: inner diameter = 14 cm, outer diameter = 35 cm (two-chamber system), height = 25 cm (internal volume = about 3.8 l). The construction of the inhalation chamber is shown schematically in Fig. 1. Details of this modular chamber and its validation with regard to spatial homogeneity of material distribution have been published (Pauluhn, 1994).

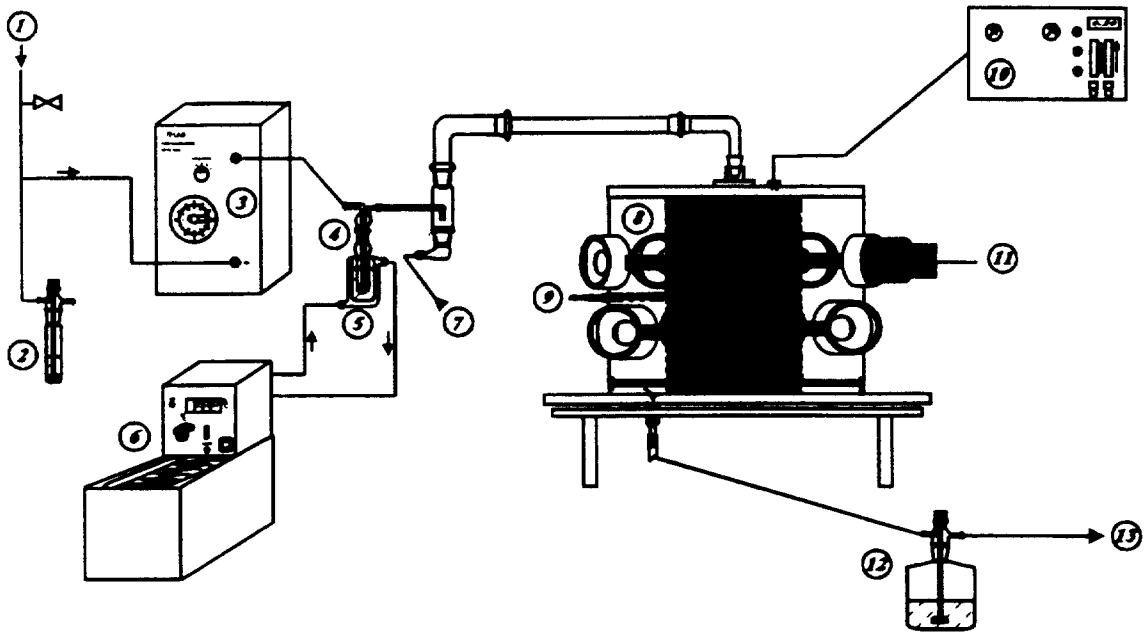
Conditioning the compressed air: Compressed air was supplied by Boge compressors and was conditioned (i.e. freed from water, dust, and oil) automatically by a VIA compressed air dryer. Adequate control devices were employed to control supply pressure.

Inhalation chamber steady-state concentration: The test atmosphere generation conditions provide an adequate number of air exchanges per hour (> 400 x, continuous generation of test atmosphere). Under such test conditions steady state is attained within the first minute of exposure ($t_{99\%}$ = 4.6 x chamber volume/flow rate; McFarland, 1976). The ratio between the air supplied and exhausted was chosen so that approximately 90% of the supplied air is removed. The remainder provides adequate dead-space ventilation for the exposure tubes. At each exposure port a minimal air flow rate of 1.4 l/min was provided. The test atmosphere can by no means be diluted by bias-air-flows. The inhalation chamber was operated in a well ventilated chemical fume hood.

Air flows: During the exposure period air flows were monitored continuously and, if necessary, readjusted to the conditions required. Air flows were measured with calibrated flowmeters and/or soap bubble meter (Gilibrator, Ströhlein Instruments, Kaarst) and were checked for correct performance at regular intervals.

Treatment of exhaust air: The exhaust air was purified via glass bubbler containing 10% aqueous NaOH solution.

Fig. 1: Inhalation Chamber



1. Compressed air supply	9. Sampling location ('breathing zone sampling')
2. Excess N_2-outlet using a confining liquid (seal)	10. Real-time monitoring (THC)
3. Gas metering device in by-pass	11. Sensor for temperature and humidity measurement (scematic)
4. Test substance in glass bubbler	12. Make-up of exhaust air (glass bubbler containing 10% aqueous NaOH solution)
5. Water jacket connected to thermostate	13. Exhaust air
7. Main stream air	
8. Exposure zone	

7.6. Inhalation Chamber Temperature and Humidity

The temperature and humidity measurements were made using a digital thermometer (location of sensor: breathing zone area) and a Lambrecht hygrometer (location of sensor: exhaust location of chamber). The values were recorded at least once at the end of each exposure period.

The humidity sensor was calibrated using saturated salt solutions according to Greenspan (1977). The temperature sensors were checked for proper performance using a calibration thermometer.

7.7. Analysis of the Test Atmosphere

A nominal concentration was calculated taking into account the actually evaporated mass of test substance (difference of weight of the glass bubbler before and after each exposure) devided by total airflow through the chamber.

The test-substance concentration was determined using the methodology described in the Appendix (Analytical Report). The test substance was sampled using glass impinger filled with toluene as solvent. For calibration the test substance served as reference material. The precision, accuracy, recovery, and stability in the solvents used were checked prior to the study.

Chamber samples were taken in the vicinity of the animals' breathing zone (see Fig. 1). The number of samples taken was sufficient to characterize the test atmosphere and was adjusted so as to accommodate the sampling duration and/or the need to confirm specific concentration values. Optimally, one sample per exposure was collected after the equilibrium concentration had been attained. All analytical concentrations reported refer to mg of test substance/m^3 air.

7.8. Collection Efficiency

The sampling equipment was adjusted with calibrated flowmeters or soap-bubble meters according to internationally recognized standards (ACGIH, 1978; Section I "Calibration of Air Sampling Instruments").

7.9. Stability of the Test Atmosphere

The integrity stability of the vapour generation system was monitored continuously using a Total Hydrocarbon Analyzer equipped with FID (flame ionization detector) (Messr. Compur, Munic, Germany). Samples were taken continuously from the vicinity of the breathing zone. This chamber monitoring allows for an overall survey of toxicologically relevant technical parameters (inlet and exhaust flows as well as atmosphere homogeneity, temporal stability, and generation performance). Interruptions in exposure (e.g. resulting from technical mishaps) are recorded and, if applicable, a commensurate interval is added to the exposure duration for compensation. One representative example of this type of *real-time* monitoring of atmosphere is provided in the Appendix.

7.10. Number of animals

Four male mice were simultaneously exposed to each concentration under *directed-flow* nose-only conditions for approximately 45 minutes.

7.11. Control Animals

To identify exposure-related effects, comparisons with the respective air control is conducted. The control animals were exposed similar exposure conditions as were used for the test substance.

7.12. Body weights and duration of observation period

Body weights were measured before exposure, on days 1, 3 and 7. The period of observation was 1 week.

7.13. Clinical signs

The appearance and behavior of each animal was examined carefully several times on the day of exposure and daily thereafter. Assessments from restraining tubes were made only if unequivocal signs occurred (e.g. spasms, abnormal movements, severe respiratory signs). Following exposure, observations are made and recorded systematically; individual records are maintained for each animal. Cageside observations included, but were not limited to, changes in the skin and fur, eyes, mucous membranes, respiratory, circulatory, autonomic and central nervous system, and somatomotor activity and behavior pattern. Particular attention was directed to observation of tremors, convulsions, salivation, diarrhea, lethargy, somnolence and prostration. The time of death was recorded as precisely as possible. Since these signs can only be assessed adequately from freely moving animals, no specific assessment was performed during exposure while animals were restrained.

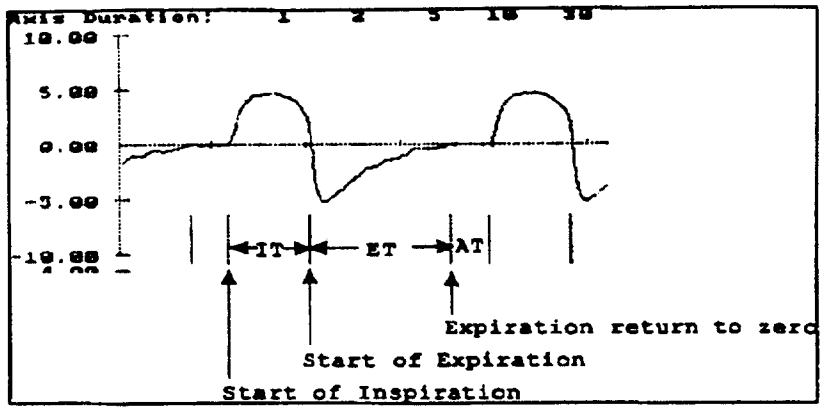
7.14. Respiratory Function Measurements

Measurements were conducted with spontaneously breathing, conscious animals in modified nose-only exposure tubes used as plethysmographs (p=*const.*). The animals were acclimatized

to the exposure conditions for an adequate period of time. Animals were considered acclimatized when the respiratory rate exceeded approximately 200 breaths per minute. The PO-NE-MAH / PLUGSYS Data Acquisition, Analysis & Archive System (supplied and maintained by H. Sachs, March, Germany) was used for measurements. The prevent undue stress of the animals when positioned into the plethysmographs a superficial, brief inhalation narcosis (Halothane, 4% v/v in air) was used.

After acclimatization baseline parameters were measured for approximately 15 min (exposure to air). The duration of exposure to the test substance was approximately 45 min, followed by postexposure measurements of approximately 15 minutes. Measurements were made with four mice simultaneously. For evaluation of reactions occurring during challenge exposures the following respiratory parameters were evaluated: respiratory rate (RR) [breaths/min], tidal volume (TV) [ml], respiratory minute volume (MV) [ml/min], peak inspiratory and expiratory flow rates (PIF and PEF) [ml/sec], inspiratory (IT) and expiratory times (ET) [msec], the average duration of apnoic period (AT) [msec], and the number of apnoic periods per logging period exceeding 20% of the ET period [#/time interval]. Additional parameters were derived so as shown in the Appendix. Measurements were made in nose-only animal restrainers with wire-mesh style pneumotachograph and differential pressure transducers (MP 45 ± 2 cm H_2O, Validyne) fitted shortly onto the plethysmograph. The head and body compartments were separated using a double-layer latex neck seal. Precautions were taken to avoid artifacts due to restraint and tight fitting seals around the neck. Volumes were calculated by integration of the flow signal from the body compartment and potential artifacts related to the dependence of the calculated volume as a function of respiratory frequency were considered. The resistance to air flow of the wire-mesh screens was adjusted so that artificial volume changes between pump rates of 50-250 cycles/min did not exceed 10%. The validation of the system was performed prior to each exposure individually for all plethysmographs using a calibration volume of 0.3 ml at a frequency of 200 cycles/min. All signals were averaged for 45 seconds. The flow and volume signals for each individual animal were displayed on the monitor of the IBM-AT computer during measurement. Phase and amplitude checks were documented by re-processing of raw data. Breaths were identified by the software when the PIF exceeded 0.3 ml/sec. The principle of the evaluation of breathing patterns is illustrated in the following Figure 2.

Figure 2: Flow/volume measurements



7.15. Necropsy

All animals were sacrificed at the end of the observation period using sodium pentobarbital (Nembutal®) (intraperitoneal injection) and were given a gross-pathological examination. Consideration was given to performing a gross necropsy on animals as indicated by the nature of toxic effects, with particular reference to changes related to the respiratory tract. All gross pathological changes were recorded and evaluated.

7.16. Statistical evaluation of data

Body weights: Means and single standard deviations of body weights are calculated. Mean body weights are also depicted graphically as a function of time. Since in acute studies individual group means may differ prior to commencement of the first exposure, the body weight gain was statistically evaluated for each group. For these evaluations a one-way ANOVA (vide infra) is used.

Pulmonary function tests: Relative mean values of the eight animals per group and for each parameter are reproduced in tabular form in the Appendix. All parameters collected are also reproduced graphically and these data were smoothed using a polynomial function before graphing (low pass filter for outliers). Brief peaks caused by abnormal movements in the plethysmograph were thereby minimized. Data in tables reflect the raw data.

Randomization: A computerized list of random numbers served the purpose to assign animals at random to the treatment groups.

Analysis of variance (ANOVA): This parametric method checks for normal distribution of data by comparing the median and mean. The groups are compared at a confidence level of $(1-\alpha) = 95\%$ ($p = 0.05$). The test for the between-group homogeneity of the variance employed Box's test if more than 2 study groups were compared with each other. If the above F-test shows that the intra-group variability is greater than the inter-group variability, this is shown in the Appendix as *"no statistical difference between the groups"*. If a difference is found then a pairwise post-hoc comparison is conducted (1- and 2-sided) using the Games and Howell modification of the Tukey-Kramer significance test. This program was originally obtained from BCTIC.

RD_{50}-Calculation: The analysis of regression curves and calculation of their 95% confidence intervals were performed with the aid of Sigma Plot for Windows (Jandel Scientific, Erkrath, Germany), if applicable.

Programming and validating software: Software code for the following purposes was written in HP Fortran (HP 3000) or Microsoft Fortran 77 (PC): ANOVA, physiological data tabulation program, partice analysis, graphics software. All scratch files were generated using Fortran F8.3 format using the Fortran default rounding routines. Fortran format A was always used to generate alphanumeric tables and graphs; i.e. numbers in figures and tables are rounded-up or -off due to the different format codes of the server. The computer programs were carefully validated. The validation was conducted using text book data sets (e.g. BCTIC, Gad and Weil, 1982). It should be emphasized, however, that this type of source code validation does not fulfill that type of formal validation required by current GLP-principles. Wherever possible, raw data and calculated values are displayed graphically to provide a versatile opportunity for data comparison.

7.17. Presentation of raw data

Raw data entered into, processed and/or stored by a computer system can be saved and printed out in various formats. The precision (number of decimal places) of the figures printed out and reproduced in this report reflects the toxicologically relevant precision in all cases. Deviations between manually calculated and computer-determined figures can thus arise due to rounding. A "zero" number of decimal places does not necessarily represent the pertinent measurement precision of the detection system.

Necropsy findings were presented in a 'stochastic' manner, i.e., as being absent or present. No emphasis was made to incorporate raw data addressing subtle color changes or subjective intensity measures. Intensities or colors were only incorporated into the report when required to describe the severity of specific effects.

7.18. Archiving the raw data and the report

The protocol and raw data as well as the final report are archived in locations specified by Bayer AG, in accordance with GLP requirements.

8. RESULTS

8.1. Generation and Characterization of Atmosphere

Technical information concerning generation of test atmospheres is provided in Table 1.

Table 1: Generation and chamber conditions

	Group					
Parameter	1	2	3	4	5	6
Analytical concentration (mg/m³)	0	7.8	15.2	28.6	61.5	80.8
ml N_2/min through reservior	0	0.5	1.0	2.0	4.0	5.0
Mass evaporated during exposure (mg)	-	5.3	10	20	40	60
Nominal concentration (mg/m³)	-	8	15	30	59	89
Total air flow (l/min)	15	15	15	15	15	15
Total air flow exhausted from the chamber (l/min)	13.5	13.5	13.5	13.5	13.5	13.5
Temperature (°C)	22	22	23	23	23	23
Rel. Humidity (%)	12	12	10	8	10	8

- = not applicable

Characterization of the test atmospheres

Analytical and *real-time* monitoring (total hydrocarbon analyser) of the vapor test atmosphere from the mice's breathing zone indicated that the exposure conditions were temporally stable over the exposure period. The analytical recovery of test substance was high when compared to the nominally calculated concentrations. The fluctuation of nominal concentrations were as such that the average recovery was about ≈ 100%.

Temperature data were within the limit suggested by the testing guidelines. The mildly lower humidity values are related to the dry air used to generate the test atmosphere. No attempts were made to humidify the test atmosphere since the physiological measurements performed (*vide infra*) did not indicate changes attributable to low humidity. Futhermore, it was believed that the stability of test atmosphere may be highest when humidity is low.

8.2. Toxicological Results

The results obtained during and after exposures of four male mice per group for 45 minutes to this test substance are summarized in Table 2.

Table 2: Summary of acute inhalation toxicity and physiological data

Group	Analytical Concentration (mg/m³)	Toxicological Result	Onset and Duration of Signs	RR[1] (%)	TV[2] (%)	MV[1] (%)	AT[2] (%)
1	air control	0 / 0 / 4	-	6	2	6	15
2	7.8	0 / 0 / 4	-	13	4	14	76
3	15.2	0 / 0 / 4	-	51	8	49	2194
4	28.6	0 / 4 / 4	1h	60	18	57	2896
5	61.5	0 / 4 / 4	2h	78	50	70	1671
6	80.8	0 / 4 / 4	0d	79	39	77	4480

- not applicable, 0d: exposure day, 1) Relative decrease in per cent relative to the air control period, 2) Relative increase in per cent relative to the air control period (mathematically derived minimum or maximum response)

Values given in the 'Toxicological results' column are:
1st = number of dead animals.
2nd = number of animals with signs after cessation of exposure.
3rd = number of animals exposed.

Observations and signs:

Group 1-3: All mice tolerated the exposure without specific effects.

Group 4: Mild bradypnea following 1 hour of exposure. Thereafter, all animals appeared to be clinically normal.

Group 5: Moderate bradypnea, piloerection, reduced motility following 2 hours of exposure. Thereafter, all animals appeared to be clinically normal.

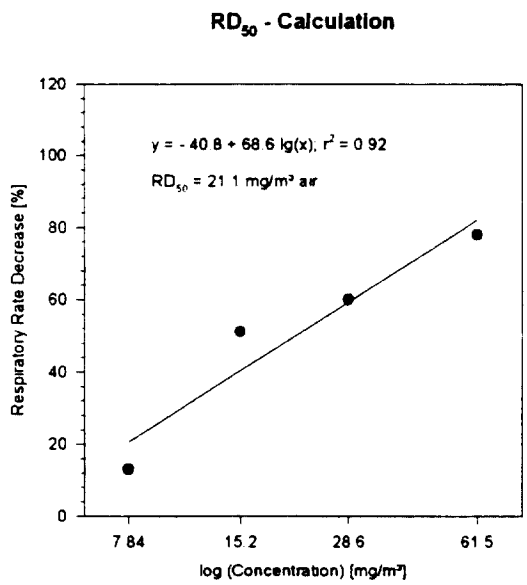
Group 6: Bradypnea, piloerection, reduced motility on the day of exposure. Thereafter, all animals appeared to be clinically normal.

Evaluation of sensory irritation potential:

Individual results as well as summarized data of the respiratory function measurements are provided in the Appendix. Based on the decrease in respiratory rate, an assessment of the 'RD_{50}'-concentration has been made. It should be emphasized that the pattern of changes observed (see Appendix) resemble stereotypic effects occurring following exposure to upper respiratory tract sensory irritants (which is characterized by pause between end of inspiration and beginning of expiration). Taking into account the most prominent changes the mice exposed to 7.8 mg/m³ air showed no remarkable effects. The most prominent changes observed are summarized in Figs. 4 to 7.

Based on the decrease in respiratory rate the RD_{50}-concentration was calculated so as shown in Fig. 3.

Figure 3: RD_{50}-calculation (measurements taken on animals of group 6 not used)



Thus, in mice monitoring of breathing parameters indicated a concentration-dependent decrease in respiratory rate as well as a conspicuous increase in apnea time. Particularly the latter finding indicates that this test substance acts as a lower respiratory tract irritant. Additional experimental evidence would suggest that the applied duration of exposure was sufficient to induce maximum effects on breathing patterns when concentrations were high. However, for lower concentrations effects appear to increase in magnitude with increasing duration of exposure. As depicted in the ensuing Figures, all the changes observed showed an immediate-onset of reversibility after cessation of exposure to the test substance.

Figure 4: Analysis of respiratory minute volume (15-min exposure to air and collection of base-line data, 45-min exposure to the test substance followed by air exposure again)

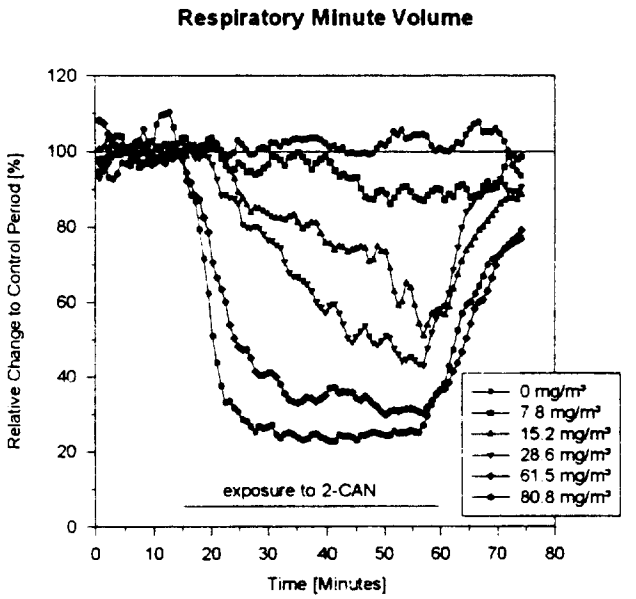


Figure 5: Analysis of respiratory rate (15-min exposure to air and collection of base-line data, 45-min exposure to the test substance followed by air exposure again)

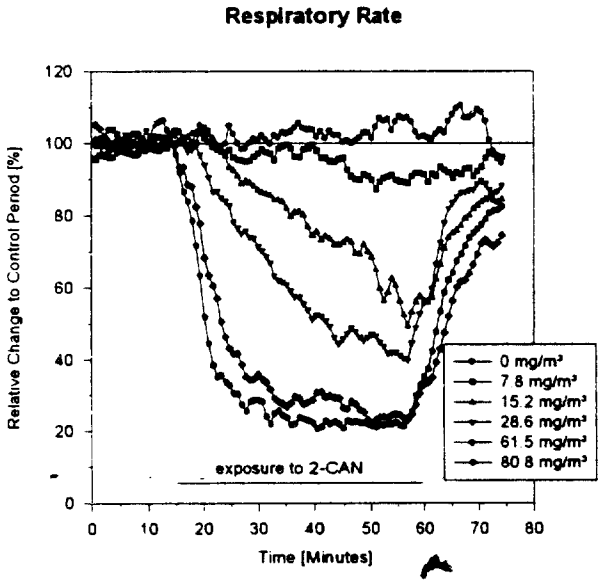


Figure 6: Analysis of the apnea time (15-min exposure to air and collection of base-line data, 45-min exposure to the test substance followed by air exposure again). Legend: see Fig. 7.

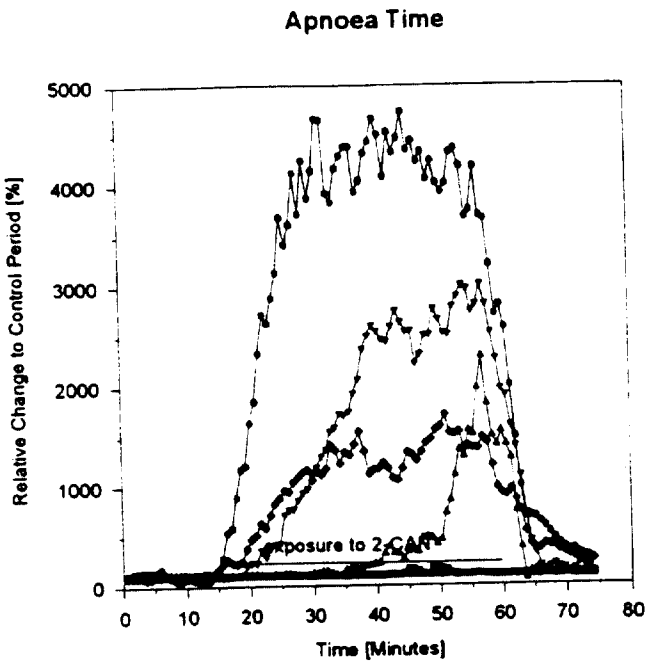
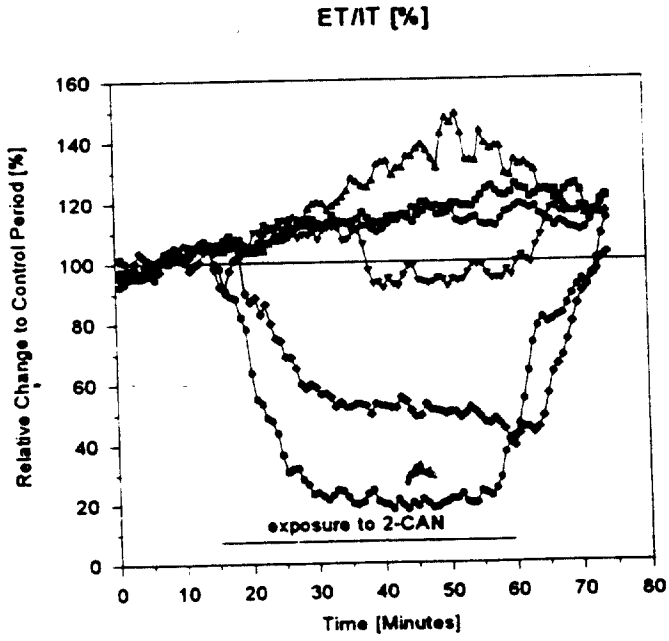


Figure 7: Analysis of the ratio of expiratory and inspiratory times (15-min exposure to air and collection of base-line data, 45-min exposure to the test substance followed by air exposure again). Legend: see Fig. 7.



Body weights:

Individual body weight data as well as the evaluation of data concerning body weight gains are included in the Appendix. Comparison between groups shows that there were no marked effects on body weight gains.

Necropsy:

Individual findings from the gross-pathological examinations are shown in the Appendix. The evaluation of necropsy data did not reveal any concentration-dependent effects related to exposure to the test substance.

9. EVALUATION AND DISCUSSION

A study on the acute respiratory tract sensory irritation potency of 2-CHLOROACRYLONITRILE (2-CAN) in mice has been conducted. The evaporized test substance proved to have a high potency to evoke *upper respiratory tract sensory irritation* at concentrations exceeding 7.8 mg/m³ air. The RD_{50}-concentration was approximately 21 mg 2-CAN/m³ air whereas the calculated RD_0-concentration was 3.9 mg/m³ air.

The evoked changes on breathing patterns resemble those stereotypic changes known to occur following exposure to '*upper respiratory tract sensory irritants*', i.e., a reflexively induced pause between end of inspiration and start of expiration.

10. KEY TO ABBREVIATIONS

Konz.	Concentration
nomin.	Nominal
analyt.	Analytical
Expos.	Exposure
STAND, S, Std, s	Standard deviation
MW/MEANS	Means
F	F-test value (F-ratio)
DF	Degrees of freedom
PROB	Probability
SS	Total sum of squares
MS	Mean squares
TREATMENT	- between the groups
ERROR	- within the groups
TOTAL	- total
Observation No.: n-nn	Body weight gain from date n to date nn

11. REFERENCES

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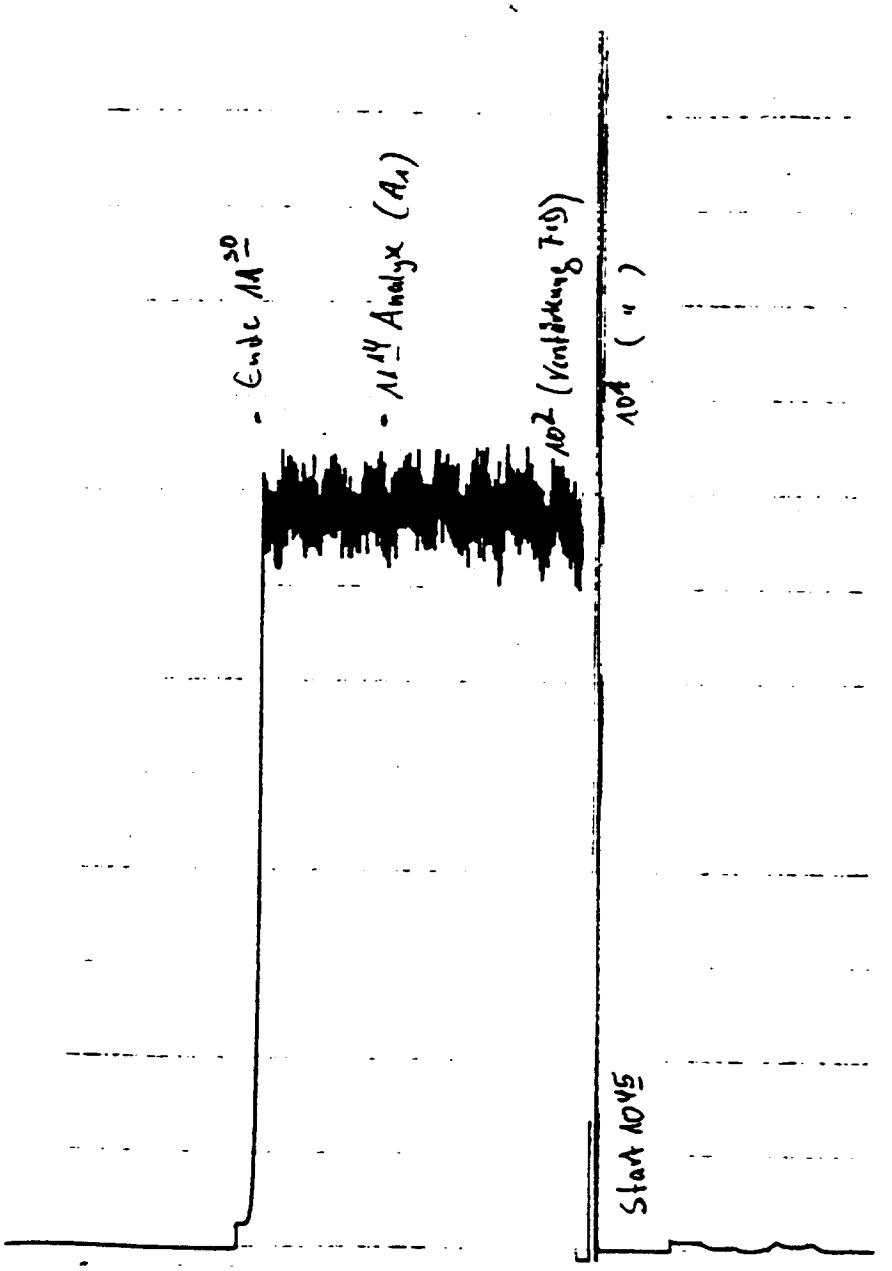
12. APPENDIX

Test compound / concentration of atmospheres

Group	Date	Volume sampled (l)	Animal Nos.	Individual 2-CAN Concentrations (mg/m³)	Average 2-CAN Concentration (mg/m³)
1	14.05.1996	--	1-4	--	--
3	13.05.1996	10	9-12	15.2	15.2
2	15.05.1996	10	17-20	7.8	7.8
4	14.05.1996	10	13-16	28.6	28.6
5	15.05.1996	10	21-24	61.5	61.5
6	13.05.1996	4.4[1]	5-8	80.8	80.8

-- = not determined, sampling flow rate: 0.5 l/min, 1) 0.3 l/min

Monitoring of Atmosphere



Körpergewichte / body weights

I: Expositionstag / exposure day
II: day 1
III: day 3
IV: day 7
No.: Tier-Nummer / animal number

Konzentration/concentration: 0 mg/m³ air

Gruppe/group: 1 - sex: MALE

No.	I	II	III	IV
1	27.0	25.0	28.0	31.0
2	27.0	26.0	28.0	30.0
3	27.0	26.0	27.0	30.0
4	28.0	27.0	30.0	33.0
MEAN	27.3	26.0	28.3	31.0
STD	.5	.8	1.3	1.4

Alle Gewichte in g / all weights in g

Konzentration/concentration: 7.8 mg/m³ air

Gruppe/group: 2 - sex: MALE

No.	I	II	III	IV
17	30.0	28.0	30.0	33.0
18	25.0	25.0	26.0	28.0
19	28.0	28.0	29.0	31.0
20	28.0	27.0	29.0	32.0
MEAN	27.8	27.0	28.5	31.0
STD	2.1	1.4	1.7	2.2

Alle Gewichte in g / all weights in g

Körpergewichte / body weights

II: day 1
III: day 3
IV: day 7
No.: Tier-Nummer / animal number

Konzentration/concentration: 15.2 mg/m³ air

Gruppe/group: 3 - sex: MALE

No.	I	II	III	IV
9	26.0	27.0	28.0	30.0
10	25.0	25.0	27.0	29.0
11	24.0	24.0	26.0	28.0
12	26.0	26.0	27.0	30.0
MEAN	25.3	25.5	27.0	29.3
STD	1.0	1.3	.8	1.0

Alle Gewichte in g / all weights in g

Konzentration/concentration: 28.6 mg/m³ air

Gruppe/group: 4 - sex: MALE

No.	I	II	III	IV
13	26.0	25.0	27.0	26.0
14	26.0	27.0	28.0	29.0
15	27.0	27.0	29.0	30.0
16	27.0	26.0	29.0	30.0
MEAN	26.5	26.3	28.3	28.8
STD	.6	1.0	1.0	1.9

Alle Gewichte in g / all weights in g

Körpergewichte / body weights

II: day 1
III: day 3
IV: day 7
No.: Tier-Nummer / animal number

Konzentration/concentration: 61.5 mg/m³ air
Gruppe/group: 5 - sex: MALE

No.	I	II	III	IV
21	29.0	27.0	29.0	30.0
22	28.0	27.0	28.0	30.0
23	27.0	27.0	29.0	31.0
24	26.0	26.0	27.0	28.0
MEAN	27.5	26.8	28.3	29.8
STD	1.3	.5	1.0	1.3

Alle Gewichte in g / all weights in g

Konzentration/concentration: 80.8 mg/m³ air
Gruppe/group: 6 - sex: MALE

No.	I	II	III	IV
5	26.0	26.0	27.0	30.0
6	28.0	26.0	30.0	32.0
7	26.0	23.0	23.0	27.0
8	26.0	25.0	27.0	29.0
MEAN	26.5	25.0	26.8	29.5
STD	1.0	1.4	2.9	2.1

Alle Gewichte in g / all weights in g

ONE-WAY ANALYSIS OF VARIANCE OF BODY WEIGHT GAIN

ANALYSIS OF B.W. DATA FOR MALE - OBSERVATION-No.: 1- 2

Group-No.: 1 / 0 mg/m³ air

-2.0	-1.0	-1.0	-1.0

MEDIAN= -1.0 MEAN= -1.3 STD= .5

Group-No.: 2 / 7.8 mg/m³ air

-2.0	.0	.0	-1.0

MEDIAN= -.5 MEAN= -.8 STD= 1.0

Group-No.: 3 / 15.2 mg/m³ air

1.0	.0	.0	.0

MEDIAN= .0 MEAN= .3 STD= .5

Group-No.: 4 / 28.6 mg/m³ air

-1.0	1.0	.0	-1.0

MEDIAN= -.5 MEAN= -.3 STD= 1.0

Group-No.: 5 / 61.5 mg/m³ air

-2.0	-1.0	.0	.0

MEDIAN= -.5 MEAN= -.8 STD= 1.0

Group-No.: 6 / 80.8 mg/m³ air

.0	-2.0	-3.0	-1.0

MEDIAN= -1.5 MEAN= -1.5 STD= 1.3

BOX'S TEST FOR HOMOGENEITY OF VARIANCES AT P=.05000 LEVEL

CALCULATED F	D.F.'S	PROBABILITY
.7032	5 & 417.	.6238

HOMOGENEOUS VARIANCES (ONE-TAILED TEST)

ONE-WAY CLASSIFICATION ANALYSIS OF VARIANCE

SOURCE	SS	DF	MS	F	PROB
TREATMENT	8.208	5	1.6417	2.003	.127
ERROR	14.75	18	.81944		
TOTAL	22.96	23			

NO OVERALL SIGNIFICANCE AT 5.% (ONE-TAILED) LEVEL
NO STATISTICAL DIFFERENCE BETWEEN THE GROUPS

ONE-WAY ANALYSIS OF VARIANCE OF BODY WEIGHT GAIN

ANALYSIS OF B.W. DATA FOR MALE - OBSERVATION-No.: 2- 3

Group-No.: 1 / 0 mg/m³ air

3.0	2.0	1.0	3.0

MEDIAN= 2.5 MEAN= 2.3 STD= 1.0

Group-No.: 2 / 7.8 mg/m³ air

2.0	1.0	1.0	2.0

MEDIAN= 1.5 MEAN= 1.5 STD= .6

Group-No.: 3 / 15.2 mg/m³ air

1.0	2.0	2.0	1.0

MEDIAN= 1.5 MEAN= 1.5 STD= .6

Group-No.: 4 / 28.6 mg/m³ air

2.0	1.0	2.0	3.0

MEDIAN= 2.0 MEAN= 2.0 STD= .8

Group-No.: 5 / 61.5 mg/m³ air

2.0	1.0	2.0	1.0

MEDIAN= 1.5 MEAN= 1.5 STD= .6

Group-No.: 6 / 80.8 mg/m³ air

1.0	4.0	.0	2.0

MEDIAN= 1.5 MEAN= 1.8 STD= 1.7

BOX'S TEST FOR HOMOGENEITY OF VARIANCES AT P=.05000 LEVEL

CALCULATED F	D.F.'S	PROBABILITY
1.1692	5 & 417.	.3230

HOMOGENEOUS VARIANCES (ONE-TAILED TEST)

ONE-WAY CLASSIFICATION ANALYSIS OF VARIANCE

SOURCE	SS	DF	MS	F	PROB
TREATMENT	2.000	5	.40000	.436	.818
ERROR	16.50	18	.91667		
TOTAL	18.50	23			

NO OVERALL SIGNIFICANCE AT 5.% (ONE-TAILED) LEVEL
NO STATISTICAL DIFFERENCE BETWEEN THE GROUPS

ONE-WAY ANALYSIS OF VARIANCE OF BODY WEIGHT GAIN

ANALYSIS OF B.W. DATA FOR MALE - OBSERVATION-No.: 3- 4

Group-No.: 1 / 0 mg/m³ air

3.0	2.0	3.0	3.0

MEDIAN= 3.0 MEAN= 2.8 STD= .5

Group-No.: 2 / 7.8 mg/m³ air

3.0	2.0	2.0	3.0

MEDIAN= 2.5 MEAN= 2.5 STD= .6

Group-No.: 3 / 15.2 mg/m³ air

2.0	2.0	2.0	3.0

MEDIAN= 2.0 MEAN= 2.3 STD= .5

Group-No.: 4 / 28.6 mg/m³ air

-1.0	1.0	1.0	1.0

MEDIAN= 1.0 MEAN= .5 STD= 1.0

Group-No.: 5 / 61.5 mg/m³ air

1.0	2.0	2.0	1.0

MEDIAN= 1.5 MEAN= 1.5 STD= .6

Group-No.: 6 / 80.8 mg/m³ air

3.0	2.0	4.0	2.0

MEDIAN= 2.5 MEAN= 2.8 STD= 1.0

BOX'S TEST FOR HOMOGENEITY OF VARIANCES AT P=.05000 LEVEL

CALCULATED F	D.F.'S	PROBABILITY
.5616	5 & 417.	.7321

HOMOGENEOUS VARIANCES (ONE-TAILED TEST)

ONE-WAY CLASSIFICATION ANALYSIS OF VARIANCE

SOURCE	SS	DF	MS	F	PROB
TREATMENT	15.71	5	3.1417	6.114	.002
ERROR	9.250	18	.51389		
TOTAL	24.96	23			

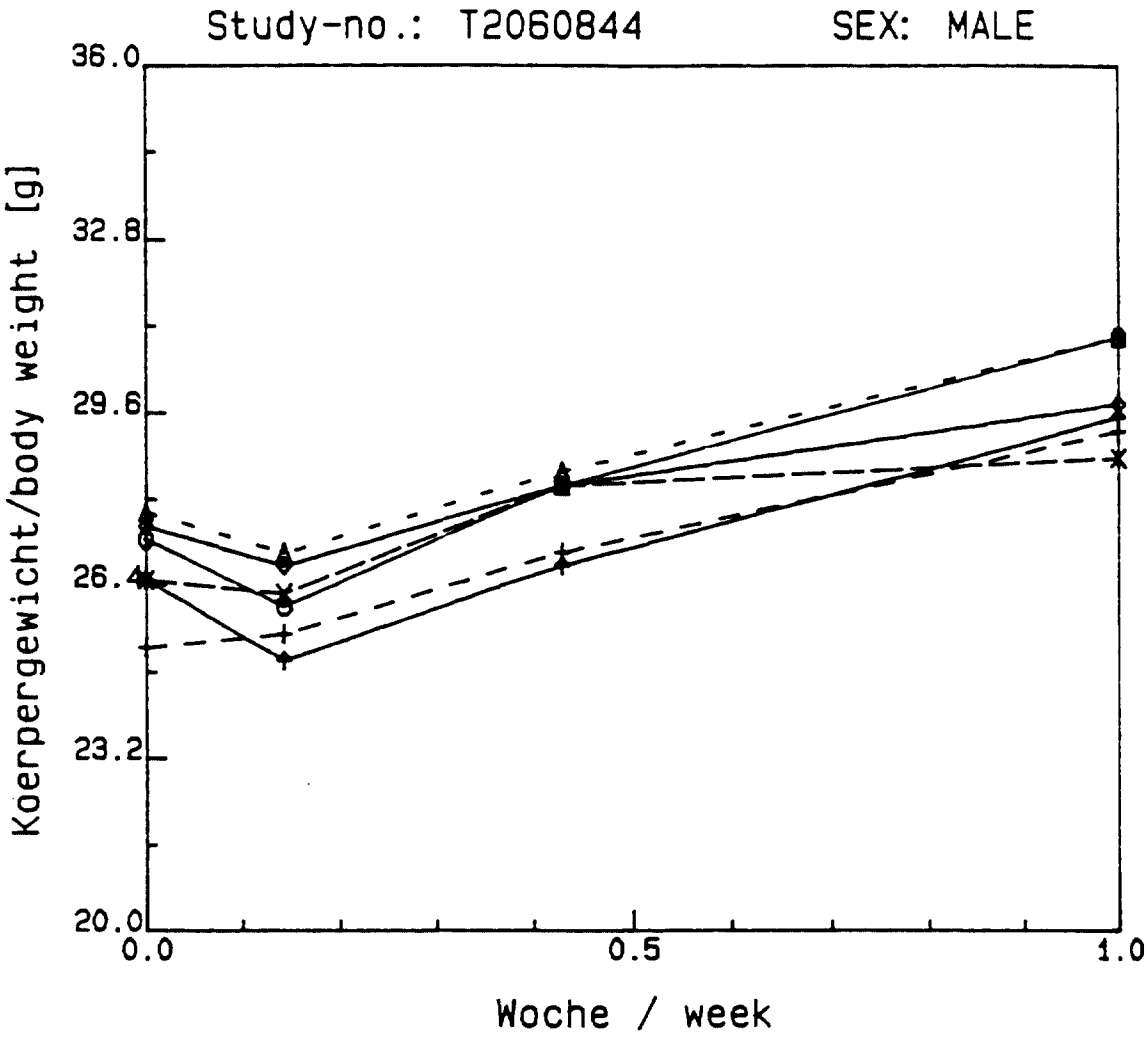
OVERALL SIGNIFICANCE AT 5% (ONE-TAILED) LEVEL

GAMES AND HOWELL MODIFICATION OF
TUKEY-KRAMER'S HONESTLY SIGNIFICANT DIFFERENCE TEST
(WITH THE STUDENTIZED RANGE STATISTIC)

GROUPS COMPARED	CALCULATED TEST VALUE	DEGREES OF FREEDOM	PROBABILITY	CONCLUSION
5. % ONE-TAILED TEST				
1 AND 2	-.93	6	.9812	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
1 AND 2	.93	6	.9812	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
1 AND 3	-2.00	6	.7209	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
1 AND 3	2.00	6	.7209	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
1 AND 4	-5.69	4	.0846	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
1 AND 4	5.69	4	.0846	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
1 AND 5	-4.63	6	.1079	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
1 AND 5	4.63	6	.1079	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
1 AND 6	.00	5	1.0000	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
1 AND 6	.00	5	1.0000	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
2 AND 3	-.93	6	.9812	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
2 AND 3	.93	6	.9812	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
2 AND 4	-4.90	5	.1056	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
2 AND 4	4.90	5	.1056	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
2 AND 5	-3.46	6	.2707	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
2 AND 5	3.46	6	.2707	NOT SIGNIFICANT

5. % ONE-TAILED TEST				
2 AND 6	.63	5	.9963	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
2 AND 6	.63	5	.9963	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
3 AND 4	-4.43	4	.1748	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
3 AND 4	4.43	4	.1748	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
3 AND 5	-2.78	6	.4501	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
3 AND 5	2.78	6	.4501	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
3 AND 6	1.31	5	.9236	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
3 AND 6	1.31	5	.9236	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
4 AND 5	2.45	5	.5668	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
4 AND 5	2.45	5	.5668	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
4 AND 6	4.60	6	.1107	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
4 AND 6	4.60	6	.1107	NOT SIGNIFICANT
5. % ONE-TAILED TEST				
5 AND 6	3.16	5	.3575	NOT SIGNIFICANT
5. % TWO-TAILED TEST				
5 AND 6	3.16	5	.3575	NOT SIGNIFICANT

2-Chloracrylnitril



- ⊙ group: 1
- △ group: 2
- + group: 3
- × group: 4
- ◆ group: 5
- ♦ group: 6

Respiratory function measurements

Group	Date of Exposure	Actual Concentraton (mg/m³)	Randomisation Animal Nos.	Animal-Id in Respiratory Function Measurements[1]
1	14.05.1996	--	1-4	1-4
2	15.05.1996	7.8	17-20	5-8
3	13.05.1996	15.2	9-12	9-12
4	14.05.1996	28.6	13-16	13-16
5	15.05.1996	61.5	21-24	16-20
6	13.05.1996	80.8	5-8	21-24

1) Explanation: The software for respiratory function measurements is programmed in that way that the number of animals of each subsequent group is enumerated in the sequence entered into the computer. For the identification of the interrelationship of the randomisation animal number and animal numbers used in the subsequently reproduced tables the above code must be used for adequate animal assignment.

Summary of Extreme Values

Group Assignment	Mean (abs)	SD (abs)	Min [%]	Max [%]
Peak Inspiratory Flow [ml/sec]				
1	3.7	.2	95.3	122.9
2	4.4	.3	91.4	111.9
3	3.1	.1	76.9	108.7
4	3.8	.2	74.0	106.4
5	2.5	.1	45.4	108.7
6	2.7	.2	68.9	109.4
Peak Expiratory Flow [ml/sec]				
1	2.8	.1	80.4	104.1
2	3.3	.4	77.8	109.8
3	2.4	.2	76.4	109.2
4	2.7	.2	82.2	109.5
5	1.8	.2	52.3	119.0
6	2.5	.2	65.4	116.3
Tidal Volume [ml]				
1	.3	.0	95.9	101.5
2	.3	.0	96.7	103.6
3	.2	.0	94.0	108.4
4	.3	.0	94.5	117.9
5	.2	.0	96.9	150.2
6	.2	.0	91.4	139.4
Minute Volume [ml/min]				
1	72.7	1.9	93.5	107.8
2	82.9	5.0	86.1	104.3
3	57.1	1.9	50.8	103.0
4	66.6	2.6	43.2	103.1
5	48.2	2.3	29.6	107.7
6	54.6	5.2	22.8	111.0
Respiratory Rate [breaths/min]				
1	269.0	7.3	94.4	110.4
2	275.2	11.4	87.2	103.8
3	245.2	5.1	49.4	103.1
4	253.5	9.8	39.9	103.7
5	214.0	7.9	21.8	104.7
6	227.8	10.2	20.8	107.0
Expiratory Time [msec]				
1	115.8	2.6	94.9	112.6
2	114.4	6.5	94.4	122.9
3	135.6	4.5	97.5	173.4
4	131.7	4.3	97.6	134.0
5	137.8	8.9	88.2	154.1
6	125.3	8.1	35.3	126.0

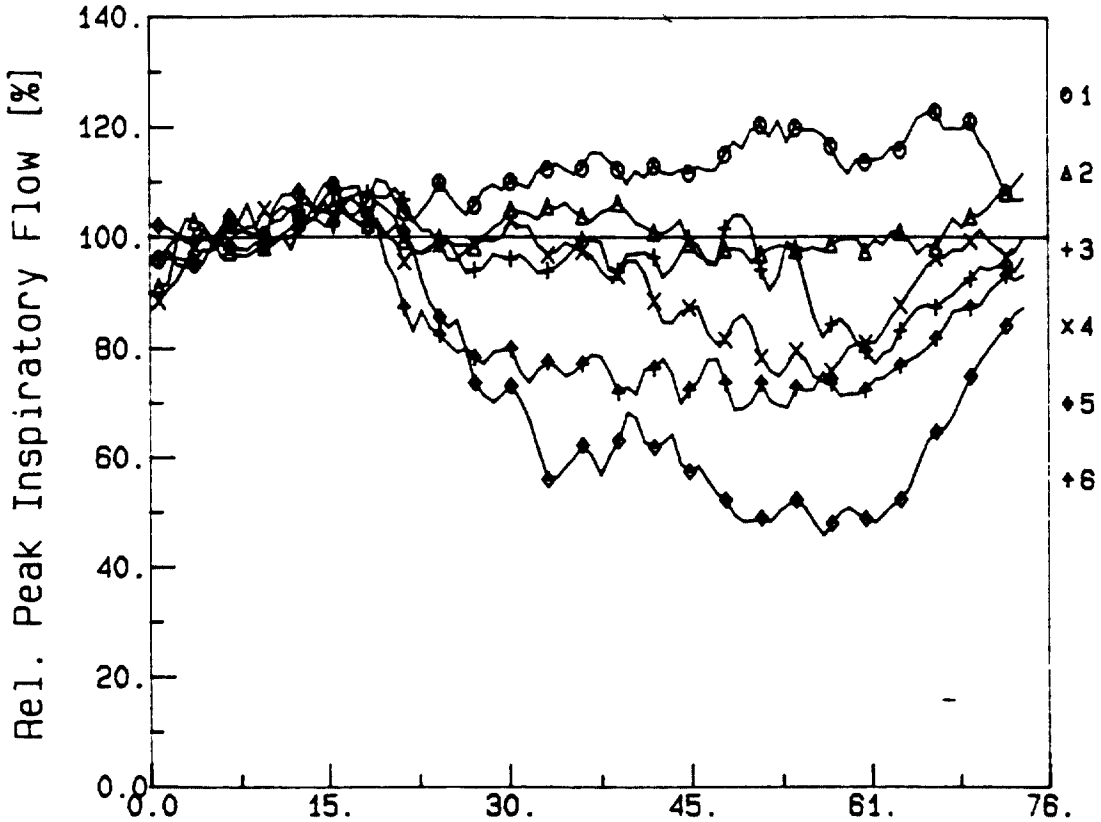
Summary of Extreme Values

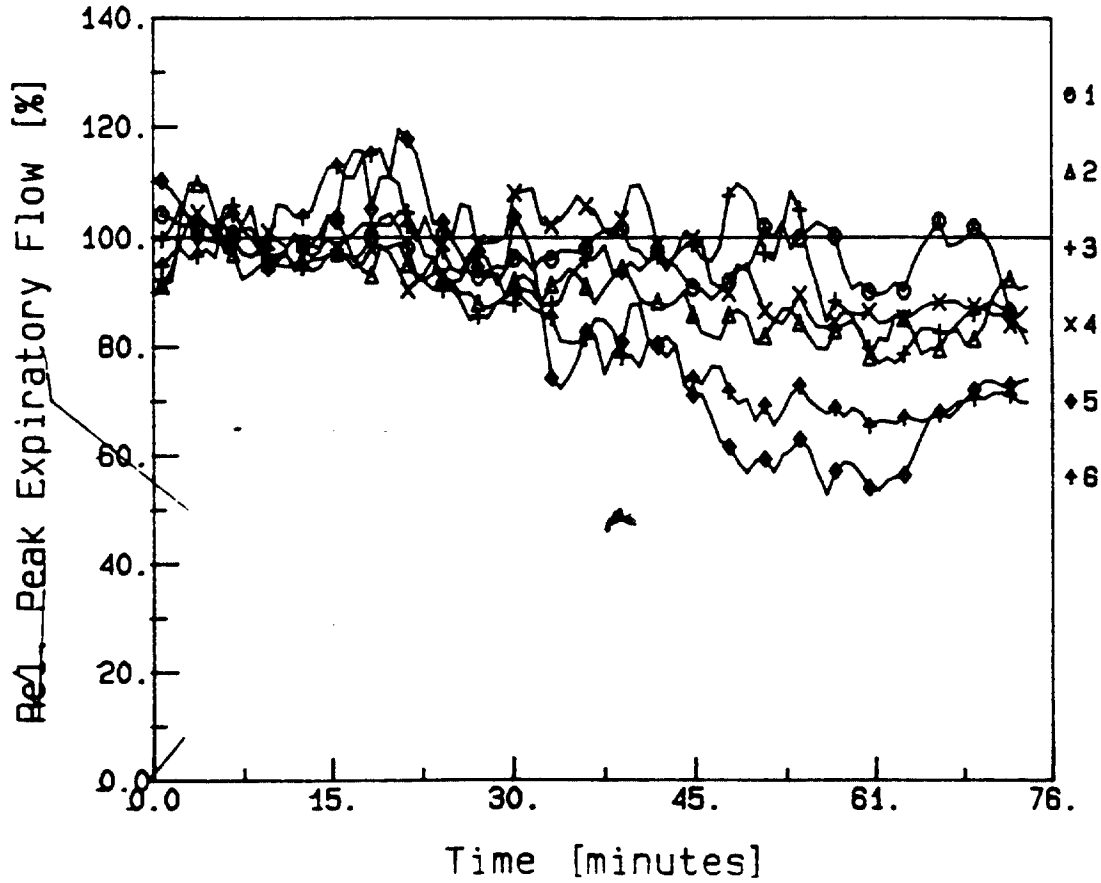
Group Assignment	Mean (abs)	SD (abs)	Min [%]	Max [%]
Inspiratory Time [msec]				
1	105.6	5.8	84.0	105.1
2	106.1	3.5	91.0	105.4
3	111.6	3.1	95.2	144.6
4	104.1	6.0	94.3	228.0
5	134.3	5.2	96.0	608.3
6	124.0	5.9	92.2	509.9
Apnea Time [msec]				
1	6.4	.5	92.1	114.5
2	6.3	.5	93.9	175.6
3	8.3	1.9	56.8	2293.7
4	7.4	.6	54.7	2996.2
5	22.5	6.8	73.8	1771.1
6	20.8	14.4	35.7	4580.4
Apnea/Logging Period [#]				
1	3.0	1.5	42.8	200.2
2	3.6	1.9	29.8	153.0
3	3.7	2.3	48.3	648.7
4	3.8	1.2	33.0	986.1
5	11.1	3.9	71.2	242.8
6	9.6	5.9	37.9	468.3
ET/IT				
1	1.1	.1	92.6	122.0
2	1.1	.0	95.4	125.8
3	1.2	.1	95.8	149.1
4	1.3	.1	91.8	124.7
5	1.1	.1	38.7	105.5
6	1.0	.1	17.9	114.0
PEF*(IT+ET)/TV [x 1/1000]				
1	2.2	.1	85.5	106.6
2	2.3	.1	88.1	105.3
3	2.4	.1	96.9	147.1
4	2.3	.1	90.8	145.8
5	2.1	.1	94.3	217.8
6	2.6	.2	79.8	127.9
PIF/PEF				
1	1.3	.1	91.6	135.0
2	1.3	.1	94.2	129.2
3	1.3	.1	93.9	117.7
4	1.4	.1	86.3	123.7
5	1.4	.1	67.7	126.7
6	1.1	.0	82.3	128.8

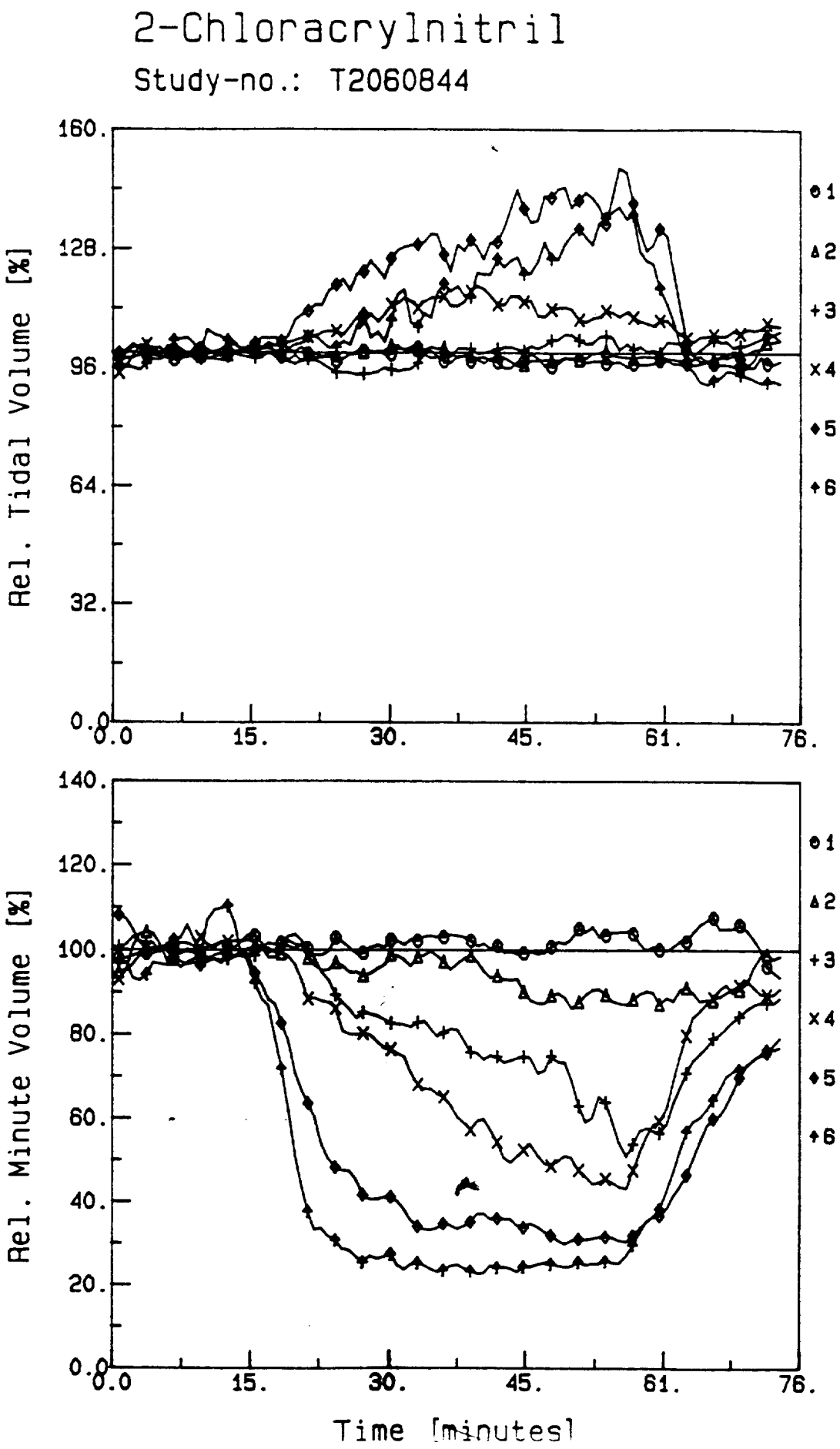
abs: absolute (non-smoothed) data for adaptation period
rel: relative change to adaptation period [%], relative data were smoothed prior to calculations

2-Chloracrylnitril

Study-no.: T2060844

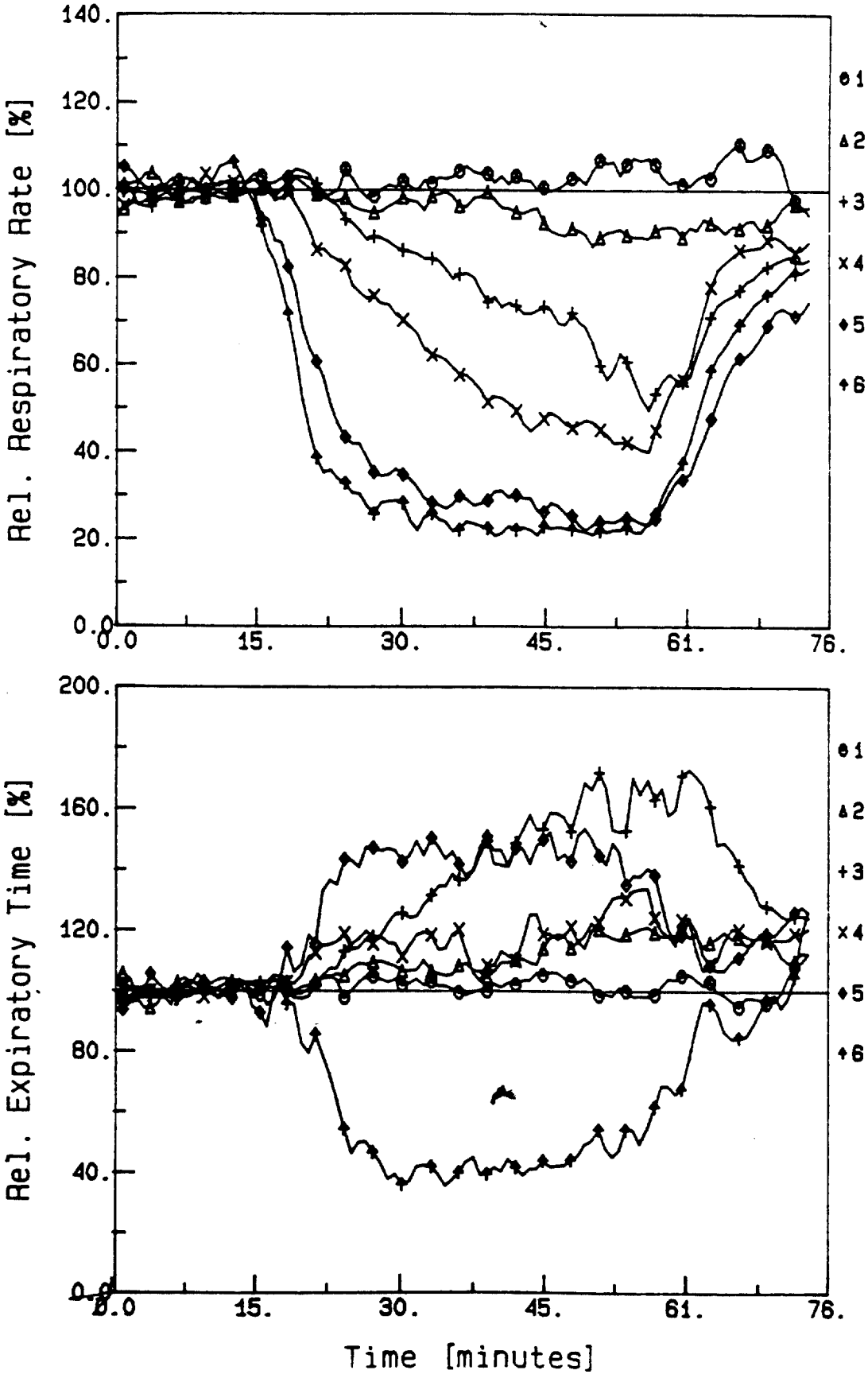





2-Chloracrylnitril
Study-no.: T2060844
Rel. Tidal Volume [%]
160.
128.
96.
64.
32.
0.0
0.0
15.
30.
45.
61.
76.
1
2
3
4
5
6
Rel. Minute Volume [%]
140.
120.
100.
80.
60.
40.
20.
0.0
Time [minutes]

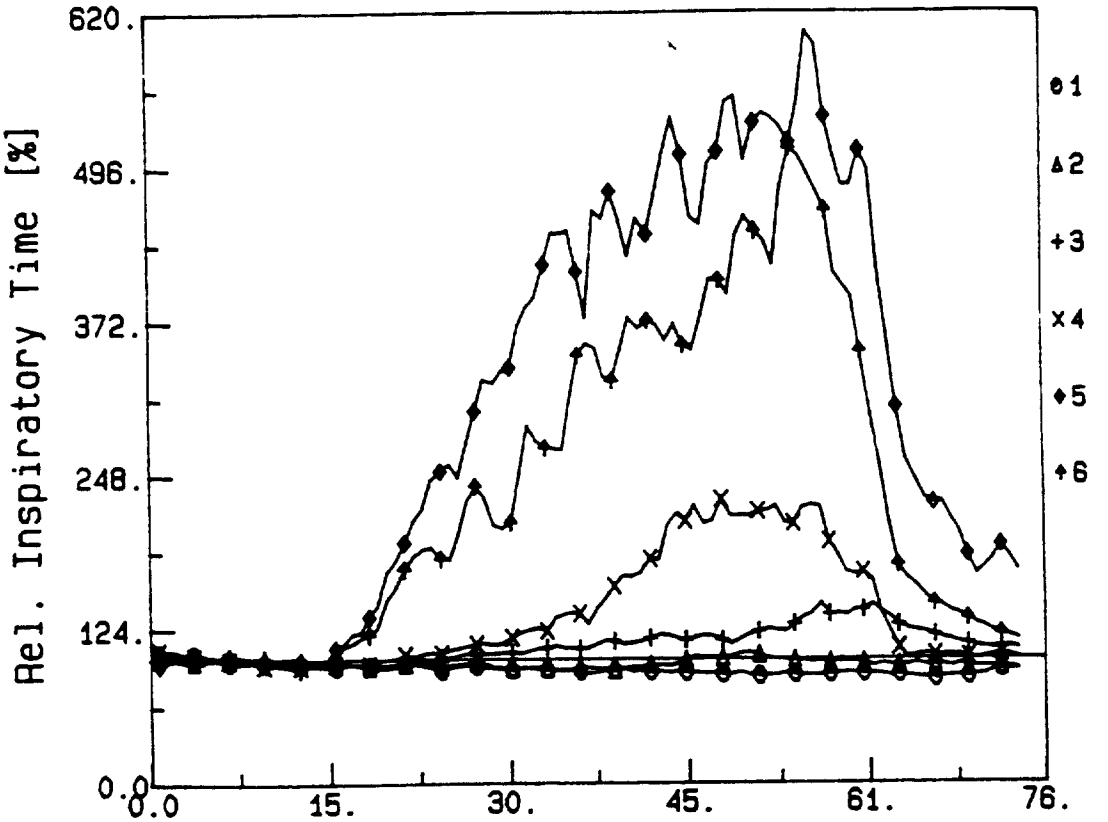
2-Chloracrylnitril

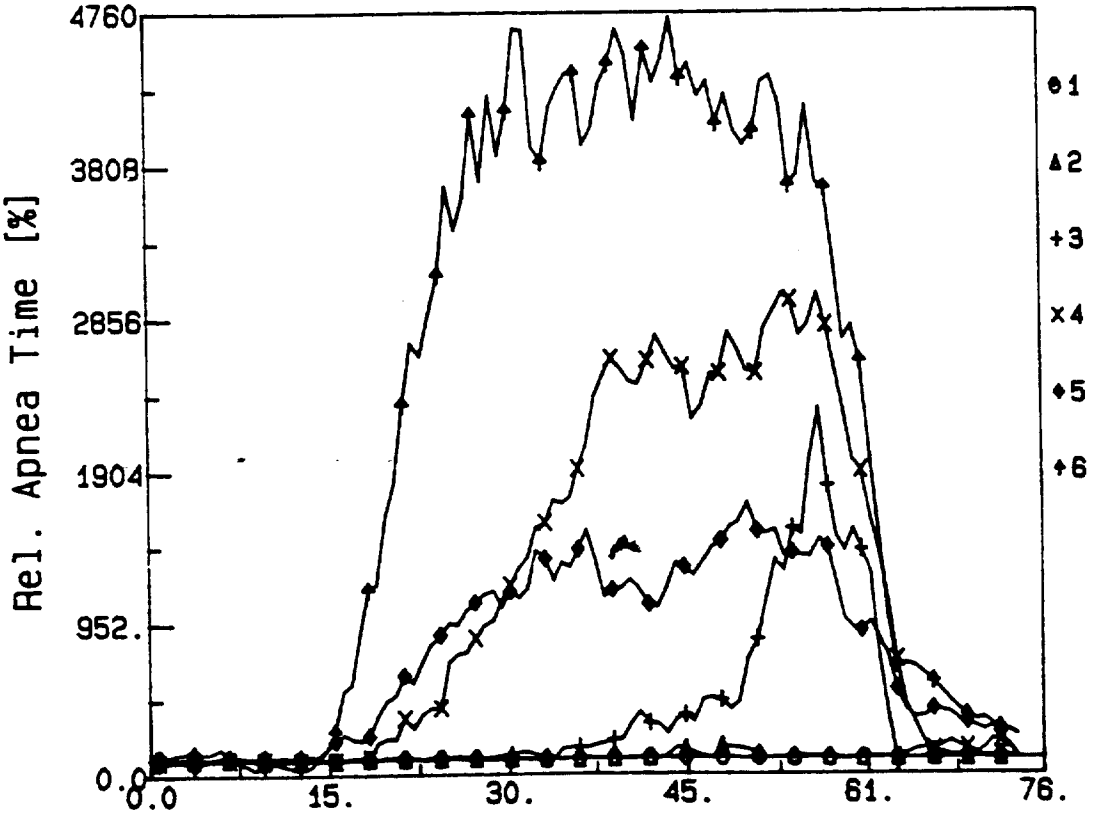
Study-no.: T2060844

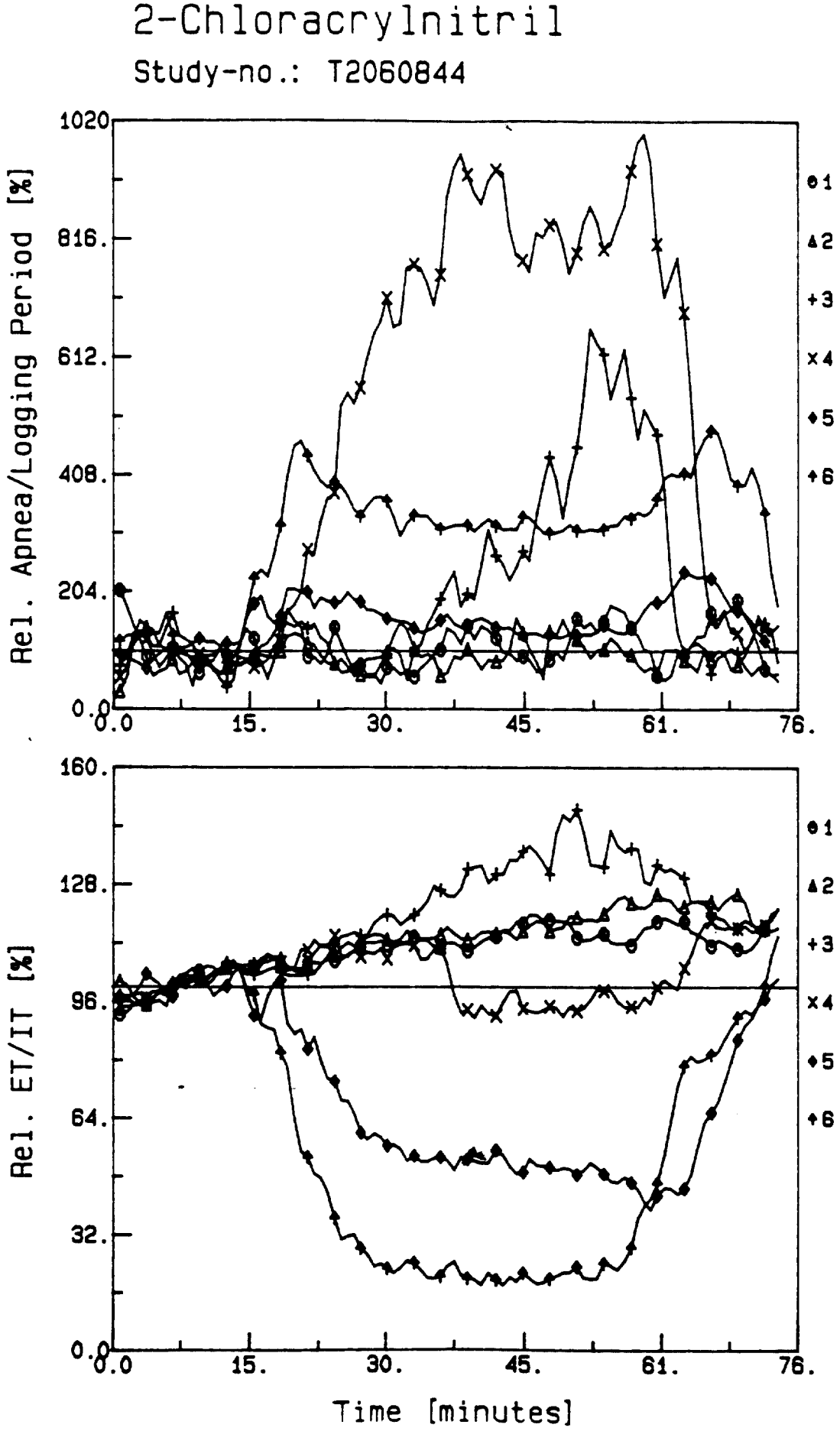


2-Chloracrylnitril

Study-no.: T2060844

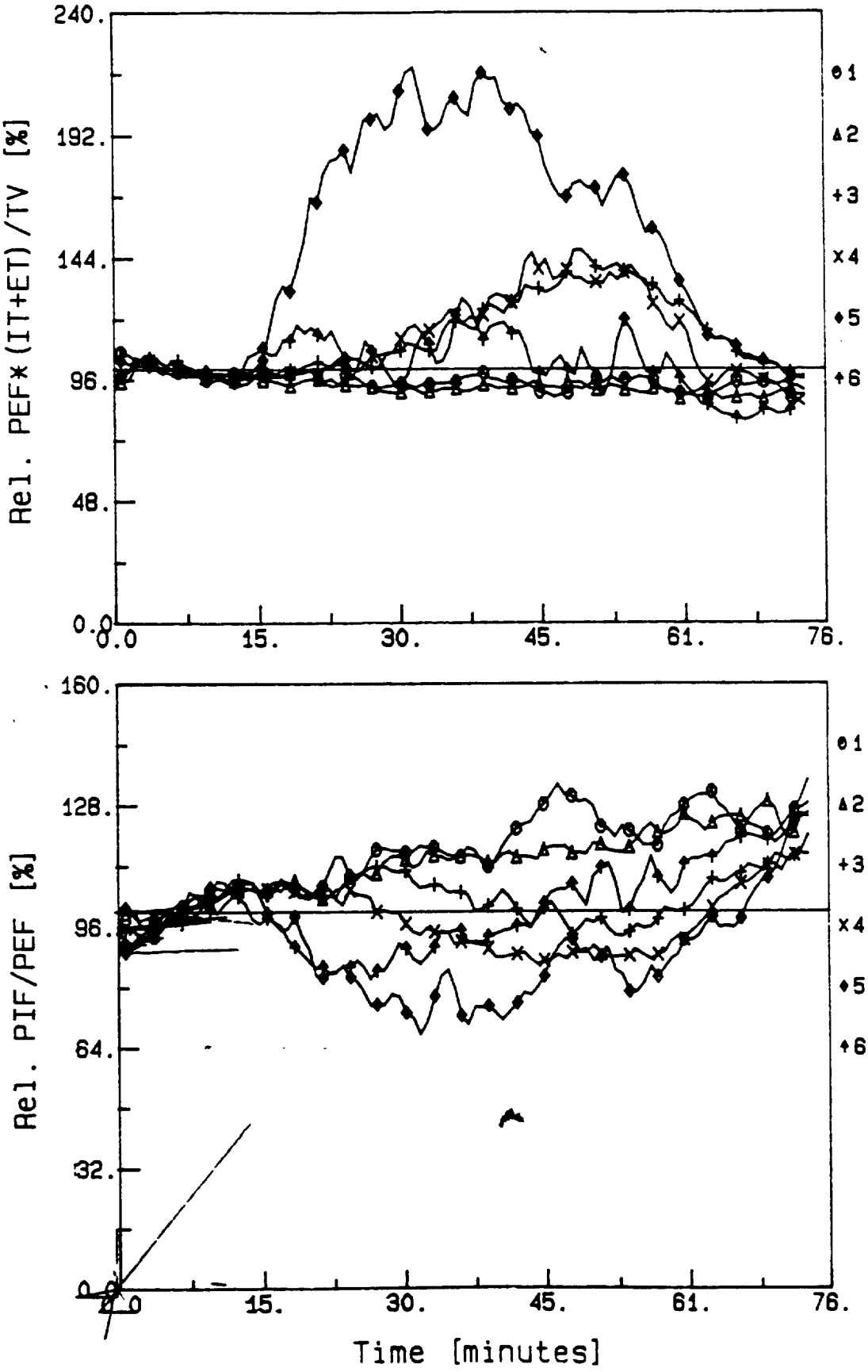





2-Chloracrylnitril
Study-no.: T2060844
Rel. Apnea/Logging Period [%]
1020
816.
612.
408.
204.
0.0
0.0
15.
30.
45.
61.
76.
1
2
3
4
5
6
Rel. ET/IT [%]
160.
128.
96.
64.
32.
0.0
Time [minutes]

2-Chloracrylnitril

Study-no.: T2060844



2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	2	3	4	3
1.50	A	2	3	4	3
2.25	A	2	3	4	3
3.00	A	2	3	3	3
3.75	A	2	3	4	3
4.50	A	2	3	4	3
5.25	A	2	3	5	3
6.00	A	2	4	4	3
6.75	A	2	3	4	3
7.50	A	2	3	4	3
8.25	A	3	3	3	3
9.00	A	2	3	4	3
9.75	A	2	3	4	3
10.50	A	3	4	4	3
11.25	A	2	3	4	3
12.00	A	2	3	4	4
12.75	A	3	4	4	3
13.50	A	2	4	4	3
14.25	A	3	4	4	4
15.00	A	3	3	4	4
15.75	C	3	3	4	3
16.50	C	3	4	4	3
17.25	C	3	4	4	3
18.00	C	2	4	5	3
18.75	C	3	4	4	3
19.50	C	2	4	4	4
20.25	C	3	3	4	4
21.00	C	2	3	3	3
21.75	C	3	4	4	3
22.50	C	3	4	4	3
23.25	C	3	4	4	4
24.00	C	3	4	3	4
24.75	C	3	4	4	3
25.50	C	2	3	4	3
26.25	C	3	3	4	3
27.00	C	3	3	4	3
27.75	C	3	3	4	4
28.50	C	3	3	5	4
29.25	C	3	3	3	4
30.00	C	3	3	3	4
30.75	C	3	4	4	4

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	3	4	4	4
32.25	C	2	4	4	3
33.00	C	3	4	4	4
33.75	C	3	4	4	4
34.50	C	3	4	5	3
35.25	C	3	4	4	4
36.00	C	3	4	4	4
36.75	C	3	5	4	3
37.50	C	3	5	4	3
38.25	C	3	4	4	4
39.00	C	3	4	4	3
39.75	C	3	4	4	3
40.50	C	3	4	4	3
41.25	C	4	4	4	4
42.00	C	3	4	4	3
42.75	C	3	3	5	4
43.50	C	3	4	4	4
44.25	C	3	4	4	4
45.00	C	3	4	4	3
45.75	C	3	4	4	3
46.50	C	3	4	5	3
47.25	C	3	4	4	3
48.00	C	3	4	4	3
48.75	C	3	4	5	3
49.50	C	3	4	4	3
50.25	C	3	4	5	3
51.00	C	3	4	5	3
51.75	C	3	5	4	3
52.50	C	3	5	4	4
53.25	C	3	5	5	4
54.00	C	3	4	5	3
54.75	C	3	6	6	3
55.50	C	3	5	5	4
56.25	C	3	5	4	3
57.00	C	3	6	4	4
57.75	C	3	5	4	3
58.50	C	3	5	4	3
59.25	C	3	4	4	3
60.00	C	3	5	4	3
60.75	C	3	4	4	3
61.50	R	3	4	4	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	3	4	4	3
63.00	R	3	4	4	3
63.75	R	3	4	4	3
64.50	R	3	4	4	3
65.25	R	3	5	4	4
66.00	R	3	4	4	4
66.75	R	3	5	4	4
67.50	R	3	4	5	3
68.25	R	3	5	5	4
69.00	R	3	5	5	4
69.75	R	3	5	4	3
70.50	R	3	4	4	3
71.25	R	3	5	3	3
72.00	R	3	5	3	4
72.75	R	3	4	3	3
73.50	R	3	4	3	4
74.25	R	3	4	3	4

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	2	3	4	6
1.50	A	2	4	3	6
2.25	A	2	4	6	6
3.00	A	2	4	5	6
3.75	A	2	4	5	6
4.50	A	2	4	6	5
5.25	A	2	3	5	5
6.00	A	1	4	5	5
6.75	A	2	4	4	5
7.50	A	1	4	5	4
8.25	A	2	3	4	5
9.00	A	1	4	5	5
9.75	A	2	4	5	5
10.50	A	2	4	5	5
11.25	A	1	4	5	5
12.00	A	2	4	5	6
12.75	A	2	4	5	5
13.50	A	1	4	5	6
14.25	A	1	4	5	6
15.00	C	1	4	5	6
15.75	C	2	3	5	6
16.50	C	2	4	5	6
17.25	C	2	4	5	6
18.00	C	2	3	6	6
18.75	C	2	4	5	6
19.50	C	2	4	5	7
20.25	C	2	3	5	6
21.00	C	2	3	5	6
21.75	C	2	3	5	5
22.50	C	2	4	5	6
23.25	C	2	3	5	5
24.00	C	2	3	6	5
24.75	C	3	3	6	5
25.50	C	2	3	5	5
26.25	C	2	3	5	5
27.00	C	2	3	5	5
27.75	C	2	3	5	5
28.50	C	2	3	6	6
29.25	C	2	3	5	6
30.00	C	2	3	5	6
30.75	C	2	4	5	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	2	3	5	5
32.25	C	2	3	6	6
33.00	C	2	3	6	6
33.75	C	2	3	6	6
34.50	C	2	3	5	6
35.25	C	2	3	6	6
36.00	C	2	3	5	6
36.75	C	2	3	5	6
37.50	C	2	3	6	6
38.25	C	2	3	6	6
39.00	C	2	3	5	6
39.75	C	3	3	5	6
40.50	C	2	3	5	6
41.25	C	2	3	6	5
42.00	C	2	3	6	6
42.75	C	2	3	5	6
43.50	C	2	3	6	6
44.25	C	2	4	5	6
45.00	C	2	3	6	5
45.75	C	2	3	5	5
46.50	C	2	3	5	5
47.25	C	2	3	5	5
48.00	C	2	3	5	5
48.75	C	2	3	6	5
49.50	C	1	3	5	5
50.25	C	1	4	5	5
51.00	C	1	3	5	5
51.75	C	1	3	6	6
52.50	C	2	3	6	5
53.25	C	2	3	5	6
54.00	C	2	3	5	5
54.75	C	2	3	5	5
55.50	C	2	3	5	6
56.25	C	2	3	5	6
57.00	C	1	3	5	5
57.75	C	2	3	5	6
58.50	C	2	3	5	6
59.25	C	2	3	5	5
60.00	C	2	4	5	5
60.75	R	2	3	5	5
61.50	R	2	4	6	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	1	3	5	5
63.00	R	2	3	6	6
63.75	R	2	3	5	6
64.50	R	2	4	4	5
65.25	R	2	4	4	5
66.00	R	2	4	5	5
66.75	R	2	3	5	5
67.50	R	2	4	5	5
68.25	R	2	3	5	6
69.00	R	1	4	5	5
69.75	R	2	3	6	5
70.50	R	2	3	5	6
71.25	R	2	4	5	6
72.00	R	2	4	5	6
72.75	R	2	3	5	6
73.50	R	2	4	6	6
74.25	R	2	4	6	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	2	3	2	2
1.50	A	2	3	2	2
2.25	A	2	3	2	2
3.00	A	2	3	2	2
3.75	A	3	4	2	2
4.50	A	3	4	2	2
5.25	A	3	4	2	2
6.00	A	3	4	2	3
6.75	A	3	3	2	3
7.50	A	3	3	2	2
8.25	A	3	3	2	3
9.00	A	3	3	2	2
9.75	A	3	3	2	2
10.50	A	3	3	2	2
11.25	A	3	3	2	3
12.00	A	3	3	2	2
12.75	A	3	3	2	2
13.50	A	3	4	2	2
14.25	A	3	3	2	2
15.00	A	3	3	2	2
15.75	C	3	3	2	2
16.50	C	3	4	2	2
17.25	C	3	3	2	2
18.00	C	3	4	2	2
18.75	C	3	4	2	3
19.50	C	3	4	2	3
20.25	C	3	4	2	3
21.00	C	3	5	2	3
21.75	C	3	4	2	2
22.50	C	3	4	2	2
23.25	C	3	4	2	2
24.00	C	3	3	2	3
24.75	C	3	3	2	2
25.50	C	3	3	2	2
26.25	C	3	3	2	2
27.00	C	3	3	2	2
27.75	C	3	3	2	2
28.50	C	3	3	2	2
29.25	C	3	3	2	2
30.00	C	3	3	2	2
30.75	C	3	3	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	3	3	2	2
32.25	C	3	3	2	2
33.00	C	3	2	2	2
33.75	C	3	3	2	2
34.50	C	3	3	2	2
35.25	C	3	3	2	2
36.00	C	3	4	2	2
36.75	C	3	4	2	2
37.50	C	2	4	2	2
38.25	C	3	4	2	2
39.00	C	3	3	2	2
39.75	C	3	3	2	3
40.50	C	3	3	2	3
41.25	C	3	3	2	3
42.00	C	3	3	2	2
42.75	C	3	3	1	2
43.50	C	3	3	2	1
44.25	C	3	3	2	1
45.00	C	3	2	2	1
45.75	C	3	4	2	1
46.50	C	3	4	2	1
47.25	C	3	3	2	2
48.00	C	3	4	2	2
48.75	C	3	5	3	3
49.50	C	3	3	2	3
50.25	C	3	2	1	3
51.00	C	3	3	1	3
51.75	C	3	3	2	2
52.50	C	3	3	2	2
53.25	C	3	4	2	2
54.00	C	3	5	2	1
54.75	C	3	4	2	1
55.50	C	3	3	2	1
56.25	C	3	3	2	2
57.00	C	3	2	2	1
57.75	C	3	3	2	3
58.50	C	3	3	1	2
59.25	C	3	2	1	1
60.00	C	3	2	1	1
60.75	C	3	2	2	1
61.50	R	3	2	1	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	3	2	1	1
63.00	R	3	3	1	1
63.75	R	3	2	2	1
64.50	R	4	2	2	1
65.25	R	3	2	2	1
66.00	R	3	2	2	1
66.75	R	3	2	2	1
67.50	R	3	3	2	1
68.25	R	3	3	2	2
69.00	R	3	3	2	2
69.75	R	4	2	2	2
70.50	R	3	3	2	2
71.25	R	3	3	2	2
72.00	R	3	2	2	2
72.75	R	3	2	2	2
73.50	R	3	2	2	2
74.25	R	3	3	2	2
75.00	R	3	2	2	2
75.75	R	3	2	2	2
76.50	R	3	2	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	2	3	5	1
1.50	A	2	3	5	1
2.25	A	3	3	5	1
3.00	A	4	3	5	1
3.75	A	4	3	5	1
4.50	A	4	3	5	1
5.25	A	4	3	5	1
6.00	A	4	3	4	2
6.75	A	4	3	5	2
7.50	A	3	3	5	2
8.25	A	3	4	5	2
9.00	A	3	4	5	1
9.75	A	4	4	6	1
10.50	A	3	3	5	2
11.25	A	3	4	5	1
12.00	A	3	4	5	2
12.75	A	3	4	5	2
13.50	A	3	5	5	2
14.25	A	3	4	4	2
15.00	A	4	4	5	2
15.75	C	4	4	5	2
16.50	C	4	4	5	2
17.25	C	3	4	5	1
18.00	C	3	4	5	2
18.75	C	3	4	5	2
19.50	C	3	4	5	2
20.25	C	3	4	4	2
21.00	C	3	4	5	2
21.75	C	3	4	5	2
22.50	C	4	4	5	2
23.25	C	3	4	4	2
24.00	C	3	4	4	2
24.75	C	3	4	5	2
25.50	C	2	4	4	2
26.25	C	3	3	5	1
27.00	C	2	4	4	2
27.75	C	2	4	5	1
28.50	C	2	3	5	2
29.25	C	2	4	5	2
30.00	C	3	4	5	2
30.75	C	3	4	5	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	2	3	5	3
32.25	C	3	3	5	2
33.00	C	2	4	5	2
33.75	C	3	4	4	2
34.50	C	2	4	5	2
35.25	C	2	4	5	3
36.00	C	2	4	4	2
36.75	C	2	3	4	2
37.50	C	2	3	5	3
38.25	C	2	3	5	2
39.00	C	3	3	5	2
39.75	C	2	4	5	2
40.50	C	3	3	5	3
41.25	C	3	3	5	3
42.00	C	3	4	4	2
42.75	C	2	3	3	2
43.50	C	3	3	3	2
44.25	C	2	4	3	3
45.00	C	2	4	3	2
45.75	C	1	3	3	2
46.50	C	1	3	3	3
47.25	C	1	3	3	2
48.00	C	2	3	5	2
48.75	C	1	3	5	2
49.50	C	1	3	5	2
50.25	C	1	3	5	2
51.00	C	1	3	3	2
51.75	C	1	3	3	3
52.50	C	1	3	3	4
53.25	C	2	3	3	3
54.00	C	1	3	3	2
54.75	C	2	3	3	2
55.50	C	1	3	3	2
56.25	C	1	3	2	2
57.00	C	1	3	3	2
57.75	C	1	3	4	2
58.50	C	1	3	4	2
59.25	C	1	3	3	2
60.00	C	1	3	3	2
60.75	C	1	3	3	3
61.50	R	1	3	3	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	1	3	3	3
63.00	R	1	3	4	3
63.75	R	2	3	4	3
64.50	R	2	3	4	3
65.25	R	2	3	5	3
66.00	R	2	3	5	3
66.75	R	2	3	5	3
67.50	R	2	3	5	3
68.25	R	2	4	5	3
69.00	R	2	3	5	2
69.75	R	2	4	5	3
70.50	R	2	4	5	3
71.25	R	2	3	4	3
72.00	R	2	3	5	3
72.75	R	2	4	4	3
73.50	R	2	4	5	3
74.25	R	2	4	5	3
75.00	R	2	3	4	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	1	3	2	2
1.50	A	1	3	2	2
2.25	A	1	2	2	2
3.00	A	1	3	2	2
3.75	A	1	3	2	2
4.50	A	2	3	2	3
5.25	A	1	3	2	2
6.00	A	1	2	2	3
6.75	A	1	2	2	3
7.50	A	1	2	2	3
8.25	A	1	2	2	3
9.00	A	1	2	2	2
9.75	A	1	2	2	2
10.50	A	1	2	2	3
11.25	A	1	2	2	2
12.00	A	1	2	2	3
12.75	A	1	2	2	2
13.50	A	1	2	2	3
14.25	A	1	2	2	3
15.00	A	3	2	2	2
15.75	C	1	2	2	2
16.50	C	2	2	3	3
17.25	C	1	2	2	3
18.00	C	1	2	2	3
18.75	C	1	2	2	2
19.50	C	1	2	2	3
20.25	C	2	3	2	3
21.00	C	2	3	2	3
21.75	C	2	2	1	4
22.50	C	2	1	1	3
23.25	C	2	2	1	3
24.00	C	1	2	1	3
24.75	C	2	2	1	3
25.50	C	1	1	0	3
26.25	C	2	1	1	2
27.00	C	1	1	0	2
27.75	C	1	1	0	2
28.50	C	2	1	0	3
29.25	C	2	2	0	2
30.00	C	2	2	0	2
30.75	C	1	2	0	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	1	2	0	2
32.25	C	1	2	0	2
33.00	C	1	1	0	1
33.75	C	1	1	0	1
34.50	C	1	1	0	2
35.25	C	1	1	0	1
36.00	C	1	2	0	1
36.75	C	1	2	0	1
37.50	C	1	1	0	1
38.25	C	1	1	0	1
39.00	C	1	2	0	2
39.75	C	1	2	0	1
40.50	C	1	2	1	1
41.25	C	1	2	0	1
42.00	C	1	1	0	1
42.75	C	1	2	0	1
43.50	C	1	3	0	1
44.25	C	1	3	0	1
45.00	C	1	1	0	1
45.75	C	1	1	0	2
46.50	C	2	1	0	2
47.25	C	1	1	0	1
48.00	C	1	1	0	1
48.75	C	1	1	0	1
49.50	C	1	1	0	1
50.25	C	1	1	0	1
51.00	C	1	1	0	1
51.75	C	1	1	1	1
52.50	C	1	1	0	1
53.25	C	1	2	0	1
54.00	C	1	1	0	1
54.75	C	1	1	0	0
55.50	C	1	1	0	1
56.25	C	1	1	0	1
57.00	C	1	1	0	0
57.75	C	1	2	0	1
58.50	C	1	1	0	1
59.25	C	1	1	0	1
60.00	C	1	1	0	1
60.75	C	1	1	0	0
61.50	R	1	1	0	0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	1	1	0	1
63.00	R	1	1	0	1
63.75	R	1	1	1	1
64.50	R	0	1	1	1
65.25	R	0	2	1	1
66.00	R	1	2	1	1
66.75	R	1	2	1	1
67.50	R	1	1	1	1
68.25	R	1	2	1	1
69.00	R	1	2	1	1
69.75	R	1	2	1	1
70.50	R	0	3	1	2
71.25	R	0	3	1	2
72.00	R	0	3	1	2
72.75	R	0	3	1	2
73.50	R	0	3	1	2
74.25	R	0	3	1	2
75.00	R	0	3	1	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	2	2	3	2
1.50	A	2	2	3	2
2.25	A	2	2	2	1
3.00	A	2	2	3	1
3.75	A	2	2	3	2
4.50	A	2	2	3	1
5.25	A	2	2	3	1
6.00	A	2	2	3	2
6.75	A	2	2	2	2
7.50	A	2	2	2	2
8.25	A	2	3	2	3
9.00	A	2	2	2	2
9.75	A	2	2	2	2
10.50	A	2	2	3	4
11.25	A	2	2	3	3
12.00	A	2	2	2	2
12.75	A	2	2	3	2
13.50	A	2	2	3	2
14.25	A	2	2	3	2
15.00	C	2	2	3	3
15.75	C	2	2	3	3
16.50	C	2	2	3	3
17.25	C	2	2	2	4
18.00	C	2	2	2	4
18.75	C	2	2	3	4
19.50	C	2	1	2	3
20.25	C	2	2	1	3
21.00	C	2	2	2	3
21.75	C	1	2	2	2
22.50	C	2	2	1	2
23.25	C	2	1	3	2
24.00	C	2	1	2	1
24.75	C	1	2	2	1
25.50	C	1	1	3	1
26.25	C	2	1	2	2
27.00	C	1	1	3	2
27.75	C	1	1	1	3
28.50	C	1	2	2	2
29.25	C	1	2	2	2
30.00	C	2	1	2	1
30.75	C	2	1	2	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	1	1	1	2
32.25	C	2	1	1	1
33.00	C	1	1	3	2
33.75	C	1	1	2	2
34.50	C	1	2	2	2
35.25	C	1	2	1	1
36.00	C	1	2	2	1
36.75	C	2	2	1	2
37.50	C	2	1	1	2
38.25	C	1	2	1	2
39.00	C	1	2	2	1
39.75	C	1	2	1	2
40.50	C	1	3	1	1
41.25	C	1	2	1	2
42.00	C	1	2	1	2
42.75	C	1	1	1	1
43.50	C	1	2	1	2
44.25	C	1	2	1	1
45.00	C	1	1	1	2
45.75	C	1	2	2	3
46.50	C	1	2	1	2
47.25	C	1	2	2	2
48.00	C	1	2	1	2
48.75	C	1	1	2	1
49.50	C	1	1	1	2
50.25	C	1	2	1	1
51.00	C	1	1	1	2
51.75	C	2	1	1	1
52.50	C	1	1	1	2
53.25	C	1	1	1	2
54.00	C	1	2	1	2
54.75	C	1	2	3	2
55.50	C	1	1	2	2
56.25	C	1	2	1	1
57.00	C	2	2	1	2
57.75	C	1	2	1	1
58.50	C	1	2	1	2
59.25	C	1	2	1	2
60.00	C	1	2	1	2
60.75	C	1	2	1	2
61.50	R	1	1	1	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Inspiratory Flow [ml/sec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	1	1	1	3
63.00	R	1	1	1	3
63.75	R	1	1	1	3
64.50	R	1	1	1	3
65.25	R	1	1	1	3
66.00	R	1	1	1	4
66.75	R	1	1	1	4
67.50	R	1	1	1	4
68.25	R	1	1	1	4
69.00	R	2	1	1	4
69.75	R	1	1	1	4
70.50	R	1	1	1	4
71.25	R	2	1	1	4
72.00	R	2	1	1	4
72.75	R	2	1	1	4
73.50	R	2	1	1	4
74.25	R	2	1	1	4

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	2.3	2.5	3.4	3.2
1.50	A	2.5	2.2	3.4	2.8
2.25	A	2.6	1.9	3.6	2.7
3.00	A	2.8	2.9	3.3	2.6
3.75	A	2.8	2.5	3.2	2.5
4.50	A	3.1	2.1	3.1	2.8
5.25	A	2.7	2.1	3.6	3.1
6.00	A	2.6	2.5	3.8	2.8
6.75	A	2.8	2.5	3.4	2.8
7.50	A	2.9	2.2	3.0	2.9
8.25	A	2.8	2.1	2.9	2.8
9.00	A	2.8	2.2	2.7	2.6
9.75	A	2.7	2.1	2.8	2.6
10.50	A	2.9	2.4	3.1	2.6
11.25	A	2.8	2.2	3.4	2.6
12.00	A	2.9	2.2	3.7	2.9
12.75	A	2.9	2.4	2.4	2.8
13.50	A	2.8	2.3	2.8	2.8
14.25	A	2.9	2.2	2.6	3.4
15.00	A	2.9	2.1	2.8	3.5
15.75	C	2.8	2.2	2.4	3.2
16.50	C	2.8	2.2	2.4	2.7
17.25	C	3.3	2.2	2.7	2.9
18.00	C	2.7	3.2	3.6	2.8
18.75	C	3.1	2.8	3.5	2.9
19.50	C	2.7	2.9	2.7	3.1
20.25	C	2.7	2.3	2.8	3.1
21.00	C	2.5	2.2	2.2	2.9
21.75	C	2.6	2.4	2.8	2.9
22.50	C	2.8	2.3	2.3	2.7
23.25	C	2.8	2.6	2.4	3.3
24.00	C	2.8	2.5	2.7	2.9
24.75	C	3.3	2.6	2.9	3.2
25.50	C	2.8	2.2	2.7	2.8
26.25	C	2.9	1.9	2.2	2.8
27.00	C	2.9	1.7	2.3	2.7
27.75	C	2.8	2.1	2.8	2.8
28.50	C	2.8	2.1	3.4	2.9
29.25	C	2.7	2.0	2.2	3.2
30.00	C	2.8	1.8	2.4	3.1
30.75	C	3.1	2.1	2.2	3.5

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	2.9	2.0	2.6	3.2
32.25	C	2.5	2.1	2.5	2.9
33.00	C	2.7	2.0	2.7	3.1
33.75	C	2.8	2.1	2.5	2.9
34.50	C	2.8	2.2	3.2	2.7
35.25	C	3.1	2.2	2.4	2.8
36.00	C	2.8	2.2	2.4	2.8
36.75	C	2.8	2.6	2.9	2.8
37.50	C	3.0	2.8	2.6	2.6
38.25	C	2.8	2.8	2.4	3.2
39.00	C	2.8	2.7	2.3	2.8
39.75	C	2.9	3.1	2.8	2.6
40.50	C	2.8	3.1	2.3	2.6
41.25	C	3.7	2.6	2.4	3.1
42.00	C	3.9	2.1	2.5	2.6
42.75	C	2.9	1.5	4.3	2.9
43.50	C	3.0	2.3	2.2	3.3
44.25	C	3.0	1.9	2.3	3.1
45.00	C	3.0	1.8	2.3	2.5
45.75	C	2.9	1.6	2.5	2.5
46.50	C	3.2	1.6	2.9	2.5
47.25	C	3.0	1.5	2.3	2.5
48.00	C	2.9	1.7	2.6	2.7
48.75	C	2.9	1.8	3.2	2.6
49.50	C	3.4	1.8	2.3	2.8
50.25	C	3.1	1.7	2.7	2.7
51.00	C	2.8	1.7	2.9	2.5
51.75	C	3.5	2.3	2.6	2.5
52.50	C	2.8	2.0	2.3	2.8
53.25	C	3.1	2.3	2.8	3.1
54.00	C	2.8	1.6	2.8	2.7
54.75	C	2.9	3.0	4.2	2.6
55.50	C	2.9	2.6	4.1	3.1
56.25	C	3.0	2.6	3.1	2.8
57.00	C	3.1	3.2	2.5	3.0
57.75	C	3.0	3.2	2.1	2.8
58.50	C	2.9	2.4	2.8	2.4
59.25	C	3.0	2.2	2.4	2.3
60.00	C	3.3	2.6	2.4	2.4
60.75	C	2.9	1.8	2.4	2.4
61.50	R	2.9	1.7	2.5	2.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	3.1	1.6	2.4	2.4
63.00	R	2.9	1.7	2.4	2.6
63.75	R	2.9	2.1	2.5	2.2
64.50	R	3.1	1.9	2.7	2.3
65.25	R	2.9	2.0	2.7	2.4
66.00	R	2.9	2.0	2.7	2.9
66.75	R	3.0	2.3	2.4	3.5
67.50	R	2.7	1.9	2.8	2.6
68.25	R	2.8	2.4	4.0	3.0
69.00	R	2.9	2.6	4.2	2.8
69.75	R	3.2	3.1	3.4	2.6
70.50	R	2.9	2.6	3.4	2.5
71.25	R	2.9	2.8	2.6	2.4
72.00	R	2.8	2.4	2.4	2.6
72.75	R	2.8	1.8	2.6	2.4
73.50	R	3.0	2.1	2.4	2.5
74.25	R	2.6	1.9	2.4	2.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	2.1	2.2	3.4	4.2
1.50	A	2.7	2.6	3.4	4.1
2.25	A	3.0	2.9	6.7	5.0
3.00	A	2.5	2.8	5.5	4.7
3.75	A	2.3	2.8	5.6	5.1
4.50	A	2.9	2.5	5.7	3.4
5.25	A	2.2	2.1	4.7	3.9
6.00	A	2.1	2.5	4.6	3.5
6.75	A	2.9	2.4	3.9	3.9
7.50	A	2.1	2.3	4.6	2.9
8.25	A	2.8	2.1	4.2	3.3
9.00	A	2.1	2.7	4.3	3.5
9.75	A	2.7	2.4	4.4	3.4
10.50	A	2.7	2.1	4.1	3.5
11.25	A	1.8	2.0	4.4	3.6
12.00	A	2.5	2.4	4.8	3.7
12.75	A	2.2	3.1	4.3	3.6
13.50	A	1.8	2.5	4.2	3.5
14.25	A	1.9	2.8	4.4	3.7
15.00	C	2.2	3.1	4.3	3.7
15.75	C	2.2	2.0	4.1	3.8
16.50	C	2.4	2.3	3.8	3.8
17.25	C	2.3	2.3	4.1	3.6
18.00	C	2.4	2.0	4.3	3.7
18.75	C	2.3	2.6	4.3	3.6
19.50	C	2.3	2.7	4.3	4.9
20.25	C	2.5	2.5	3.6	4.4
21.00	C	2.3	2.6	3.5	4.3
21.75	C	2.4	2.5	3.6	3.8
22.50	C	2.3	2.5	3.5	4.5
23.25	C	2.2	2.5	4.3	4.1
24.00	C	2.4	2.2	4.6	2.9
24.75	C	3.5	1.8	5.0	3.0
25.50	C	2.1	2.3	3.8	3.2
26.25	C	2.3	2.3	3.9	3.2
27.00	C	2.3	2.5	3.7	3.2
27.75	C	2.3	1.8	3.8	3.1
28.50	C	2.3	1.8	4.2	3.3
29.25	C	2.3	2.2	4.4	3.3
30.00	C	2.4	1.8	3.9	3.4
30.75	C	2.4	3.2	3.8	3.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	2.4	2.5	3.7	3.2
32.25	C	2.4	2.2	4.0	3.4
33.00	C	2.4	1.8	3.8	3.1
33.75	C	2.4	2.4	4.7	3.7
34.50	C	2.6	2.1	4.4	3.2
35.25	C	2.7	2.1	4.6	3.1
36.00	C	2.5	1.9	3.9	3.1
36.75	C	2.5	2.2	4.1	3.2
37.50	C	2.8	2.0	4.3	3.1
38.25	C	2.5	1.8	5.1	3.1
39.00	C	2.4	2.3	4.1	3.3
39.75	C	3.3	1.9	4.1	3.2
40.50	C	2.2	2.3	3.8	3.1
41.25	C	2.4	1.9	3.8	2.9
42.00	C	2.3	2.2	4.4	3.8
42.75	C	2.3	2.3	4.3	4.1
43.50	C	2.2	2.1	3.7	3.8
44.25	C	2.2	2.5	3.8	3.8
45.00	C	2.1	2.2	4.5	3.4
45.75	C	3.0	1.8	3.5	2.5
46.50	C	2.2	2.1	3.6	2.7
47.25	C	2.8	2.0	3.5	2.9
48.00	C	2.2	1.7	3.5	3.2
48.75	C	2.5	2.0	4.4	2.6
49.50	C	1.7	1.7	4.4	2.8
50.25	C	1.7	2.3	3.9	2.8
51.00	C	1.8	1.7	3.9	2.9
51.75	C	1.8	2.0	5.2	3.0
52.50	C	2.1	2.4	5.3	3.0
53.25	C	2.0	1.9	4.7	3.1
54.00	C	2.0	2.1	4.4	2.8
54.75	C	1.9	1.9	3.7	2.8
55.50	C	2.1	2.4	3.8	2.9
56.25	C	2.2	1.8	3.7	2.9
57.00	C	2.0	1.6	4.6	2.7
57.75	C	2.0	2.1	3.8	2.8
58.50	C	2.0	2.0	3.9	3.1
59.25	C	2.1	1.8	3.7	2.8
60.00	C	2.2	2.1	3.5	2.9
60.75	R	2.2	1.8	3.4	2.7
61.50	R	2.7	2.3	4.9	2.8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	2.0	1.8	4.4	2.7
63.00	R	2.1	1.7	5.3	3.3
63.75	R	2.1	1.8	4.1	2.6
64.50	R	2.1	1.9	3.5	2.4
65.25	R	2.2	2.4	3.3	2.6
66.00	R	2.3	2.1	3.7	2.5
66.75	R	2.3	1.8	3.9	2.6
67.50	R	2.2	2.1	3.9	2.6
68.25	R	2.4	1.8	4.0	2.8
69.00	R	1.9	2.1	3.5	2.6
69.75	R	2.6	1.7	4.2	2.6
70.50	R	2.1	1.7	4.7	2.7
71.25	R	2.3	2.2	4.1	3.0
72.00	R	2.2	2.2	3.5	2.6
72.75	R	2.3	1.6	3.9	2.6
73.50	R	2.3	2.0	4.3	2.8
74.25	R	2.3	2.5	4.9	2.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	2.2	2.5	2.4	2.2
1.50	A	2.2	2.5	2.4	2.9
2.25	A	2.3	2.4	2.7	2.3
3.00	A	2.2	2.2	2.1	2.4
3.75	A	2.4	3.4	2.1	2.4
4.50	A	2.4	4.0	1.8	2.3
5.25	A	2.3	3.3	1.8	2.5
6.00	A	2.4	3.6	2.0	3.5
6.75	A	2.5	2.4	2.1	2.7
7.50	A	2.5	1.9	2.2	2.4
8.25	A	2.2	2.1	2.1	3.0
9.00	A	2.3	2.1	2.0	2.8
9.75	A	2.2	2.0	2.3	2.7
10.50	A	2.6	2.0	2.2	2.5
11.25	A	2.3	2.1	2.2	2.9
12.00	A	2.4	2.0	2.4	2.6
12.75	A	2.4	2.0	2.1	2.7
13.50	A	2.4	2.9	2.0	2.6
14.25	A	2.4	2.0	2.0	2.6
15.00	A	2.2	2.0	2.1	2.4
15.75	C	2.3	1.9	2.2	2.3
16.50	C	2.2	2.1	2.2	2.4
17.25	C	2.2	1.7	2.2	2.3
18.00	C	2.2	2.3	2.1	2.5
18.75	C	2.1	2.7	2.2	2.8
19.50	C	2.0	3.2	2.2	2.8
20.25	C	2.1	3.4	2.1	2.8
21.00	C	1.9	3.8	2.4	3.4
21.75	C	2.0	3.6	2.2	2.9
22.50	C	2.1	3.3	1.9	2.4
23.25	C	2.4	2.6	2.0	2.5
24.00	C	2.3	2.3	2.0	2.8
24.75	C	2.1	1.8	2.0	2.2
25.50	C	1.9	1.8	2.4	2.2
26.25	C	1.8	1.7	2.4	2.1
27.00	C	2.1	1.6	2.0	2.1
27.75	C	1.9	1.7	2.5	2.7
28.50	C	1.8	2.2	2.1	2.1
29.25	C	2.2	2.3	2.1	2.6
30.00	C	2.2	1.7	1.9	2.4
30.75	C	1.9	1.7	2.1	2.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	1.9	2.0	2.0	2.3
32.25	C	1.9	2.0	2.0	2.0
33.00	C	2.2	1.4	2.3	2.0
33.75	C	1.9	1.6	2.4	2.0
34.50	C	2.0	1.8	2.4	2.0
35.25	C	2.2	2.7	2.1	3.1
36.00	C	2.3	2.6	1.7	2.0
36.75	C	1.8	2.8	2.0	2.0
37.50	C	1.8	3.0	2.2	2.0
38.25	C	2.2	3.3	2.1	2.2
39.00	C	1.8	1.8	2.3	2.2
39.75	C	2.1	1.5	2.6	3.3
40.50	C	1.9	2.0	2.7	3.1
41.25	C	2.1	1.8	2.5	2.9
42.00	C	2.0	2.2	2.4	2.5
42.75	C	2.1	1.9	2.0	2.9
43.50	C	2.2	2.6	2.1	1.7
44.25	C	2.3	2.3	2.3	1.9
45.00	C	2.1	1.6	2.3	1.9
45.75	C	2.0	3.0	2.4	1.9
46.50	C	1.9	3.0	2.3	1.7
47.25	C	2.4	2.3	2.2	2.1
48.00	C	2.2	3.0	2.6	2.7
48.75	C	1.9	3.7	2.9	2.9
49.50	C	2.1	2.2	2.1	3.0
50.25	C	1.9	1.7	1.9	3.3
51.00	C	2.1	2.8	1.8	3.3
51.75	C	2.0	2.5	2.0	2.9
52.50	C	2.0	2.9	2.3	2.9
53.25	C	1.9	2.8	3.0	3.5
54.00	C	2.0	4.4	2.4	2.0
54.75	C	2.2	3.0	2.2	2.1
55.50	C	1.8	1.9	2.1	2.3
56.25	C	1.9	2.4	2.3	2.8
57.00	C	2.2	2.1	2.5	2.1
57.75	C	1.8	2.4	2.3	3.8
58.50	C	1.8	2.1	1.8	2.4
59.25	C	1.9	2.0	1.8	2.3
60.00	C	1.8	1.9	1.8	2.1
60.75	C	1.9	1.7	2.0	1.7
61.50	R	1.8	1.5	2.0	1.9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	2.1	1.4	2.1	1.7
63.00	R	1.7	1.7	2.0	1.8
63.75	R	2.1	1.4	2.2	1.8
64.50	R	2.1	1.3	2.1	2.1
65.25	R	1.8	1.4	2.2	2.4
66.00	R	1.9	1.3	2.2	2.1
66.75	R	2.0	1.3	2.2	2.1
67.50	R	2.1	1.5	2.2	2.2
68.25	R	2.0	1.8	2.4	2.3
69.00	R	2.2	1.5	2.3	2.3
69.75	R	2.0	1.4	2.3	2.3
70.50	R	1.9	1.5	2.3	2.3
71.25	R	2.1	1.6	2.3	2.2
72.00	R	2.0	1.3	2.4	2.4
72.75	R	2.0	1.3	2.3	2.4
73.50	R	2.0	1.3	2.3	2.4
74.25	R	2.0	2.0	2.3	2.7
75.00	R	2.1	1.4	2.2	2.9
75.75	R	2.0	1.4	2.2	2.7
76.50	R	2.0	1.5	2.2	2.8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	2.4	2.2	3.6	1.5
1.50	A	2.3	2.7	3.9	1.6
2.25	A	3.7	2.6	3.5	1.5
3.00	A	4.0	2.6	4.0	1.5
3.75	A	3.8	2.3	3.9	1.5
4.50	A	3.4	2.3	4.0	1.4
5.25	A	3.0	2.3	4.0	1.4
6.00	A	3.6	2.4	3.2	1.8
6.75	A	3.1	2.4	3.1	1.6
7.50	A	2.5	2.4	3.7	1.6
8.25	A	2.1	2.4	3.7	1.7
9.00	A	2.3	2.3	4.6	1.5
9.75	A	2.8	2.3	4.9	1.6
10.50	A	2.3	2.2	3.9	1.8
11.25	A	2.2	3.1	3.3	1.4
12.00	A	2.3	3.3	4.0	1.7
12.75	A	2.4	3.0	3.8	1.7
13.50	A	2.2	3.5	3.7	1.5
14.25	A	2.2	2.8	3.3	1.8
15.00	A	2.8	2.5	4.0	1.6
15.75	C	2.5	2.7	3.8	1.6
16.50	C	3.0	2.5	3.1	1.6
17.25	C	2.5	2.7	3.2	1.6
18.00	C	2.3	2.7	4.0	1.5
18.75	C	2.3	2.6	4.4	1.6
19.50	C	2.2	2.6	3.7	1.6
20.25	C	2.3	2.5	3.3	1.7
21.00	C	2.5	2.5	3.3	2.0
21.75	C	2.3	2.4	3.8	1.9
22.50	C	3.2	2.7	3.4	1.7
23.25	C	3.2	2.6	3.0	1.8
24.00	C	3.1	2.4	3.2	1.5
24.75	C	2.6	2.2	2.8	1.4
25.50	C	2.4	2.5	2.6	1.4
26.25	C	3.0	2.3	2.9	1.4
27.00	C	2.2	2.3	3.1	1.7
27.75	C	2.1	3.3	3.6	1.3
28.50	C	2.4	2.3	3.0	1.9
29.25	C	2.9	3.1	3.4	1.5
30.00	C	3.2	2.4	3.6	1.9
30.75	C	4.3	3.1	3.5	1.8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	2.6	2.5	4.1	2.4
32.25	C	3.4	2.6	3.4	2.0
33.00	C	2.7	3.1	2.9	2.1
33.75	C	3.3	3.5	2.6	1.9
34.50	C	3.0	3.5	3.6	1.9
35.25	C	2.2	2.6	3.5	2.4
36.00	C	2.4	3.6	3.0	1.9
36.75	C	2.1	2.5	2.8	2.2
37.50	C	2.8	2.9	3.4	2.2
38.25	C	2.6	2.6	3.8	1.8
39.00	C	3.7	2.6	3.5	1.8
39.75	C	3.0	3.7	3.6	2.1
40.50	C	3.0	2.6	4.5	2.5
41.25	C	2.8	2.5	3.5	2.5
42.00	C	2.8	2.9	3.0	2.1
42.75	C	2.0	2.9	2.8	2.1
43.50	C	3.4	2.9	2.8	1.9
44.25	C	3.0	3.4	2.7	2.3
45.00	C	2.5	4.0	2.9	2.0
45.75	C	1.9	2.5	2.8	2.3
46.50	C	2.2	2.7	2.8	2.6
47.25	C	2.0	2.5	3.0	2.2
48.00	C	2.1	2.4	4.3	2.1
48.75	C	2.0	2.3	3.8	1.9
49.50	C	1.7	2.6	4.4	2.3
50.25	C	2.1	2.4	3.8	2.3
51.00	C	1.6	2.2	2.7	2.1
51.75	C	1.7	2.3	2.8	2.6
52.50	C	1.6	2.3	2.4	3.2
53.25	C	2.1	2.3	2.8	2.3
54.00	C	1.5	2.6	3.2	1.9
54.75	C	2.1	2.5	2.7	1.9
55.50	C	1.6	2.2	2.8	1.9
56.25	C	1.6	2.6	2.4	2.1
57.00	C	1.9	2.3	2.9	2.1
57.75	C	1.6	2.4	3.8	2.1
58.50	C	1.7	2.3	3.7	2.0
59.25	C	1.6	2.4	3.0	1.8
60.00	C	1.7	2.3	3.2	2.1
60.75	C	1.8	2.3	2.8	2.4
61.50	R	1.7	2.3	2.5	2.0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	1.7	2.4	2.6	2.2
63.00	R	1.7	2.2	2.9	2.3
63.75	R	1.7	2.3	2.9	2.1
64.50	R	1.8	2.2	3.0	2.1
65.25	R	1.9	2.2	3.1	2.2
66.00	R	1.9	2.3	3.1	2.3
66.75	R	2.0	2.3	3.1	2.2
67.50	R	2.0	2.3	3.1	2.2
68.25	R	1.9	2.2	3.1	2.2
69.00	R	2.0	2.1	3.1	2.1
69.75	R	2.1	2.2	3.2	2.2
70.50	R	2.0	2.2	2.9	2.3
71.25	R	2.2	2.0	2.8	2.2
72.00	R	2.3	2.0	2.9	2.4
72.75	R	2.0	2.1	2.6	2.3
73.50	R	2.0	2.1	3.0	2.2
74.25	R	1.9	2.0	2.9	2.3
75.00	R	2.0	1.9	2.7	2.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	1.3	2.3	2.4	1.8
1.50	A	1.3	2.1	2.3	2.0
2.25	A	1.3	1.9	2.4	1.7
3.00	A	.8	2.1	2.3	1.8
3.75	A	.8	2.0	2.4	2.0
4.50	A	1.8	1.9	2.4	2.1
5.25	A	1.0	2.1	2.4	2.1
6.00	A	1.5	1.6	2.4	2.1
6.75	A	1.3	1.8	2.4	2.0
7.50	A	1.3	1.0	2.7	2.3
8.25	A	1.4	1.3	2.3	2.3
9.00	A	1.3	1.5	2.3	1.7
9.75	A	1.2	.9	2.3	1.7
10.50	A	1.2	.9	2.3	2.4
11.25	A	1.2	1.0	2.3	1.8
12.00	A	1.2	1.0	2.5	2.1
12.75	A	1.4	1.3	2.5	1.9
13.50	A	1.3	1.1	2.5	2.1
14.25	A	1.2	1.4	2.6	2.4
15.00	A	2.8	1.5	2.5	2.0
15.75	C	1.1	1.2	2.4	1.7
16.50	C	1.9	1.2	2.7	2.3
17.25	C	.9	1.2	2.5	2.0
18.00	C	1.3	1.3	2.7	2.0
18.75	C	1.1	1.3	2.4	1.5
19.50	C	1.6	2.0	3.0	2.4
20.25	C	1.9	2.6	2.8	2.1
21.00	C	2.4	2.9	2.6	2.4
21.75	C	2.1	1.8	2.5	2.8
22.50	C	2.3	1.1	2.4	2.4
23.25	C	2.0	1.9	2.3	2.5
24.00	C	1.2	1.9	2.4	2.3
24.75	C	2.0	1.6	1.7	2.2
25.50	C	1.1	1.2	1.3	2.6
26.25	C	1.8	1.0	2.5	1.8
27.00	C	1.1	1.1	1.9	2.1
27.75	C	1.3	1.0	1.7	2.0
28.50	C	1.7	1.0	1.7	3.4
29.25	C	2.3	1.7	1.8	2.1
30.00	C	2.6	2.6	1.7	2.6
30.75	C	1.6	3.1	1.6	2.8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	1.5	2.1	1.6	1.8
32.25	C	1.4	1.8	1.6	1.9
33.00	C	1.3	.7	1.8	1.4
33.75	C	1.3	.7	1.4	1.7
34.50	C	1.6	.7	1.7	2.0
35.25	C	1.4	.7	1.5	1.6
36.00	C	1.6	1.4	1.3	1.5
36.75	C	1.4	1.5	1.4	1.3
37.50	C	1.4	.8	1.4	1.4
38.25	C	1.2	.7	1.7	1.5
39.00	C	1.6	1.5	1.4	1.7
39.75	C	1.2	2.1	1.3	1.4
40.50	C	1.3	2.2	1.7	1.2
41.25	C	1.6	2.1	1.7	1.2
42.00	C	1.3	1.2	1.2	1.3
42.75	C	1.5	2.2	1.2	1.4
43.50	C	1.5	2.7	1.3	1.1
44.25	C	1.3	3.2	1.1	1.5
45.00	C	1.2	1.0	1.3	1.2
45.75	C	1.8	.8	1.1	2.0
46.50	C	2.1	.7	1.2	2.2
47.25	C	1.4	.7	1.3	1.3
48.00	C	1.1	.8	1.2	1.2
48.75	C	1.4	.6	1.1	1.2
49.50	C	1.3	.5	1.2	1.1
50.25	C	1.3	.5	1.2	1.4
51.00	C	1.4	.5	1.0	1.2
51.75	C	1.2	.6	1.4	1.0
52.50	C	1.1	.6	1.3	1.1
53.25	C	1.2	1.5	1.1	1.0
54.00	C	1.3	.7	1.0	1.0
54.75	C	1.3	1.2	.9	1.0
55.50	C	1.2	.9	1.0	1.2
56.25	C	1.2	1.0	.9	1.0
57.00	C	1.2	1.2	1.0	1.0
57.75	C	1.3	2.1	.9	1.1
58.50	C	1.2	1.1	.8	1.5
59.25	C	1.0	.8	.9	1.2
60.00	C	1.1	.7	.9	.9
60.75	C	1.2	.5	.8	1.0
61.50	R	1.2	.6	1.0	.9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	1.0	.6	1.2	.9
63.00	R	.8	.7	1.4	.9
63.75	R	.8	.8	1.6	.8
64.50	R	.7	1.3	1.5	.9
65.25	R	.6	1.4	1.7	1.0
66.00	R	.7	1.4	1.7	.9
66.75	R	.6	1.2	1.8	.7
67.50	R	.6	1.1	1.8	1.0
68.25	R	.6	1.6	1.9	1.1
69.00	R	.5	1.6	1.9	1.1
69.75	R	.6	1.6	1.8	1.2
70.50	R	.4	1.7	1.9	1.2
71.25	R	.4	1.8	1.9	1.2
72.00	R	.4	1.8	1.9	1.3
72.75	R	.4	1.8	2.0	1.3
73.50	R	.4	1.8	1.9	1.3
74.25	R	.4	1.8	1.9	1.3
75.00	R	.4	1.7	1.9	1.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	2.3	2.1	2.5	2.7
1.50	A	2.4	2.1	2.7	2.5
2.25	A	2.4	2.1	2.3	1.9
3.00	A	2.4	2.3	2.5	2.5
3.75	A	2.3	2.2	2.7	2.5
4.50	A	2.3	2.2	2.6	2.4
5.25	A	2.3	2.2	2.8	2.8
6.00	A	2.5	2.2	2.7	4.4
6.75	A	2.5	2.2	2.1	2.6
7.50	A	2.5	2.2	2.3	2.8
8.25	A	2.4	3.2	2.5	3.4
9.00	A	2.4	2.2	2.5	2.1
9.75	A	2.4	2.5	2.5	2.8
10.50	A	2.4	2.0	2.6	4.9
11.25	A	2.3	2.0	2.8	3.1
12.00	A	2.3	2.0	2.7	3.0
12.75	A	2.3	1.9	2.8	2.7
13.50	A	2.3	1.9	2.8	3.8
14.25	A	2.3	2.0	2.8	3.7
15.00	C	2.3	2.0	2.8	3.2
15.75	C	2.4	2.1	2.7	3.6
16.50	C	2.5	2.0	2.9	3.5
17.25	C	2.4	2.1	3.2	3.9
18.00	C	2.3	1.9	3.7	5.4
18.75	C	2.4	1.8	3.8	4.3
19.50	C	2.4	1.8	3.7	4.0
20.25	C	2.5	2.3	2.6	4.0
21.00	C	2.3	2.2	3.4	4.4
21.75	C	2.0	2.4	2.9	3.4
22.50	C	2.1	2.2	2.5	3.2
23.25	C	2.4	2.0	3.5	3.4
24.00	C	2.1	1.4	3.3	2.7
24.75	C	2.0	2.3	2.7	2.5
25.50	C	1.6	1.3	3.3	2.4
26.25	C	2.1	1.4	3.3	3.1
27.00	C	1.8	1.7	3.9	3.3
27.75	C	1.3	1.6	2.5	3.9
28.50	C	1.7	2.3	2.7	3.3
29.25	C	1.2	2.0	3.9	3.0
30.00	C	2.5	1.7	3.0	2.3
30.75	C	2.9	2.5	2.8	2.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	1.6	1.3	2.7	2.8
32.25	C	2.3	1.4	2.4	2.3
33.00	C	1.4	1.5	3.3	2.3
33.75	C	1.4	1.3	3.1	2.2
34.50	C	1.2	1.5	2.7	2.4
35.25	C	2.3	1.6	2.4	2.0
36.00	C	2.0	2.3	2.6	2.2
36.75	C	1.8	2.2	2.1	2.6
37.50	C	2.4	1.8	2.3	2.7
38.25	C	1.3	2.3	2.2	2.2
39.00	C	1.2	2.3	2.6	2.1
39.75	C	1.3	2.1	2.1	2.1
40.50	C	1.2	2.7	2.2	2.2
41.25	C	1.9	2.2	1.9	2.1
42.00	C	1.6	1.8	2.6	2.4
42.75	C	1.3	1.7	2.5	2.3
43.50	C	1.1	2.0	2.2	2.2
44.25	C	1.7	2.0	2.4	2.3
45.00	C	1.2	1.3	2.5	2.2
45.75	C	1.2	2.1	3.0	2.7
46.50	C	1.2	1.9	2.3	2.6
47.25	C	1.9	2.0	2.6	2.8
48.00	C	1.1	1.8	2.1	2.3
48.75	C	1.1	1.0	2.4	2.1
49.50	C	1.7	1.1	2.2	1.9
50.25	C	1.1	1.6	2.1	2.0
51.00	C	1.0	1.1	1.8	2.1
51.75	C	2.3	1.1	2.2	2.0
52.50	C	1.1	1.1	2.0	2.0
53.25	C	1.0	2.2	2.2	2.2
54.00	C	1.5	2.6	1.7	2.0
54.75	C	1.2	1.5	2.9	1.8
55.50	C	1.1	1.0	2.4	2.1
56.25	C	1.0	1.5	2.3	1.9
57.00	C	2.1	1.6	1.8	1.9
57.75	C	1.5	1.7	2.0	2.0
58.50	C	1.0	1.6	1.7	2.1
59.25	C	1.0	2.2	1.9	2.0
60.00	C	1.5	1.5	1.8	1.9
60.75	C	1.2	1.4	2.0	2.1
61.50	R	1.5	1.1	2.3	2.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Peak Expiratory Flow [ml/sec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	1.4	.8	2.2	2.2
63.00	R	1.6	.8	2.1	2.3
63.75	R	1.5	.8	2.0	2.5
64.50	R	1.4	.8	1.9	2.4
65.25	R	1.5	.7	1.8	2.5
66.00	R	1.6	.7	1.7	2.5
66.75	R	1.5	.8	1.9	2.6
67.50	R	1.5	.9	1.8	2.5
68.25	R	1.6	1.1	1.8	2.6
69.00	R	1.7	1.0	1.8	2.5
69.75	R	1.6	1.2	2.0	2.6
70.50	R	1.6	1.2	1.9	2.5
71.25	R	1.8	1.2	1.9	2.6
72.00	R	1.8	1.2	1.9	2.6
72.75	R	1.6	1.2	1.8	2.6
73.50	R	1.7	1.2	1.8	2.4
74.25	R	1.6	1.1	1.8	2.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	.3	.3	.2	.3
1.50	A	.3	.3	.3	.3
2.25	A	.3	.3	.3	.3
3.00	A	.3	.3	.3	.3
3.75	A	.3	.3	.3	.3
4.50	A	.3	.3	.3	.3
5.25	A	.3	.3	.3	.3
6.00	A	.3	.3	.3	.3
6.75	A	.3	.3	.3	.3
7.50	A	.3	.3	.3	.3
8.25	A	.3	.3	.3	.3
9.00	A	.3	.3	.3	.3
9.75	A	.3	.3	.3	.3
10.50	A	.3	.3	.3	.3
11.25	A	.3	.3	.2	.3
12.00	A	.3	.3	.3	.3
12.75	A	.3	.3	.3	.3
13.50	A	.3	.3	.2	.3
14.25	A	.3	.3	.3	.3
15.00	A	.3	.3	.2	.3
15.75	C	.3	.3	.3	.3
16.50	C	.3	.3	.2	.3
17.25	C	.3	.3	.2	.3
18.00	C	.3	.3	.2	.3
18.75	C	.3	.3	.2	.3
19.50	C	.3	.3	.3	.3
20.25	C	.3	.3	.2	.3
21.00	C	.3	.3	.2	.3
21.75	C	.3	.3	.2	.3
22.50	C	.3	.3	.3	.3
23.25	C	.3	.3	.3	.3
24.00	C	.3	.3	.3	.3
24.75	C	.3	.3	.2	.3
25.50	C	.3	.3	.3	.3
26.25	C	.3	.3	.3	.3
27.00	C	.3	.3	.2	.3
27.75	C	.3	.3	.2	.3
28.50	C	.3	.3	.2	.3
29.25	C	.3	.3	.3	.3
30.00	C	.3	.3	.2	.3
30.75	C	.3	.3	.2	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	.3	.3	.3	.3
32.25	C	.3	.3	.3	.3
33.00	C	.3	.3	.3	.3
33.75	C	.3	.3	.3	.3
34.50	C	.3	.3	.2	.3
35.25	C	.3	.3	.3	.3
36.00	C	.3	.3	.2	.3
36.75	C	.3	.3	.2	.3
37.50	C	.3	.3	.3	.3
38.25	C	.3	.3	.3	.3
39.00	C	.3	.3	.2	.3
39.75	C	.3	.3	.2	.3
40.50	C	.3	.3	.3	.3
41.25	C	.3	.3	.2	.3
42.00	C	.3	.3	.2	.3
42.75	C	.3	.3	.2	.3
43.50	C	.3	.3	.3	.3
44.25	C	.3	.3	.3	.3
45.00	C	.3	.3	.2	.3
45.75	C	.3	.3	.2	.3
46.50	C	.3	.3	.3	.3
47.25	C	.3	.3	.3	.3
48.00	C	.3	.3	.3	.3
48.75	C	.3	.3	.3	.3
49.50	C	.3	.3	.3	.3
50.25	C	.3	.3	.3	.3
51.00	C	.3	.3	.3	.3
51.75	C	.3	.3	.3	.3
52.50	C	.3	.3	.2	.3
53.25	C	.3	.3	.3	.3
54.00	C	.3	.3	.3	.3
54.75	C	.3	.3	.2	.3
55.50	C	.3	.3	.3	.3
56.25	C	.3	.3	.3	.3
57.00	C	.3	.3	.3	.3
57.75	C	.3	.3	.2	.3
58.50	C	.3	.3	.2	.3
59.25	C	.3	.3	.3	.3
60.00	C	.3	.3	.2	.3
60.75	C	.3	.3	.2	.3
61.50	R	.3	.3	.2	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	.3	.3	.3	.3
63.00	R	.3	.3	.3	.3
63.75	R	.3	.3	.3	.3
64.50	R	.3	.3	.3	.3
65.25	R	.3	.3	.3	.3
66.00	R	.3	.3	.3	.3
66.75	R	.3	.3	.3	.3
67.50	R	.3	.3	.2	.3
68.25	R	.3	.3	.2	.3
69.00	R	.3	.3	.2	.3
69.75	R	.3	.3	.3	.3
70.50	R	.3	.3	.2	.3
71.25	R	.3	.3	.2	.3
72.00	R	.3	.3	.3	.3
72.75	R	.3	.3	.2	.3
73.50	R	.3	.3	.2	.3
74.25	R	.3	.3	.2	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	.3	.2	.3	.4
1.50	A	.3	.3	.3	.3
2.25	A	.3	.3	.4	.3
3.00	A	.2	.3	.4	.3
3.75	A	.3	.2	.4	.4
4.50	A	.3	.2	.4	.3
5.25	A	.3	.2	.4	.3
6.00	A	.3	.3	.4	.3
6.75	A	.3	.3	.4	.3
7.50	A	.3	.2	.3	.3
8.25	A	.3	.2	.3	.4
9.00	A	.3	.3	.4	.3
9.75	A	.3	.3	.3	.4
10.50	A	.3	.2	.3	.4
11.25	A	.3	.2	.4	.4
12.00	A	.3	.3	.4	.4
12.75	A	.3	.3	.4	.4
13.50	A	.2	.3	.3	.4
14.25	A	.3	.3	.3	.4
15.00	C	.3	.3	.3	.4
15.75	C	.3	.2	.4	.4
16.50	C	.3	.3	.3	.4
17.25	C	.3	.2	.3	.4
18.00	C	.3	.2	.3	.4
18.75	C	.3	.2	.4	.4
19.50	C	.3	.2	.4	.3
20.25	C	.3	.2	.4	.3
21.00	C	.3	.2	.3	.4
21.75	C	.3	.2	.3	.3
22.50	C	.3	.3	.3	.3
23.25	C	.3	.2	.4	.3
24.00	C	.3	.2	.4	.3
24.75	C	.3	.2	.4	.3
25.50	C	.3	.2	.4	.3
26.25	C	.3	.2	.3	.3
27.00	C	.3	.2	.3	.3
27.75	C	.3	.2	.3	.3
28.50	C	.3	.2	.4	.3
29.25	C	.3	.2	.3	.3
30.00	C	.3	.2	.4	.3
30.75	C	.3	.3	.4	.4

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	.3	.3	.3	.3
32.25	C	.3	.2	.3	.3
33.00	C	.3	.2	.4	.4
33.75	C	.3	.2	.4	.3
34.50	C	.3	.2	.4	.4
35.25	C	.3	.2	.4	.3
36.00	C	.3	.2	.4	.3
36.75	C	.3	.2	.4	.3
37.50	C	.3	.2	.3	.3
38.25	C	.3	.2	.4	.4
39.00	C	.3	.2	.4	.3
39.75	C	.3	.2	.4	.3
40.50	C	.3	.2	.4	.3
41.25	C	.3	.2	.3	.3
42.00	C	.3	.2	.3	.3
42.75	C	.3	.2	.4	.4
43.50	C	.3	.2	.4	.3
44.25	C	.3	.2	.3	.3
45.00	C	.3	.2	.3	.3
45.75	C	.3	.2	.4	.3
46.50	C	.3	.2	.4	.3
47.25	C	.3	.2	.3	.3
48.00	C	.3	.2	.3	.3
48.75	C	.3	.2	.3	.3
49.50	C	.3	.2	.4	.3
50.25	C	.2	.2	.4	.3
51.00	C	.3	.2	.4	.3
51.75	C	.3	.2	.4	.3
52.50	C	.3	.3	.4	.3
53.25	C	.3	.3	.4	.3
54.00	C	.3	.2	.4	.3
54.75	C	.3	.2	.4	.3
55.50	C	.3	.2	.3	.3
56.25	C	.3	.2	.3	.3
57.00	C	.3	.2	.4	.3
57.75	C	.3	.2	.4	.3
58.50	C	.3	.2	.3	.3
59.25	C	.3	.2	.4	.3
60.00	C	.3	.2	.4	.3
60.75	R	.3	.2	.3	.3
61.50	R	.3	.2	.3	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	.3	.2	.4	.3
63.00	R	.3	.2	.4	.3
63.75	R	.3	.2	.4	.3
64.50	R	.3	.2	.3	.3
65.25	R	.3	.3	.3	.3
66.00	R	.3	.2	.3	.3
66.75	R	.3	.3	.4	.3
67.50	R	.3	.3	.4	.3
68.25	R	.3	.2	.4	.3
69.00	R	.3	.2	.4	.3
69.75	R	.3	.2	.3	.3
70.50	R	.3	.2	.4	.3
71.25	R	.3	.3	.4	.3
72.00	R	.3	.2	.3	.4
72.75	R	.3	.2	.4	.3
73.50	R	.3	.2	.4	.3
74.25	R	.3	.3	.4	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	.3	.2	.2	.3
1.50	A	.3	.2	.2	.3
2.25	A	.3	.2	.2	.3
3.00	A	.3	.2	.2	.3
3.75	A	.3	.2	.2	.3
4.50	A	.3	.2	.2	.3
5.25	A	.3	.2	.2	.3
6.00	A	.3	.2	.2	.3
6.75	A	.3	.2	.2	.3
7.50	A	.3	.2	.2	.3
8.25	A	.3	.2	.2	.3
9.00	A	.3	.2	.2	.3
9.75	A	.3	.2	.2	.3
10.50	A	.3	.2	.2	.3
11.25	A	.3	.2	.2	.3
12.00	A	.3	.2	.2	.3
12.75	A	.3	.2	.2	.3
13.50	A	.3	.2	.2	.3
14.25	A	.3	.2	.2	.3
15.00	A	.3	.2	.2	.3
15.75	C	.3	.2	.2	.3
16.50	C	.3	.2	.2	.3
17.25	C	.3	.2	.2	.3
18.00	C	.3	.2	.2	.3
18.75	C	.3	.2	.2	.3
19.50	C	.3	.2	.2	.3
20.25	C	.3	.2	.2	.3
21.00	C	.3	.2	.2	.3
21.75	C	.3	.2	.2	.3
22.50	C	.3	.2	.2	.3
23.25	C	.2	.2	.2	.3
24.00	C	.3	.2	.2	.3
24.75	C	.3	.2	.2	.3
25.50	C	.3	.2	.2	.3
26.25	C	.3	.2	.2	.3
27.00	C	.3	.2	.2	.3
27.75	C	.3	.2	.2	.3
28.50	C	.3	.2	.2	.3
29.25	C	.2	.2	.2	.3
30.00	C	.3	.2	.2	.3
30.75	C	.3	.2	.2	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	.3	.2	.2	.3
32.25	C	.3	.2	.2	.3
33.00	C	.3	.2	.2	.3
33.75	C	.3	.2	.2	.3
34.50	C	.3	.2	.2	.3
35.25	C	.3	.2	.2	.3
36.00	C	.3	.2	.2	.3
36.75	C	.3	.2	.2	.3
37.50	C	.3	.2	.2	.3
38.25	C	.3	.2	.2	.3
39.00	C	.3	.2	.2	.3
39.75	C	.3	.2	.2	.3
40.50	C	.3	.2	.2	.3
41.25	C	.3	.2	.2	.3
42.00	C	.3	.2	.2	.3
42.75	C	.3	.2	.2	.3
43.50	C	.3	.2	.2	.3
44.25	C	.3	.2	.2	.3
45.00	C	.3	.2	.2	.3
45.75	C	.3	.2	.2	.3
46.50	C	.3	.2	.2	.3
47.25	C	.3	.3	.2	.3
48.00	C	.3	.2	.2	.3
48.75	C	.3	.2	.2	.3
49.50	C	.3	.2	.2	.3
50.25	C	.3	.2	.2	.3
51.00	C	.3	.2	.2	.3
51.75	C	.3	.2	.2	.3
52.50	C	.3	.2	.2	.3
53.25	C	.3	.2	.2	.3
54.00	C	.3	.3	.2	.3
54.75	C	.3	.3	.2	.3
55.50	C	.3	.2	.2	.3
56.25	C	.3	.2	.2	.3
57.00	C	.3	.2	.2	.4
57.75	C	.3	.2	.2	.3
58.50	C	.3	.2	.2	.3
59.25	C	.3	.2	.2	.3
60.00	C	.3	.2	.2	.3
60.75	C	.3	.2	.2	.3
61.50	R	.3	.2	.2	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	.3	.2	.2	.3
63.00	R	.3	.2	.2	.3
63.75	R	.3	.2	.2	.3
64.50	R	.3	.2	.2	.3
65.25	R	.3	.2	.2	.4
66.00	R	.3	.2	.2	.3
66.75	R	.3	.2	.2	.3
67.50	R	.3	.2	.2	.3
68.25	R	.3	.2	.2	.3
69.00	R	.3	.2	.2	.3
69.75	R	.3	.2	.2	.3
70.50	R	.3	.2	.2	.3
71.25	R	.3	.2	.2	.3
72.00	R	.3	.2	.2	.3
72.75	R	.3	.2	.2	.3
73.50	R	.3	.2	.2	.3
74.25	R	.3	.2	.2	.3
75.00	R	.3	.2	.2	.3
75.75	R	.3	.2	.2	.4
76.50	R	.3	.2	.2	.4

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	.3	.2	.3	.2
1.50	A	.3	.3	.3	.2
2.25	A	.3	.3	.3	.2
3.00	A	.3	.3	.3	.2
3.75	A	.3	.3	.3	.2
4.50	A	.3	.3	.3	.2
5.25	A	.3	.3	.3	.2
6.00	A	.3	.3	.3	.2
6.75	A	.3	.3	.3	.2
7.50	A	.3	.3	.3	.2
8.25	A	.3	.3	.3	.2
9.00	A	.3	.3	.3	.2
9.75	A	.3	.3	.3	.2
10.50	A	.3	.3	.3	.2
11.25	A	.3	.3	.3	.2
12.00	A	.3	.3	.3	.2
12.75	A	.3	.3	.3	.2
13.50	A	.3	.3	.3	.2
14.25	A	.3	.3	.3	.2
15.00	A	.2	.3	.3	.2
15.75	C	.3	.3	.3	.2
16.50	C	.3	.3	.3	.2
17.25	C	.3	.3	.3	.2
18.00	C	.3	.3	.3	.2
18.75	C	.2	.3	.3	.2
19.50	C	.3	.3	.3	.2
20.25	C	.3	.3	.3	.2
21.00	C	.3	.3	.3	.2
21.75	C	.3	.3	.3	.2
22.50	C	.3	.3	.3	.2
23.25	C	.3	.3	.3	.2
24.00	C	.3	.3	.3	.2
24.75	C	.3	.3	.3	.2
25.50	C	.3	.3	.3	.2
26.25	C	.3	.3	.3	.2
27.00	C	.3	.3	.3	.2
27.75	C	.3	.3	.3	.2
28.50	C	.3	.3	.3	.3
29.25	C	.3	.3	.3	.2
30.00	C	.3	.3	.3	.3
30.75	C	.3	.3	.3	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	.3	.3	.3	.3
32.25	C	.3	.3	.3	.3
33.00	C	.3	.3	.3	.3
33.75	C	.3	.3	.3	.3
34.50	C	.3	.3	.3	.3
35.25	C	.3	.4	.3	.3
36.00	C	.3	.3	.3	.3
36.75	C	.3	.3	.3	.3
37.50	C	.3	.3	.2	.3
38.25	C	.3	.3	.3	.3
39.00	C	.3	.3	.3	.3
39.75	C	.3	.4	.3	.3
40.50	C	.3	.3	.3	.3
41.25	C	.3	.3	.3	.3
42.00	C	.3	.3	.3	.3
42.75	C	.3	.3	.3	.3
43.50	C	.3	.3	.3	.3
44.25	C	.4	.3	.3	.3
45.00	C	.3	.3	.3	.3
45.75	C	.3	.3	.3	.3
46.50	C	.3	.3	.3	.3
47.25	C	.2	.3	.3	.3
48.00	C	.3	.3	.3	.3
48.75	C	.3	.3	.3	.3
49.50	C	.3	.3	.3	.3
50.25	C	.3	.3	.3	.3
51.00	C	.3	.3	.3	.3
51.75	C	.3	.3	.3	.3
52.50	C	.3	.3	.3	.3
53.25	C	.3	.3	.3	.3
54.00	C	.3	.3	.3	.3
54.75	C	.3	.3	.3	.3
55.50	C	.3	.3	.3	.3
56.25	C	.3	.3	.3	.3
57.00	C	.3	.3	.3	.3
57.75	C	.3	.3	.3	.3
58.50	C	.3	.3	.3	.3
59.25	C	.3	.3	.3	.3
60.00	C	.3	.3	.3	.3
60.75	C	.3	.3	.3	.3
61.50	R	.3	.3	.3	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	.2	.3	.3	.3
63.00	R	.2	.3	.3	.3
63.75	R	.3	.3	.3	.3
64.50	R	.3	.3	.3	.3
65.25	R	.3	.3	.3	.3
66.00	R	.3	.3	.3	.3
66.75	R	.3	.3	.3	.3
67.50	R	.3	.3	.3	.3
68.25	R	.3	.3	.3	.2
69.00	R	.3	.3	.3	.3
69.75	R	.3	.3	.3	.3
70.50	R	.3	.3	.3	.3
71.25	R	.3	.3	.3	.3
72.00	R	.3	.3	.3	.3
72.75	R	.3	.3	.3	.3
73.50	R	.3	.3	.3	.3
74.25	R	.3	.3	.3	.3
75.00	R	.3	.3	.3	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	.2	.3	.2	.2
1.50	A	.2	.3	.2	.2
2.25	A	.2	.3	.2	.2
3.00	A	.2	.3	.2	.2
3.75	A	.2	.3	.2	.2
4.50	A	.2	.3	.2	.2
5.25	A	.2	.3	.2	.2
6.00	A	.2	.3	.2	.2
6.75	A	.2	.3	.2	.2
7.50	A	.2	.3	.2	.2
8.25	A	.2	.3	.2	.2
9.00	A	.2	.3	.2	.2
9.75	A	.2	.3	.2	.2
10.50	A	.2	.3	.2	.2
11.25	A	.2	.3	.2	.2
12.00	A	.2	.3	.2	.2
12.75	A	.2	.3	.2	.2
13.50	A	.2	.3	.2	.2
14.25	A	.2	.3	.2	.2
15.00	A	.2	.3	.2	.2
15.75	C	.3	.3	.2	.2
16.50	C	.2	.3	.2	.2
17.25	C	.3	.3	.2	.2
18.00	C	.2	.3	.2	.2
18.75	C	.2	.3	.2	.2
19.50	C	.2	.3	.2	.2
20.25	C	.2	.3	.2	.2
21.00	C	.2	.3	.2	.2
21.75	C	.2	.4	.2	.2
22.50	C	.2	.4	.3	.2
23.25	C	.3	.4	.2	.2
24.00	C	.3	.4	.2	.2
24.75	C	.3	.4	.2	.2
25.50	C	.3	.5	.2	.2
26.25	C	.2	.4	.2	.2
27.00	C	.3	.5	.2	.2
27.75	C	.3	.5	.2	.2
28.50	C	.3	.5	.2	.2
29.25	C	.2	.4	.2	.2
30.00	C	.3	.4	.2	.2
30.75	C	.4	.4	.2	.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	.4	.4	.2	.2
32.25	C	.4	.4	.2	.2
33.00	C	.4	.5	.2	.2
33.75	C	.5	.5	.1	.1
34.50	C	.4	.5	.2	.2
35.25	C	.5	.5	.1	.2
36.00	C	.5	.5	.1	.1
36.75	C	.5	.4	.1	.1
37.50	C	.3	.5	.2	.2
38.25	C	.4	.5	.2	.1
39.00	C	.3	.4	.1	.2
39.75	C	.5	.4	.1	.2
40.50	C	.4	.4	.2	.1
41.25	C	.4	.4	.2	.1
42.00	C	.5	.6	.1	.2
42.75	C	.5	.5	.1	.2
43.50	C	.5	.4	.1	.1
44.25	C	.5	.4	.1	.1
45.00	C	.5	.6	.1	.1
45.75	C	.3	.6	.1	.2
46.50	C	.2	.6	.1	.2
47.25	C	.4	.6	.1	.2
48.00	C	.5	.6	.2	.2
48.75	C	.4	.6	.1	.2
49.50	C	.5	.5	.1	.1
50.25	C	.5	.6	.1	.2
51.00	C	.5	.5	.1	.2
51.75	C	.5	.5	.1	.1
52.50	C	.5	.5	.1	.1
53.25	C	.5	.5	.1	.1
54.00	C	.5	.6	.1	.1
54.75	C	.4	.5	.1	.1
55.50	C	.6	.6	.1	.1
56.25	C	.5	.6	.1	.1
57.00	C	.4	.5	.1	.1
57.75	C	.3	.6	.1	.1
58.50	C	.5	.6	.1	.2
59.25	C	.5	.7	.1	.1
60.00	C	.6	.7	.1	.1
60.75	C	.5	.6	.1	.1
61.50	R	.5	.5	.2	.1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	.4	.4	.2	.1
63.00	R	.4	.4	.2	.1
63.75	R	.3	.4	.2	.1
64.50	R	.3	.4	.2	.1
65.25	R	.3	.3	.2	.1
66.00	R	.3	.3	.2	.1
66.75	R	.3	.3	.2	.1
67.50	R	.3	.4	.2	.1
68.25	R	.3	.3	.2	.1
69.00	R	.2	.3	.2	.2
69.75	R	.2	.3	.2	.2
70.50	R	.2	.3	.2	.2
71.25	R	.3	.3	.2	.2
72.00	R	.3	.3	.2	.2
72.75	R	.3	.3	.2	.2
73.50	R	.2	.3	.2	.2
74.25	R	.2	.3	.2	.2
75.00	R	.2	.4	.2	.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	.2	.2	.3	.2
1.50	A	.2	.2	.3	.2
2.25	A	.2	.2	.3	.2
3.00	A	.2	.2	.3	.2
3.75	A	.2	.2	.3	.2
4.50	A	.2	.2	.3	.2
5.25	A	.2	.2	.3	.2
6.00	A	.2	.2	.3	.2
6.75	A	.2	.2	.3	.2
7.50	A	.2	.2	.3	.2
8.25	A	.2	.2	.3	.3
9.00	A	.2	.2	.3	.2
9.75	A	.2	.2	.3	.2
10.50	A	.2	.2	.3	.4
11.25	A	.2	.2	.2	.3
12.00	A	.2	.2	.3	.2
12.75	A	.2	.2	.3	.2
13.50	A	.2	.2	.3	.3
14.25	A	.2	.3	.3	.3
15.00	C	.2	.2	.3	.3
15.75	C	.2	.2	.3	.3
16.50	C	.2	.3	.3	.3
17.25	C	.2	.2	.3	.3
18.00	C	.2	.2	.3	.2
18.75	C	.2	.2	.3	.3
19.50	C	.3	.2	.3	.2
20.25	C	.3	.2	.3	.2
21.00	C	.3	.2	.2	.3
21.75	C	.3	.2	.4	.2
22.50	C	.3	.2	.3	.2
23.25	C	.3	.2	.2	.2
24.00	C	.2	.3	.3	.2
24.75	C	.3	.2	.4	.2
25.50	C	.2	.3	.3	.2
26.25	C	.3	.3	.3	.2
27.00	C	.3	.3	.3	.2
27.75	C	.3	.2	.3	.2
28.50	C	.2	.2	.3	.2
29.25	C	.2	.2	.5	.2
30.00	C	.3	.3	.2	.2
30.75	C	.3	.3	.4	.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	.3	.3	.4	.2
32.25	C	.3	.3	.3	.2
33.00	C	.3	.2	.2	.2
33.75	C	.3	.3	.3	.2
34.50	C	.3	.3	.4	.2
35.25	C	.2	.3	.3	.2
36.00	C	.3	.4	.3	.2
36.75	C	.2	.3	.3	.2
37.50	C	.3	.3	.3	.2
38.25	C	.3	.4	.3	.2
39.00	C	.3	.3	.3	.2
39.75	C	.3	.4	.3	.2
40.50	C	.3	.5	.3	.2
41.25	C	.2	.4	.2	.2
42.00	C	.2	.4	.3	.3
42.75	C	.3	.4	.4	.2
43.50	C	.2	.4	.3	.2
44.25	C	.3	.4	.3	.2
45.00	C	.3	.4	.4	.2
45.75	C	.3	.3	.3	.2
46.50	C	.3	.3	.4	.2
47.25	C	.3	.5	.3	.2
48.00	C	.3	.5	.3	.2
48.75	C	.3	.4	.3	.2
49.50	C	.3	.4	.3	.2
50.25	C	.3	.5	.3	.2
51.00	C	.3	.5	.3	.2
51.75	C	.3	.4	.4	.2
52.50	C	.3	.4	.3	.2
53.25	C	.3	.3	.4	.2
54.00	C	.2	.7	.2	.2
54.75	C	.3	.6	.3	.2
55.50	C	.3	.4	.3	.2
56.25	C	.3	.4	.4	.2
57.00	C	.2	.6	.3	.2
57.75	C	.3	.6	.3	.2
58.50	C	.3	.5	.3	.2
59.25	C	.3	.5	.3	.2
60.00	C	.3	.6	.3	.2
60.75	C	.3	.4	.2	.3
61.50	R	.2	.3	.3	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Tidal Volume [ml]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	.2	.3	.3	.2
63.00	R	.2	.3	.3	.3
63.75	R	.2	.2	.3	.3
64.50	R	.2	.2	.2	.2
65.25	R	.2	.2	.2	.2
66.00	R	.2	.2	.2	.3
66.75	R	.2	.2	.2	.3
67.50	R	.2	.2	.2	.3
68.25	R	.2	.2	.2	.3
69.00	R	.2	.2	.2	.3
69.75	R	.2	.2	.2	.3
70.50	R	.2	.2	.2	.3
71.25	R	.2	.2	.2	.3
72.00	R	.2	.2	.2	.3
72.75	R	.2	.2	.2	.3
73.50	R	.2	.2	.2	.3
74.25	R	.2	.2	.2	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	54	77	80	69
1.50	A	55	72	82	65
2.25	A	55	69	85	69
3.00	A	61	81	81	67
3.75	A	57	78	84	65
4.50	A	66	72	83	67
5.25	A	60	72	91	72
6.00	A	62	77	93	69
6.75	A	66	76	84	69
7.50	A	70	73	78	70
8.25	A	69	73	77	70
9.00	A	68	76	78	69
9.75	A	66	72	78	68
10.50	A	67	78	82	69
11.25	A	68	75	84	68
12.00	A	67	77	86	71
12.75	A	68	81	69	71
13.50	A	68	79	75	72
14.25	A	70	78	73	80
15.00	A	71	75	73	78
15.75	C	70	77	72	73
16.50	C	69	77	71	65
17.25	C	69	78	74	71
18.00	C	65	90	83	71
18.75	C	69	85	83	73
19.50	C	66	86	70	77
20.25	C	69	77	72	75
21.00	C	66	77	65	73
21.75	C	68	81	73	70
22.50	C	71	80	68	71
23.25	C	72	80	69	77
24.00	C	72	80	70	73
24.75	C	76	81	73	75
25.50	C	69	74	72	72
26.25	C	71	71	68	73
27.00	C	72	67	70	71
27.75	C	73	75	73	73
28.50	C	71	75	85	75
29.25	C	71	73	63	77
30.00	C	72	71	66	77
30.75	C	73	79	67	83

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	69	77	72	77
32.25	C	64	79	73	72
33.00	C	68	78	75	76
33.75	C	71	78	73	74
34.50	C	72	81	80	72
35.25	C	75	82	68	74
36.00	C	69	82	69	75
36.75	C	72	90	74	70
37.50	C	75	89	68	67
38.25	C	74	87	69	76
39.00	C	71	85	66	73
39.75	C	71	90	73	66
40.50	C	70	89	69	68
41.25	C	80	82	69	77
42.00	C	79	75	68	69
42.75	C	66	65	92	75
43.50	C	71	75	60	79
44.25	C	73	74	65	81
45.00	C	73	74	68	67
45.75	C	72	72	72	67
46.50	C	75	73	75	66
47.25	C	74	70	70	67
48.00	C	74	71	72	70
48.75	C	75	76	78	69
49.50	C	76	77	70	71
50.25	C	74	74	75	71
51.00	C	71	75	78	67
51.75	C	76	86	75	67
52.50	C	65	82	71	75
53.25	C	67	83	78	78
54.00	C	67	74	76	70
54.75	C	70	90	91	69
55.50	C	72	82	92	77
56.25	C	72	81	77	74
57.00	C	74	96	67	77
57.75	C	74	93	65	71
58.50	C	73	82	72	65
59.25	C	74	79	71	63
60.00	C	76	83	71	66
60.75	C	73	75	72	66
61.50	R	73	71	74	64

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	76	72	75	66
63.00	R	75	73	74	70
63.75	R	75	83	74	62
64.50	R	74	79	78	65
65.25	R	73	82	77	66
66.00	R	74	82	77	74
66.75	R	73	86	73	83
67.50	R	70	80	77	70
68.25	R	72	87	89	79
69.00	R	73	89	93	75
69.75	R	78	97	81	69
70.50	R	72	86	77	70
71.25	R	74	90	67	68
72.00	R	73	85	67	69
72.75	R	71	72	67	67
73.50	R	73	81	67	69
74.25	R	67	76	66	70

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	53	74	79	106
1.50	A	57	81	78	108
2.25	A	62	79	129	119
3.00	A	51	77	111	114
3.75	A	53	77	118	122
4.50	A	58	76	121	85
5.25	A	47	73	107	97
6.00	A	49	78	106	84
6.75	A	55	78	96	94
7.50	A	47	75	104	80
8.25	A	56	74	96	92
9.00	A	48	78	99	95
9.75	A	49	77	102	93
10.50	A	57	74	100	98
11.25	A	44	75	110	100
12.00	A	49	79	110	101
12.75	A	47	85	104	99
13.50	A	45	75	104	99
14.25	A	46	77	105	100
15.00	C	48	79	102	102
15.75	C	52	63	101	105
16.50	C	57	74	96	106
17.25	C	56	74	97	105
18.00	C	56	70	103	106
18.75	C	56	74	105	101
19.50	C	57	77	107	122
20.25	C	59	69	94	107
21.00	C	56	72	91	111
21.75	C	57	71	95	98
22.50	C	57	73	93	107
23.25	C	57	71	106	97
24.00	C	59	67	113	82
24.75	C	70	61	117	84
25.50	C	53	66	94	89
26.25	C	51	69	97	89
27.00	C	53	72	93	88
27.75	C	58	63	95	90
28.50	C	59	62	104	92
29.25	C	60	66	102	91
30.00	C	60	58	99	93
30.75	C	61	84	98	92

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	62	68	97	88
32.25	C	61	66	103	94
33.00	C	61	61	100	92
33.75	C	61	72	113	101
34.50	C	63	68	105	93
35.25	C	65	64	109	91
36.00	C	63	65	98	89
36.75	C	63	69	101	91
37.50	C	65	63	108	89
38.25	C	62	60	115	93
39.00	C	62	68	100	91
39.75	C	71	67	99	90
40.50	C	54	71	96	88
41.25	C	57	66	100	85
42.00	C	58	68	105	97
42.75	C	58	68	109	101
43.50	C	58	65	97	95
44.25	C	57	70	98	95
45.00	C	57	66	106	87
45.75	C	62	63	92	73
46.50	C	54	67	92	78
47.25	C	57	66	91	79
48.00	C	43	61	91	87
48.75	C	38	67	109	79
49.50	C	38	60	106	80
50.25	C	36	69	99	80
51.00	C	43	61	99	80
51.75	C	46	65	118	84
52.50	C	47	69	116	83
53.25	C	50	62	105	85
54.00	C	50	67	101	79
54.75	C	50	59	91	81
55.50	C	51	69	92	83
56.25	C	52	61	94	82
57.00	C	48	57	105	80
57.75	C	49	65	92	82
58.50	C	50	66	98	86
59.25	C	51	64	95	79
60.00	C	53	66	93	80
60.75	R	54	62	89	79
61.50	R	56	71	110	80

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	47	63	105	78
63.00	R	52	65	114	85
63.75	R	55	66	95	77
64.50	R	55	68	87	70
65.25	R	56	74	85	76
66.00	R	56	71	91	73
66.75	R	56	66	97	75
67.50	R	56	71	97	76
68.25	R	57	63	99	82
69.00	R	48	70	91	77
69.75	R	58	63	104	78
70.50	R	51	67	108	79
71.25	R	57	76	98	86
72.00	R	57	73	91	80
72.75	R	57	63	98	78
73.50	R	57	69	103	82
74.25	R	58	80	112	78

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	56	67	58	49
1.50	A	56	69	59	57
2.25	A	60	66	60	53
3.00	A	59	65	46	52
3.75	A	59	80	48	52
4.50	A	59	87	43	49
5.25	A	60	73	41	51
6.00	A	59	81	45	57
6.75	A	66	59	50	51
7.50	A	65	56	51	48
8.25	A	60	62	50	56
9.00	A	61	62	47	53
9.75	A	60	60	50	55
10.50	A	61	59	50	52
11.25	A	61	60	52	56
12.00	A	63	60	55	52
12.75	A	64	59	47	55
13.50	A	63	69	45	53
14.25	A	61	58	48	53
15.00	A	60	59	49	48
15.75	C	60	57	48	49
16.50	C	59	59	52	53
17.25	C	59	55	51	53
18.00	C	58	60	49	55
18.75	C	58	67	52	57
19.50	C	57	75	53	57
20.25	C	57	79	53	57
21.00	C	53	85	54	63
21.75	C	53	81	48	56
22.50	C	54	79	44	53
23.25	C	59	63	45	53
24.00	C	57	59	46	49
24.75	C	57	54	44	44
25.50	C	51	53	49	45
26.25	C	52	51	48	46
27.00	C	53	51	42	46
27.75	C	51	52	52	49
28.50	C	51	57	41	45
29.25	C	54	61	41	40
30.00	C	58	51	40	41
30.75	C	53	50	42	42

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	52	53	44	45
32.25	C	50	53	44	40
33.00	C	50	46	44	40
33.75	C	50	47	47	40
34.50	C	52	49	46	41
35.25	C	51	56	35	41
36.00	C	53	58	36	35
36.75	C	48	71	38	36
37.50	C	47	71	42	40
38.25	C	46	71	37	37
39.00	C	49	55	40	32
39.75	C	45	44	43	42
40.50	C	47	45	51	43
41.25	C	46	43	40	43
42.00	C	44	43	36	41
42.75	C	45	39	31	41
43.50	C	50	45	35	33
44.25	C	54	45	33	32
45.00	C	54	38	35	28
45.75	C	53	61	39	28
46.50	C	47	71	33	28
47.25	C	49	60	30	26
48.00	C	47	71	37	32
48.75	C	40	78	38	38
49.50	C	46	50	23	38
50.25	C	46	40	25	39
51.00	C	41	43	25	36
51.75	C	43	37	28	39
52.50	C	43	43	29	35
53.25	C	45	50	34	32
54.00	C	44	76	31	23
54.75	C	44	49	27	20
55.50	C	42	39	22	22
56.25	C	41	36	31	16
57.00	C	46	31	32	17
57.75	C	41	43	27	27
58.50	C	40	38	20	18
59.25	C	40	29	22	17
60.00	C	40	30	20	15
60.75	C	42	32	22	17
61.50	R	47	39	28	22

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	49	39	31	25
63.00	R	49	40	30	26
63.75	R	54	38	33	31
64.50	R	58	38	36	29
65.25	R	54	39	38	32
66.00	R	54	40	38	36
66.75	R	55	41	41	37
67.50	R	56	43	41	37
68.25	R	53	51	41	40
69.00	R	57	46	45	41
69.75	R	61	44	43	43
70.50	R	58	48	44	44
71.25	R	58	47	46	44
72.00	R	57	45	48	44
72.75	R	59	44	46	46
73.50	R	57	45	48	48
74.25	R	57	53	45	51
75.00	R	55	46	48	52
75.75	R	58	48	47	54
76.50	R	58	45	46	55

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	61	62	83	38
1.50	A	60	68	87	37
2.25	A	68	70	80	41
3.00	A	77	74	87	41
3.75	A	79	68	84	40
4.50	A	71	69	84	37
5.25	A	74	68	86	38
6.00	A	82	70	74	42
6.75	A	70	71	74	43
7.50	A	68	71	82	44
8.25	A	63	73	82	45
9.00	A	61	70	91	42
9.75	A	67	72	106	40
10.50	A	64	68	83	43
11.25	A	61	83	78	41
12.00	A	62	86	91	45
12.75	A	61	84	86	44
13.50	A	62	91	83	42
14.25	A	62	79	76	46
15.00	A	70	75	88	42
15.75	C	65	80	85	45
16.50	C	71	79	75	43
17.25	C	66	81	75	43
18.00	C	63	83	85	41
18.75	C	63	78	96	43
19.50	C	60	78	81	45
20.25	C	59	78	75	45
21.00	C	51	75	77	45
21.75	C	52	75	83	49
22.50	C	60	79	77	47
23.25	C	47	82	72	41
24.00	C	46	77	71	41
24.75	C	49	71	67	40
25.50	C	35	60	64	39
26.25	C	49	62	70	39
27.00	C	43	63	70	37
27.75	C	41	66	78	35
28.50	C	40	51	72	47
29.25	C	39	57	70	44
30.00	C	39	54	77	51
30.75	C	45	50	75	48

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	33	50	83	45
32.25	C	39	48	78	44
33.00	C	34	51	57	48
33.75	C	33	59	50	47
34.50	C	32	55	58	43
35.25	C	27	50	55	49
36.00	C	27	55	46	43
36.75	C	25	47	40	47
37.50	C	32	39	51	44
38.25	C	25	38	61	44
39.00	C	35	40	56	44
39.75	C	31	43	53	41
40.50	C	32	36	69	46
41.25	C	33	38	46	48
42.00	C	30	40	30	43
42.75	C	23	38	28	47
43.50	C	27	37	25	44
44.25	C	23	46	26	45
45.00	C	22	48	28	44
45.75	C	21	36	30	45
46.50	C	20	41	30	46
47.25	C	21	35	29	38
48.00	C	19	33	49	37
48.75	C	20	34	48	39
49.50	C	18	36	55	42
50.25	C	20	35	51	44
51.00	C	19	35	29	45
51.75	C	19	33	24	47
52.50	C	18	33	23	55
53.25	C	21	33	23	43
54.00	C	19	33	25	42
54.75	C	21	36	23	41
55.50	C	18	33	27	35
56.25	C	18	33	22	39
57.00	C	19	34	25	36
57.75	C	19	36	39	37
58.50	C	19	33	33	33
59.25	C	19	34	31	32
60.00	C	20	34	30	36
60.75	C	20	37	25	40
61.50	R	25	45	38	50

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	28	48	48	57
63.00	R	34	50	50	60
63.75	R	39	52	55	58
64.50	R	41	53	64	57
65.25	R	43	56	64	57
66.00	R	46	59	66	59
66.75	R	49	58	68	59
67.50	R	51	61	70	58
68.25	R	51	61	75	58
69.00	R	52	60	73	58
69.75	R	49	62	75	60
70.50	R	51	63	72	61
71.25	R	44	61	67	60
72.00	R	45	62	71	62
72.75	R	50	66	65	65
73.50	R	50	65	70	61
74.25	R	50	64	71	63
75.00	R	50	62	65	64

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	36	76	50	45
1.50	A	36	71	49	50
2.25	A	34	66	50	46
3.00	A	28	71	50	46
3.75	A	25	71	52	48
4.50	A	32	69	53	54
5.25	A	29	69	50	53
6.00	A	36	54	50	52
6.75	A	36	48	52	52
7.50	A	37	46	46	57
8.25	A	35	50	45	55
9.00	A	38	49	48	47
9.75	A	34	43	52	46
10.50	A	33	44	52	52
11.25	A	34	49	53	49
12.00	A	34	49	54	52
12.75	A	39	50	54	48
13.50	A	37	46	55	53
14.25	A	33	54	56	58
15.00	A	43	49	56	50
15.75	C	32	47	53	44
16.50	C	34	54	53	57
17.25	C	28	55	47	52
18.00	C	33	54	49	53
18.75	C	28	49	44	44
19.50	C	26	43	41	56
20.25	C	25	43	29	45
21.00	C	31	46	26	42
21.75	C	25	42	23	52
22.50	C	26	34	19	42
23.25	C	22	39	15	28
24.00	C	17	36	17	34
24.75	C	20	38	14	27
25.50	C	16	33	10	32
26.25	C	21	32	13	19
27.00	C	16	32	10	19
27.75	C	17	31	10	17
28.50	C	18	31	9	31
29.25	C	30	34	10	18
30.00	C	22	38	9	21
30.75	C	16	37	9	21

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	16	37	9	17
32.25	C	15	35	9	15
33.00	C	15	30	10	10
33.75	C	15	30	8	13
34.50	C	16	29	8	12
35.25	C	14	30	8	10
36.00	C	15	31	7	11
36.75	C	14	33	7	9
37.50	C	16	30	7	8
38.25	C	14	30	9	10
39.00	C	16	33	7	12
39.75	C	14	39	6	9
40.50	C	15	40	9	8
41.25	C	16	37	8	9
42.00	C	14	32	7	9
42.75	C	15	38	6	10
43.50	C	14	46	7	8
44.25	C	14	45	7	10
45.00	C	15	33	8	8
45.75	C	17	31	7	14
46.50	C	24	30	7	18
47.25	C	14	30	9	9
48.00	C	14	30	7	7
48.75	C	15	30	7	7
49.50	C	15	30	7	7
50.25	C	15	30	6	8
51.00	C	15	30	8	7
51.75	C	14	30	9	7
52.50	C	14	30	7	7
53.25	C	14	34	6	6
54.00	C	14	31	6	7
54.75	C	15	33	6	6
55.50	C	14	31	7	7
56.25	C	14	32	7	6
57.00	C	15	33	7	6
57.75	C	15	35	8	7
58.50	C	13	32	7	9
59.25	C	13	30	8	8
60.00	C	13	30	8	6
60.75	C	14	29	7	6
61.50	R	14	32	11	9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	15	33	13	12
63.00	R	15	34	17	13
63.75	R	16	34	20	16
64.50	R	16	37	20	18
65.25	R	14	43	21	19
66.00	R	15	47	23	19
66.75	R	14	46	24	15
67.50	R	16	41	25	21
68.25	R	16	53	25	24
69.00	R	17	59	27	26
69.75	R	17	61	26	27
70.50	R	15	62	27	29
71.25	R	14	64	28	30
72.00	R	14	68	29	31
72.75	R	15	67	30	32
73.50	R	15	70	29	34
74.25	R	16	70	30	34
75.00	R	15	69	30	36

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	55	53	64	41
1.50	A	57	53	67	37
2.25	A	56	52	60	24
3.00	A	58	57	65	24
3.75	A	55	55	68	27
4.50	A	56	55	65	29
5.25	A	57	56	64	28
6.00	A	57	55	56	32
6.75	A	59	57	49	50
7.50	A	59	57	56	44
8.25	A	59	67	62	53
9.00	A	58	53	61	37
9.75	A	58	59	62	38
10.50	A	59	49	64	116
11.25	A	57	54	61	61
12.00	A	57	53	64	50
12.75	A	56	53	67	42
13.50	A	57	50	66	44
14.25	A	56	53	66	58
15.00	C	57	55	67	60
15.75	C	57	55	66	65
16.50	C	56	56	66	72
17.25	C	56	52	62	72
18.00	C	52	50	37	61
18.75	C	48	39	41	48
19.50	C	41	28	27	40
20.25	C	34	27	15	37
21.00	C	28	25	25	33
21.75	C	21	24	13	29
22.50	C	24	24	12	19
23.25	C	26	17	22	26
24.00	C	22	13	21	13
24.75	C	20	18	12	13
25.50	C	15	13	15	14
26.25	C	18	12	15	19
27.00	C	16	13	15	14
27.75	C	13	14	9	21
28.50	C	14	24	13	20
29.25	C	12	18	9	16
30.00	C	20	14	18	12
30.75	C	26	14	10	12

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	13	13	8	12
32.25	C	19	14	9	13
33.00	C	13	15	16	13
33.75	C	13	13	13	16
34.50	C	13	13	9	15
35.25	C	15	13	8	12
36.00	C	16	13	11	14
36.75	C	16	14	8	20
37.50	C	20	13	9	16
38.25	C	13	14	8	15
39.00	C	13	16	9	12
39.75	C	13	15	8	16
40.50	C	12	15	8	15
41.25	C	15	14	8	15
42.00	C	15	15	8	16
42.75	C	12	14	7	14
43.50	C	13	15	7	16
44.25	C	14	14	8	16
45.00	C	13	13	7	16
45.75	C	13	15	10	23
46.50	C	13	16	8	17
47.25	C	15	15	9	18
48.00	C	13	15	8	15
48.75	C	13	14	11	15
49.50	C	15	15	8	16
50.25	C	13	14	8	14
51.00	C	13	15	8	17
51.75	C	23	15	8	15
52.50	C	13	15	7	17
53.25	C	14	16	8	17
54.00	C	15	16	9	17
54.75	C	14	15	15	16
55.50	C	13	15	8	18
56.25	C	13	14	8	17
57.00	C	18	15	8	18
57.75	C	14	15	6	16
58.50	C	13	16	7	20
59.25	C	14	16	8	17
60.00	C	16	15	6	19
60.75	C	17	17	10	28
61.50	R	24	19	13	39

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Minute Volume [ml/min]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	27	18	16	39
63.00	R	32	18	16	44
63.75	R	34	21	18	44
64.50	R	31	21	19	46
65.25	R	33	21	21	46
66.00	R	35	22	23	52
66.75	R	34	24	24	56
67.50	R	37	25	26	55
68.25	R	37	27	27	59
69.00	R	39	27	27	55
69.75	R	37	30	30	57
70.50	R	38	31	30	59
71.25	R	42	32	30	60
72.00	R	41	32	33	60
72.75	R	40	33	33	60
73.50	R	40	34	33	56
74.25	R	40	34	35	58

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	194	283	333	254
1.50	A	194	283	312	227
2.25	A	202	250	312	258
3.00	A	214	288	294	258
3.75	A	202	283	312	258
4.50	A	208	258	319	267
5.25	A	211	267	340	277
6.00	A	208	306	365	250
6.75	A	230	283	319	263
7.50	A	230	272	294	277
8.25	A	234	263	306	258
9.00	A	227	277	306	267
9.75	A	230	272	312	263
10.50	A	230	283	319	263
11.25	A	217	267	365	272
12.00	A	227	267	326	277
12.75	A	234	283	277	263
13.50	A	227	277	319	267
14.25	A	234	283	288	300
15.00	A	234	272	300	277
15.75	C	238	272	294	245
16.50	C	230	294	300	230
17.25	C	230	277	306	254
18.00	C	211	340	365	263
18.75	C	238	306	348	267
19.50	C	234	312	283	288
20.25	C	234	267	306	272
21.00	C	227	263	283	272
21.75	C	223	288	312	245
22.50	C	238	326	272	263
23.25	C	230	326	277	283
24.00	C	238	277	288	272
24.75	C	250	333	326	263
25.50	C	227	267	283	250
26.25	C	238	258	277	263
27.00	C	241	258	288	258
27.75	C	245	283	319	267
28.50	C	245	267	365	272
29.25	C	245	267	258	277
30.00	C	238	263	277	283
30.75	C	254	283	283	277

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	234	277	294	254
32.25	C	217	283	294	254
33.00	C	238	283	294	277
33.75	C	241	283	294	258
34.50	C	245	288	340	263
35.25	C	254	294	277	267
36.00	C	241	300	288	267
36.75	C	245	319	326	277
37.50	C	250	333	277	245
38.25	C	250	319	277	272
39.00	C	245	306	277	250
39.75	C	250	357	306	245
40.50	C	241	319	283	254
41.25	C	288	326	288	283
42.00	C	250	272	288	245
42.75	C	230	250	416	263
43.50	C	254	300	241	288
44.25	C	263	272	258	283
45.00	C	245	272	283	234
45.75	C	258	272	306	250
46.50	C	263	283	300	250
47.25	C	263	272	288	258
48.00	C	258	283	294	258
48.75	C	254	283	319	258
49.50	C	272	277	277	267
50.25	C	245	272	294	258
51.00	C	254	277	306	258
51.75	C	272	288	300	258
52.50	C	238	294	294	272
53.25	C	238	306	312	258
54.00	C	238	263	312	254
54.75	C	245	348	416	267
55.50	C	250	312	375	294
56.25	C	245	319	300	267
57.00	C	272	348	272	294
57.75	C	258	348	272	258
58.50	C	258	300	312	238
59.25	C	258	283	288	241
60.00	C	272	300	294	241
60.75	C	263	272	300	245
61.50	R	254	263	306	241

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	272	267	306	254
63.00	R	258	277	300	250
63.75	R	267	294	294	238
64.50	R	277	283	312	245
65.25	R	263	288	300	254
66.00	R	267	283	306	294
66.75	R	277	306	294	294
67.50	R	258	277	319	245
68.25	R	267	319	405	277
69.00	R	254	340	405	263
69.75	R	288	365	333	258
70.50	R	250	312	357	263
71.25	R	267	326	294	263
72.00	R	254	288	272	263
72.75	R	254	258	306	258
73.50	R	267	294	283	267
74.25	R	238	258	283	267

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	194	306	267	306
1.50	A	223	333	267	319
2.25	A	230	319	340	357
3.00	A	223	306	300	333
3.75	A	205	319	294	333
4.50	A	211	312	319	263
5.25	A	189	312	288	288
6.00	A	187	319	294	277
6.75	A	200	319	241	294
7.50	A	192	326	306	250
8.25	A	223	306	300	263
9.00	A	189	312	283	277
9.75	A	189	306	319	267
10.50	A	200	312	294	277
11.25	A	180	312	300	283
12.00	A	189	319	306	283
12.75	A	194	319	294	283
13.50	A	185	294	319	288
14.25	A	187	306	306	288
15.00	C	185	306	306	283
15.75	C	197	283	288	288
16.50	C	208	306	288	294
17.25	C	202	306	294	283
18.00	C	202	294	333	294
18.75	C	202	312	300	288
19.50	C	200	319	294	375
20.25	C	211	283	267	333
21.00	C	202	300	272	312
21.75	C	205	306	300	333
22.50	C	211	300	283	312
23.25	C	202	294	306	312
24.00	C	211	294	319	241
24.75	C	258	272	319	250
25.50	C	194	277	267	267
26.25	C	202	294	283	267
27.00	C	200	300	272	267
27.75	C	214	283	283	267
28.50	C	211	277	294	272
29.25	C	211	294	300	272
30.00	C	208	267	283	283
30.75	C	208	326	283	267

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	211	277	283	267
32.25	C	208	294	300	277
33.00	C	211	277	283	263
33.75	C	205	312	326	300
34.50	C	220	294	300	267
35.25	C	227	288	294	272
36.00	C	214	288	277	272
36.75	C	208	288	288	272
37.50	C	227	283	333	283
38.25	C	220	283	326	263
39.00	C	211	300	272	288
39.75	C	254	288	277	272
40.50	C	200	294	267	258
41.25	C	211	283	294	258
42.00	C	211	283	306	319
42.75	C	211	294	288	283
43.50	C	214	283	267	312
44.25	C	208	294	288	306
45.00	C	205	288	312	272
45.75	C	220	277	258	234
46.50	C	194	294	267	241
47.25	C	214	288	267	258
48.00	C	172	272	272	263
48.75	C	147	294	326	245
49.50	C	151	272	283	250
50.25	C	151	294	272	245
51.00	C	168	263	283	245
51.75	C	180	277	326	254
52.50	C	189	277	306	254
53.25	C	192	254	277	258
54.00	C	192	283	283	241
54.75	C	192	258	254	241
55.50	C	200	294	272	250
56.25	C	192	258	283	241
57.00	C	182	258	300	238
57.75	C	185	288	267	250
58.50	C	192	272	288	258
59.25	C	192	263	272	238
60.00	C	194	283	267	250
60.75	R	200	263	267	238
61.50	R	220	300	326	241

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	180	267	288	245
63.00	R	194	277	319	288
63.75	R	205	272	263	238
64.50	R	200	300	258	223
65.25	R	211	300	254	241
66.00	R	208	300	272	230
66.75	R	211	263	283	241
67.50	R	205	288	267	241
68.25	R	227	272	272	250
69.00	R	185	294	263	238
69.75	R	234	272	306	241
70.50	R	200	283	300	245
71.25	R	208	306	272	277
72.00	R	211	300	267	230
72.75	R	208	267	267	241
73.50	R	211	294	283	258
74.25	R	205	312	306	241

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	214	326	283	172
1.50	A	202	326	277	200
2.25	A	208	326	288	174
3.00	A	208	319	254	180
3.75	A	205	365	241	189
4.50	A	214	365	234	172
5.25	A	214	365	227	182
6.00	A	220	357	238	197
6.75	A	227	283	254	189
7.50	A	230	283	267	166
8.25	A	217	306	263	197
9.00	A	223	312	254	202
9.75	A	217	306	263	189
10.50	A	250	294	263	192
11.25	A	227	306	263	189
12.00	A	223	306	272	187
12.75	A	230	306	245	189
13.50	A	230	333	238	189
14.25	A	223	294	250	180
15.00	A	223	300	254	168
15.75	C	223	300	245	174
16.50	C	223	306	263	178
17.25	C	230	288	258	178
18.00	C	227	333	258	185
18.75	C	227	326	267	200
19.50	C	220	365	263	194
20.25	C	220	375	267	192
21.00	C	208	394	263	205
21.75	C	214	375	254	192
22.50	C	220	365	245	172
23.25	C	250	306	258	172
24.00	C	227	294	258	174
24.75	C	223	283	238	147
25.50	C	200	277	267	163
26.25	C	205	277	241	161
27.00	C	208	263	230	161
27.75	C	202	277	263	172
28.50	C	202	294	223	157
29.25	C	230	300	234	133
30.00	C	238	258	223	145
30.75	C	211	250	245	159

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	200	267	241	163
32.25	C	192	267	230	154
33.00	C	192	217	241	150
33.75	C	182	227	245	145
34.50	C	194	238	241	145
35.25	C	197	267	194	151
36.00	C	217	258	194	121
36.75	C	187	319	194	131
37.50	C	176	326	227	137
38.25	C	168	333	192	126
39.00	C	182	238	211	121
39.75	C	163	208	227	144
40.50	C	174	220	263	159
41.25	C	163	197	202	140
42.00	C	161	197	187	135
42.75	C	172	170	174	138
43.50	C	180	205	187	117
44.25	C	220	200	176	110
45.00	C	205	164	187	104
45.75	C	205	283	214	95
46.50	C	176	312	174	100
47.25	C	200	245	156	99
48.00	C	163	300	185	113
48.75	C	140	333	194	140
49.50	C	170	211	123	129
50.25	C	163	168	133	135
51.00	C	154	192	136	127
51.75	C	150	166	144	148
52.50	C	150	187	148	111
53.25	C	159	220	178	117
54.00	C	148	306	154	70
54.75	C	166	197	135	71
55.50	C	148	163	115	84
56.25	C	161	159	157	67
57.00	C	178	141	163	49
57.75	C	141	192	157	100
58.50	C	142	164	111	60
59.25	C	144	131	130	64
60.00	C	138	128	114	49
60.75	C	150	133	126	61
61.50	R	168	168	154	75

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	185	180	172	90
63.00	R	182	192	170	91
63.75	R	208	180	174	104
64.50	R	214	189	197	98
65.25	R	200	192	202	90
66.00	R	200	194	197	115
66.75	R	205	200	211	126
67.50	R	214	227	214	123
68.25	R	200	230	208	129
69.00	R	230	220	230	135
69.75	R	227	214	227	138
70.50	R	217	227	223	141
71.25	R	220	230	227	144
72.00	R	214	223	241	144
72.75	R	220	214	230	142
73.50	R	217	220	234	147
74.25	R	214	267	223	154
75.00	R	208	230	245	153
75.75	R	217	230	234	156
76.50	R	217	217	238	157

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	220	254	288	187
1.50	A	217	250	312	174
2.25	A	234	254	272	192
3.00	A	245	272	326	192
3.75	A	277	258	294	192
4.50	A	245	272	312	187
5.25	A	258	263	306	185
6.00	A	288	254	267	202
6.75	A	258	272	267	194
7.50	A	234	267	306	200
8.25	A	241	272	288	202
9.00	A	245	267	340	200
9.75	A	267	267	357	197
10.50	A	250	250	283	197
11.25	A	245	306	267	194
12.00	A	241	300	319	220
12.75	A	241	294	300	205
13.50	A	250	294	288	202
14.25	A	254	245	272	214
15.00	A	288	263	306	200
15.75	C	250	272	306	200
16.50	C	277	272	267	208
17.25	C	258	277	272	205
18.00	C	245	277	326	208
18.75	C	272	267	326	200
19.50	C	230	263	272	211
20.25	C	234	267	263	208
21.00	C	208	254	272	202
21.75	C	197	254	300	214
22.50	C	230	263	272	208
23.25	C	156	250	258	202
24.00	C	161	245	254	189
24.75	C	185	230	241	194
25.50	C	137	194	217	187
26.25	C	194	189	234	185
27.00	C	153	200	238	178
27.75	C	154	245	272	161
28.50	C	151	163	254	192
29.25	C	156	178	267	185
30.00	C	127	166	277	194
30.75	C	140	166	258	178

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	108	153	294	182
32.25	C	125	148	258	164
33.00	C	129	161	192	182
33.75	C	117	182	174	168
34.50	C	98	168	234	157
35.25	C	100	140	200	189
36.00	C	107	163	161	156
36.75	C	90	147	142	166
37.50	C	131	117	217	166
38.25	C	77	117	238	164
39.00	C	117	120	180	159
39.75	C	95	125	185	148
40.50	C	109	107	245	164
41.25	C	109	117	157	168
42.00	C	92	128	119	153
42.75	C	81	114	110	163
43.50	C	81	113	88	159
44.25	C	65	151	90	161
45.00	C	69	168	98	157
45.75	C	78	107	112	164
46.50	C	63	135	109	170
47.25	C	87	110	120	138
48.00	C	61	101	182	132
48.75	C	64	110	174	137
49.50	C	68	111	202	153
50.25	C	76	107	189	154
51.00	C	75	125	105	163
51.75	C	78	111	84	176
52.50	C	66	108	85	200
53.25	C	75	107	89	159
54.00	C	72	109	83	154
54.75	C	74	111	92	150
55.50	C	66	111	98	131
56.25	C	68	98	84	151
57.00	C	67	107	95	131
57.75	C	74	113	148	135
58.50	C	66	111	111	118
59.25	C	72	103	107	120
60.00	C	78	108	103	132
60.75	C	71	115	87	151
61.50	R	100	148	135	189

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	118	166	174	220
63.00	R	145	178	168	230
63.75	R	159	189	189	234
64.50	R	170	192	208	227
65.25	R	172	200	223	234
66.00	R	185	208	223	234
66.75	R	194	205	227	241
67.50	R	197	214	234	234
68.25	R	200	220	238	238
69.00	R	194	217	238	238
69.75	R	180	227	267	241
70.50	R	189	230	238	245
71.25	R	168	220	238	245
72.00	R	157	220	250	241
72.75	R	182	238	223	254
73.50	R	180	230	272	241
74.25	R	185	234	241	245
75.00	R	182	230	227	250

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	176	254	214	245
1.50	A	168	238	217	267
2.25	A	170	223	220	254
3.00	A	132	263	227	263
3.75	A	123	241	227	277
4.50	A	159	230	227	300
5.25	A	127	230	217	283
6.00	A	153	174	220	267
6.75	A	172	161	227	272
7.50	A	166	164	208	288
8.25	A	163	176	211	272
9.00	A	172	189	220	250
9.75	A	157	154	227	267
10.50	A	153	178	223	288
11.25	A	150	189	223	258
12.00	A	161	194	227	288
12.75	A	170	185	234	267
13.50	A	170	157	241	283
14.25	A	145	197	241	300
15.00	A	220	166	241	272
15.75	C	129	159	234	254
16.50	C	166	194	250	333
17.25	C	116	194	194	283
18.00	C	145	194	211	294
18.75	C	126	164	187	254
19.50	C	120	138	170	306
20.25	C	113	129	131	254
21.00	C	150	136	116	223
21.75	C	109	120	128	288
22.50	C	120	89	74	238
23.25	C	86	111	86	157
24.00	C	58	91	83	187
24.75	C	67	98	63	157
25.50	C	49	71	69	164
26.25	C	97	72	63	100
27.00	C	52	68	59	115
27.75	C	60	63	63	97
28.50	C	65	65	57	163
29.25	C	148	79	59	88
30.00	C	77	99	61	119
30.75	C	41	85	59	100

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	43	102	59	104
32.25	C	37	89	55	91
33.00	C	41	60	62	62
33.75	C	33	59	62	96
34.50	C	43	55	59	77
35.25	C	30	58	64	64
36.00	C	34	66	61	82
36.75	C	31	87	56	81
37.50	C	53	55	53	59
38.25	C	32	58	61	75
39.00	C	51	75	52	85
39.75	C	29	107	54	68
40.50	C	36	104	59	72
41.25	C	46	89	55	72
42.00	C	27	56	65	60
42.75	C	34	84	56	69
43.50	C	27	111	53	79
44.25	C	29	109	73	78
45.00	C	32	55	57	62
45.75	C	54	55	65	88
46.50	C	113	50	55	107
47.25	C	34	50	79	57
48.00	C	26	53	55	50
48.75	C	34	54	58	50
49.50	C	30	58	53	58
50.25	C	34	52	49	54
51.00	C	29	58	65	48
51.75	C	28	56	68	57
52.50	C	32	57	62	57
53.25	C	28	70	49	49
54.00	C	32	48	64	61
54.75	C	35	64	67	49
55.50	C	26	55	58	63
56.25	C	27	57	59	53
57.00	C	35	65	59	48
57.75	C	46	60	71	55
58.50	C	28	57	66	59
59.25	C	27	47	70	59
60.00	C	24	46	73	49
60.75	C	27	47	66	49
61.50	R	29	69	68	66

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	45	82	95	92
63.00	R	44	97	105	108
63.75	R	58	97	111	133
64.50	R	58	97	120	138
65.25	R	48	130	122	148
66.00	R	55	147	127	151
66.75	R	46	151	131	133
67.50	R	64	119	138	156
68.25	R	67	166	133	172
69.00	R	70	194	136	185
69.75	R	74	197	136	187
70.50	R	67	200	137	192
71.25	R	60	202	138	208
72.00	R	58	211	150	194
72.75	R	60	200	144	205
73.50	R	69	214	148	202
74.25	R	73	223	153	211
75.00	R	66	200	145	214

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	250	220	241	211
1.50	A	250	227	250	192
2.25	A	258	223	223	150
3.00	A	254	238	245	151
3.75	A	245	230	245	150
4.50	A	250	230	245	147
5.25	A	258	234	258	140
6.00	A	254	230	205	161
6.75	A	267	241	185	211
7.50	A	254	238	208	189
8.25	A	267	283	234	185
9.00	A	254	227	230	182
9.75	A	258	250	230	180
10.50	A	258	230	245	258
11.25	A	258	230	254	241
12.00	A	258	234	227	214
12.75	A	254	227	245	189
13.50	A	263	223	238	176
14.25	A	258	220	250	227
15.00	C	267	238	250	241
15.75	C	263	230	245	250
16.50	C	250	227	245	263
17.25	C	250	227	220	267
18.00	C	230	214	148	267
18.75	C	200	192	164	180
19.50	C	163	141	85	172
20.25	C	126	135	48	156
21.00	C	101	137	111	132
21.75	C	77	122	34	159
22.50	C	100	116	37	92
23.25	C	94	79	102	127
24.00	C	95	56	77	65
24.75	C	82	79	34	70
25.50	C	72	52	51	77
26.25	C	69	51	57	120
27.00	C	67	48	47	77
27.75	C	52	66	29	114
28.50	C	60	138	51	101
29.25	C	55	94	18	86
30.00	C	78	52	82	59
30.75	C	103	51	26	70

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	50	47	23	59
32.25	C	76	57	28	66
33.00	C	50	77	71	70
33.75	C	45	48	46	90
34.50	C	54	42	24	72
35.25	C	65	42	28	63
36.00	C	63	35	44	68
36.75	C	68	52	29	113
37.50	C	78	47	29	86
38.25	C	54	41	26	68
39.00	C	53	60	37	63
39.75	C	52	40	29	76
40.50	C	50	33	24	70
41.25	C	66	33	35	78
42.00	C	64	37	30	65
42.75	C	46	39	21	74
43.50	C	57	43	26	81
44.25	C	58	37	28	80
45.00	C	55	39	20	76
45.75	C	52	47	36	120
46.50	C	52	48	24	78
47.25	C	62	34	32	91
48.00	C	52	32	25	70
48.75	C	52	33	45	71
49.50	C	64	37	25	81
50.25	C	53	32	26	62
51.00	C	51	34	27	78
51.75	C	87	38	23	73
52.50	C	52	41	27	84
53.25	C	54	50	23	71
54.00	C	66	24	40	76
54.75	C	56	26	55	71
55.50	C	53	35	24	76
56.25	C	50	34	21	82
57.00	C	79	25	29	90
57.75	C	50	24	22	74
58.50	C	54	35	26	104
59.25	C	54	30	27	79
60.00	C	62	27	21	96
60.75	C	66	38	43	114
61.50	R	104	56	43	157

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Respiratory Rate [breaths/min]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	119	71	59	166
63.00	R	147	73	64	174
63.75	R	163	91	76	176
64.50	R	150	103	81	194
65.25	R	157	108	92	194
66.00	R	176	117	107	202
66.75	R	163	119	108	214
67.50	R	180	127	118	214
68.25	R	180	133	120	220
69.00	R	197	137	122	214
69.75	R	185	142	135	230
70.50	R	185	150	132	230
71.25	R	197	151	130	241
72.00	R	211	150	140	234
72.75	R	197	153	144	234
73.50	R	200	164	141	220
74.25	R	200	163	153	230

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	148	107	90	112
1.50	A	145	103	98	133
2.25	A	137	123	97	120
3.00	A	129	98	106	120
3.75	A	135	103	102	121
4.50	A	133	118	102	116
5.25	A	132	115	94	111
6.00	A	140	98	84	125
6.75	A	128	102	101	116
7.50	A	130	113	110	110
8.25	A	129	118	107	120
9.00	A	130	112	112	117
9.75	A	132	113	108	117
10.50	A	127	108	101	121
11.25	A	138	115	88	118
12.00	A	128	116	94	112
12.75	A	125	110	128	119
13.50	A	133	111	106	117
14.25	A	128	109	124	101
15.00	A	131	113	118	106
15.75	C	129	115	121	123
16.50	C	133	106	118	134
17.25	C	124	114	116	123
18.00	C	145	83	90	118
18.75	C	123	96	90	119
19.50	C	129	92	126	106
20.25	C	133	113	114	112
21.00	C	138	119	125	111
21.75	C	138	108	110	125
22.50	C	131	90	132	120
23.25	C	135	92	131	107
24.00	C	130	108	117	114
24.75	C	121	87	101	114
25.50	C	136	115	127	124
26.25	C	128	121	133	118
27.00	C	126	122	127	123
27.75	C	126	109	111	118
28.50	C	127	116	93	115
29.25	C	126	118	140	112
30.00	C	131	122	128	108
30.75	C	116	113	124	109

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	127	116	118	122
32.25	C	142	111	124	123
33.00	C	130	112	124	113
33.75	C	128	111	124	124
34.50	C	124	111	103	121
35.25	C	120	109	133	119
36.00	C	128	105	126	120
36.75	C	126	98	108	112
37.50	C	123	89	134	130
38.25	C	124	91	131	114
39.00	C	127	94	130	126
39.75	C	122	74	115	127
40.50	C	128	89	130	126
41.25	C	104	93	126	111
42.00	C	115	116	125	130
42.75	C	132	129	77	122
43.50	C	119	106	157	104
44.25	C	119	120	140	111
45.00	C	125	126	127	136
45.75	C	120	124	114	128
46.50	C	117	121	123	130
47.25	C	117	124	125	125
48.00	C	121	117	121	123
48.75	C	124	119	112	125
49.50	C	109	123	132	116
50.25	C	125	124	123	124
51.00	C	123	123	116	126
51.75	C	105	116	119	124
52.50	C	128	116	123	116
53.25	C	123	111	115	124
54.00	C	128	132	113	125
54.75	C	126	90	77	122
55.50	C	124	102	77	105
56.25	C	128	98	115	119
57.00	C	113	87	132	106
57.75	C	120	81	131	122
58.50	C	121	106	112	137
59.25	C	122	112	125	134
60.00	C	114	108	121	133
60.75	C	120	122	121	132
61.50	R	122	124	118	132

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	115	123	117	127
63.00	R	121	117	120	129
63.75	R	119	113	124	135
64.50	R	112	118	114	133
65.25	R	120	115	119	130
66.00	R	118	118	115	109
66.75	R	111	106	122	102
67.50	R	123	121	111	130
68.25	R	118	101	78	113
69.00	R	123	94	72	122
69.75	R	107	80	100	127
70.50	R	127	95	88	125
71.25	R	120	90	113	127
72.00	R	127	108	124	122
72.75	R	127	124	111	128
73.50	R	118	110	119	121
74.25	R	133	129	123	122

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	144	103	121	106
1.50	A	119	93	121	103
2.25	A	113	97	86	85
3.00	A	116	101	101	97
3.75	A	131	98	104	93
4.50	A	122	101	96	131
5.25	A	135	103	110	114
6.00	A	139	98	108	118
6.75	A	125	102	136	115
7.50	A	135	96	104	141
8.25	A	113	106	106	133
9.00	A	139	102	111	123
9.75	A	133	108	99	128
10.50	A	130	107	112	126
11.25	A	148	106	108	121
12.00	A	136	100	104	121
12.75	A	133	96	112	121
13.50	A	145	110	101	122
14.25	A	144	102	105	121
15.00	C	141	106	105	123
15.75	C	136	120	113	121
16.50	C	133	106	116	121
17.25	C	139	106	113	125
18.00	C	137	113	99	119
18.75	C	139	102	111	123
19.50	C	143	99	111	84
20.25	C	131	115	126	99
21.00	C	137	106	124	105
21.75	C	137	105	113	97
22.50	C	134	106	120	99
23.25	C	143	107	106	105
24.00	C	132	107	100	149
24.75	C	102	121	99	143
25.50	C	144	119	124	134
26.25	C	133	111	120	135
27.00	C	136	105	124	132
27.75	C	133	119	119	137
28.50	C	139	122	113	131
29.25	C	138	111	108	132
30.00	C	138	125	120	125
30.75	C	140	91	120	135

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	137	116	120	132
32.25	C	139	109	114	131
33.00	C	137	118	122	141
33.75	C	141	99	98	118
34.50	C	130	108	110	136
35.25	C	125	113	113	136
36.00	C	134	112	121	133
36.75	C	140	112	117	134
37.50	C	125	115	98	131
38.25	C	130	116	97	141
39.00	C	138	108	125	125
39.75	C	108	115	120	135
40.50	C	143	110	127	143
41.25	C	134	118	117	143
42.00	C	136	111	109	109
42.75	C	137	110	117	121
43.50	C	136	116	131	110
44.25	C	141	110	119	109
45.00	C	145	110	105	130
45.75	C	126	119	133	157
46.50	C	143	112	129	154
47.25	C	128	113	131	144
48.00	C	145	126	129	138
48.75	C	150	110	102	155
49.50	C	185	127	116	151
50.25	C	178	108	128	154
51.00	C	162	129	120	154
51.75	C	158	117	97	148
52.50	C	142	118	101	146
53.25	C	148	136	115	147
54.00	C	148	112	115	157
54.75	C	150	128	132	157
55.50	C	142	109	124	154
56.25	C	148	135	121	158
57.00	C	155	139	106	161
57.75	C	157	117	127	154
58.50	C	150	125	116	148
59.25	C	150	135	125	158
60.00	C	143	120	130	153
60.75	R	141	134	130	161
61.50	R	127	110	95	159

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	158	130	113	155
63.00	R	148	125	98	129
63.75	R	142	128	124	166
64.50	R	147	113	130	171
65.25	R	138	107	134	157
66.00	R	137	111	125	167
66.75	R	134	132	120	158
67.50	R	140	115	127	158
68.25	R	123	126	124	157
69.00	R	150	114	132	160
69.75	R	118	128	108	160
70.50	R	139	122	108	156
71.25	R	139	108	122	138
72.00	R	138	112	131	168
72.75	R	140	131	127	161
73.50	R	139	116	121	152
74.25	R	142	99	106	161

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	146	96	114	191
1.50	A	156	101	115	154
2.25	A	149	98	102	187
3.00	A	152	104	118	176
3.75	A	150	82	129	170
4.50	A	148	78	137	190
5.25	A	148	79	146	179
6.00	A	144	77	135	138
6.75	A	147	110	124	158
7.50	A	140	116	117	187
8.25	A	150	107	119	155
9.00	A	146	109	123	146
9.75	A	151	110	121	169
10.50	A	125	115	119	169
11.25	A	151	111	123	166
12.00	A	143	111	116	170
12.75	A	140	112	129	170
13.50	A	143	96	135	170
14.25	A	143	115	128	177
15.00	A	145	111	125	200
15.75	C	146	114	131	189
16.50	C	149	115	124	182
17.25	C	144	123	123	190
18.00	C	147	100	127	181
18.75	C	148	97	119	158
19.50	C	151	78	123	163
20.25	C	152	81	122	164
21.00	C	160	75	121	148
21.75	C	158	76	128	164
22.50	C	150	79	130	188
23.25	C	136	107	122	190
24.00	C	153	114	127	176
24.75	C	152	120	138	233
25.50	C	170	125	121	201
26.25	C	168	123	134	206
27.00	C	171	131	148	210
27.75	C	172	127	122	193
28.50	C	172	115	156	214
29.25	C	154	110	146	254
30.00	C	147	132	151	223
30.75	C	163	140	136	206

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	174	127	138	198
32.25	C	184	119	147	214
33.00	C	188	163	146	228
33.75	C	197	159	141	238
34.50	C	182	146	143	236
35.25	C	182	120	186	200
36.00	C	161	129	184	290
36.75	C	194	94	188	268
37.50	C	208	94	151	251
38.25	C	218	93	193	265
39.00	C	197	149	172	252
39.75	C	222	178	164	240
40.50	C	208	168	126	201
41.25	C	223	182	179	220
42.00	C	236	177	195	191
42.75	C	222	210	217	237
43.50	C	210	154	193	291
44.25	C	162	177	220	272
45.00	C	176	236	199	180
45.75	C	179	109	168	273
46.50	C	214	100	221	334
47.25	C	181	136	255	266
48.00	C	231	103	213	300
48.75	C	282	90	194	206
49.50	C	223	180	355	269
50.25	C	230	229	304	227
51.00	C	245	106	298	192
51.75	C	251	100	278	191
52.50	C	259	95	264	294
53.25	C	244	104	223	271
54.00	C	261	93	259	305
54.75	C	226	161	291	141
55.50	C	272	239	377	255
56.25	C	242	174	247	95
57.00	C	213	97	249	199
57.75	C	280	153	268	85
58.50	C	272	136	368	156
59.25	C	263	63	312	183
60.00	C	278	90	369	122
60.75	C	260	199	320	362
61.50	R	224	229	247	250

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	197	208	213	331
63.00	R	200	172	222	325
63.75	R	174	200	215	325
64.50	R	169	190	177	295
65.25	R	183	186	170	366
66.00	R	178	180	179	292
66.75	R	170	174	166	253
67.50	R	161	157	162	266
68.25	R	173	155	165	250
69.00	R	150	159	145	244
69.75	R	161	161	151	234
70.50	R	161	159	155	235
71.25	R	159	148	149	230
72.00	R	164	156	139	220
72.75	R	160	162	144	229
73.50	R	158	157	144	225
74.25	R	159	124	153	215
75.00	R	168	142	139	208
75.75	R	164	148	147	209
76.50	R	164	161	143	204

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	137	124	119	164
1.50	A	144	120	108	174
2.25	A	123	122	125	165
3.00	A	123	117	101	165
3.75	A	110	124	113	163
4.50	A	131	121	104	166
5.25	A	125	125	107	171
6.00	A	104	128	132	155
6.75	A	122	120	131	165
7.50	A	142	124	115	161
8.25	A	141	122	118	160
9.00	A	133	125	94	160
9.75	A	122	125	89	160
10.50	A	132	132	119	161
11.25	A	138	103	134	170
12.00	A	138	102	105	149
12.75	A	139	108	114	158
13.50	A	138	106	119	164
14.25	A	138	134	129	151
15.00	A	116	129	110	164
15.75	C	141	120	112	166
16.50	C	121	126	138	158
17.25	C	127	122	130	157
18.00	C	134	121	101	155
18.75	C	121	126	100	164
19.50	C	145	129	130	155
20.25	C	143	128	131	155
21.00	C	166	135	128	161
21.75	C	173	135	113	152
22.50	C	141	130	129	162
23.25	C	107	136	139	162
24.00	C	161	143	143	179
24.75	C	159	156	157	175
25.50	C	28	190	174	184
26.25	C	131	194	159	185
27.00	C	201	187	155	173
27.75	C	135	134	131	222
28.50	C	75	231	147	186
29.25	C	33	198	137	192
30.00	C	42	209	131	186
30.75	C	40	126	144	210

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	35	220	116	209
32.25	C	48	168	142	232
33.00	C	42	121	213	201
33.75	C	28	195	240	226
34.50	C	40	201	165	243
35.25	C	36	267	205	195
36.00	C	32	185	264	252
36.75	C	26	159	304	220
37.50	C	50	51	190	231
38.25	C	53	38	162	234
39.00	C	57	39	228	240
39.75	C	51	28	212	253
40.50	C	32	27	153	229
41.25	C	62	17	243	221
42.00	C	59	33	208	254
42.75	C	40	29	264	231
43.50	C	65	29	391	239
44.25	C	100	38	353	237
45.00	C	81	39	295	247
45.75	C	109	30	257	222
46.50	C	106	38	337	218
47.25	C	63	31	250	258
48.00	C	96	18	190	308
48.75	C	104	24	188	294
49.50	C	68	21	174	236
50.25	C	98	14	187	256
51.00	C	114	22	308	231
51.75	C	99	22	320	202
52.50	C	100	14	354	169
53.25	C	92	18	329	237
54.00	C	125	26	330	255
54.75	C	111	18	286	255
55.50	C	99	20	326	252
56.25	C	87	11	441	215
57.00	C	78	24	316	278
57.75	C	80	23	262	271
58.50	C	109	14	320	296
59.25	C	93	22	332	289
60.00	C	109	13	250	238
60.75	C	115	14	318	261
61.50	R	66	26	284	200

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	36	39	222	162
63.00	R	60	79	218	150
63.75	R	123	146	198	147
64.50	R	139	160	185	152
65.25	R	153	167	169	145
66.00	R	157	166	171	142
66.75	R	166	162	163	140
67.50	R	165	167	162	145
68.25	R	159	163	157	139
69.00	R	163	162	158	143
69.75	R	165	161	136	140
70.50	R	166	159	156	137
71.25	R	141	163	156	139
72.00	R	146	163	149	147
72.75	R	172	149	170	134
73.50	R	175	154	138	141
74.25	R	177	156	154	144
75.00	R	173	156	169	138

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	121	121	147	129
1.50	A	139	127	152	118
2.25	A	139	137	147	130
3.00	A	203	114	146	124
3.75	A	226	125	143	114
4.50	A	123	132	143	106
5.25	A	142	133	150	113
6.00	A	136	132	150	120
6.75	A	145	147	147	120
7.50	A	157	164	162	107
8.25	A	122	138	165	115
9.00	A	130	132	156	132
9.75	A	142	163	148	123
10.50	A	152	170	147	109
11.25	A	147	165	146	127
12.00	A	147	164	146	109
12.75	A	145	149	142	120
13.50	A	144	157	140	111
14.25	A	157	148	137	102
15.00	A	68	126	137	115
15.75	C	151	159	143	127
16.50	C	65	159	139	92
17.25	C	183	154	187	115
18.00	C	148	146	168	108
18.75	C	58	115	190	134
19.50	C	62	45	209	108
20.25	C	42	78	296	137
21.00	C	59	88	344	168
21.75	C	37	99	280	121
22.50	C	69	120	519	125
23.25	C	44	99	430	79
24.00	C	75	108	408	149
24.75	C	46	110	624	113
25.50	C	44	127	484	62
26.25	C	62	119	584	54
27.00	C	59	116	609	57
27.75	C	49	129	536	49
28.50	C	45	116	548	61
29.25	C	52	101	565	82
30.00	C	57	91	575	50
30.75	C	67	112	559	46

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	109	86	620	56
32.25	C	95	109	632	31
33.00	C	90	142	502	29
33.75	C	120	138	588	53
34.50	C	71	140	528	36
35.25	C	82	140	496	30
36.00	C	93	113	594	33
36.75	C	103	89	548	27
37.50	C	65	134	558	33
38.25	C	119	136	501	26
39.00	C	73	113	611	43
39.75	C	114	83	594	23
40.50	C	111	89	485	26
41.25	C	87	93	541	34
42.00	C	135	134	513	18
42.75	C	121	95	640	37
43.50	C	128	82	600	32
44.25	C	122	74	430	34
45.00	C	124	151	595	23
45.75	C	82	147	544	49
46.50	C	66	138	573	57
47.25	C	106	136	395	17
48.00	C	138	120	581	21
48.75	C	119	137	585	18
49.50	C	136	135	573	17
50.25	C	100	137	556	45
51.00	C	112	138	535	17
51.75	C	159	140	460	22
52.50	C	112	141	506	37
53.25	C	155	113	637	17
54.00	C	128	135	500	42
54.75	C	110	116	439	17
55.50	C	140	133	536	42
56.25	C	123	119	534	30
57.00	C	102	110	574	16
57.75	C	84	112	445	28
58.50	C	90	110	441	41
59.25	C	154	116	459	38
60.00	C	156	121	434	17
60.75	C	124	126	514	15
61.50	R	146	131	452	16

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	167	135	290	16
63.00	R	169	112	258	16
63.75	R	187	92	258	32
64.50	R	177	98	223	71
65.25	R	165	108	216	85
66.00	R	181	113	222	78
66.75	R	184	118	218	73
67.50	R	161	117	220	127
68.25	R	190	116	220	151
69.00	R	151	110	224	156
69.75	R	145	119	234	146
70.50	R	156	118	221	157
71.25	R	198	117	219	149
72.00	R	151	131	207	155
72.75	R	165	129	216	152
73.50	R	159	125	222	163
74.25	R	150	130	206	153
75.00	R	164	153	231	156

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	123	135	129	118
1.50	A	122	130	121	142
2.25	A	115	130	139	150
3.00	A	119	122	126	59
3.75	A	125	128	125	77
4.50	A	125	127	127	115
5.25	A	121	124	118	119
6.00	A	120	129	156	79
6.75	A	111	123	183	143
7.50	A	121	123	149	142
8.25	A	113	97	134	141
9.00	A	120	127	134	156
9.75	A	118	112	132	105
10.50	A	120	126	127	107
11.25	A	120	131	119	125
12.00	A	118	128	133	142
12.75	A	121	134	122	151
13.50	A	118	131	125	142
14.25	A	121	135	121	127
15.00	C	115	126	120	123
15.75	C	114	129	130	122
16.50	C	119	133	123	118
17.25	C	121	125	141	119
18.00	C	135	136	165	62
18.75	C	158	125	125	68
19.50	C	204	35	246	74
20.25	C	277	26	30	53
21.00	C	360	27	65	54
21.75	C	419	24	103	52
22.50	C	236	27	62	42
23.25	C	192	21	96	46
24.00	C	140	40	112	25
24.75	C	174	53	74	31
25.50	C	136	42	69	35
26.25	C	90	48	89	44
27.00	C	97	29	112	44
27.75	C	60	50	46	36
28.50	C	52	34	49	42
29.25	C	42	42	39	38
30.00	C	98	58	75	30
30.75	C	91	36	32	30

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	38	68	57	34
32.25	C	93	73	52	31
33.00	C	25	55	66	42
33.75	C	32	54	63	35
34.50	C	30	39	32	42
35.25	C	69	30	42	44
36.00	C	74	38	57	43
36.75	C	53	44	54	53
37.50	C	89	66	34	46
38.25	C	27	34	75	59
39.00	C	25	43	50	41
39.75	C	50	81	60	55
40.50	C	25	71	77	48
41.25	C	42	66	51	42
42.00	C	49	59	81	46
42.75	C	28	76	30	45
43.50	C	23	56	46	53
44.25	C	78	33	68	53
45.00	C	30	78	27	50
45.75	C	25	60	86	53
46.50	C	28	60	35	46
47.25	C	46	108	32	49
48.00	C	28	65	45	66
48.75	C	30	82	53	67
49.50	C	54	97	44	48
50.25	C	44	99	22	45
51.00	C	30	90	25	48
51.75	C	115	98	13	35
52.50	C	29	90	44	53
53.25	C	29	58	28	103
54.00	C	61	103	50	89
54.75	C	34	126	97	102
55.50	C	27	125	28	113
56.25	C	44	56	10	62
57.00	C	49	129	36	51
57.75	C	21	120	44	51
58.50	C	18	92	45	82
59.25	C	20	79	21	48
60.00	C	51	96	28	58
60.75	C	134	115	36	96
61.50	R	244	123	17	122

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Expiratory Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	282	92	26	115
63.00	R	223	88	31	142
63.75	R	210	54	29	147
64.50	R	226	56	28	157
65.25	R	212	26	30	141
66.00	R	187	44	33	166
66.75	R	204	37	34	165
67.50	R	185	46	40	169
68.25	R	185	42	41	163
69.00	R	166	38	42	167
69.75	R	182	26	57	150
70.50	R	178	43	55	154
71.25	R	164	47	50	145
72.00	R	151	45	164	150
72.75	R	169	40	197	148
73.50	R	164	72	210	159
74.25	R	162	58	190	152

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	156	98	84	114
1.50	A	157	101	89	124
2.25	A	153	111	88	107
3.00	A	145	103	93	106
3.75	A	155	104	86	107
4.50	A	149	110	81	102
5.25	A	147	103	74	98
6.00	A	141	91	75	108
6.75	A	125	103	84	106
7.50	A	127	103	88	100
8.25	A	122	106	86	106
9.00	A	126	100	80	102
9.75	A	124	100	80	103
10.50	A	124	97	79	101
11.25	A	136	102	72	98
12.00	A	127	104	86	96
12.75	A	122	97	82	102
13.50	A	127	98	76	101
14.25	A	121	97	78	93
15.00	A	122	102	76	102
15.75	C	119	100	80	117
16.50	C	121	91	76	118
17.25	C	128	97	73	108
18.00	C	135	87	67	104
18.75	C	124	93	74	101
19.50	C	121	95	80	96
20.25	C	120	107	78	101
21.00	C	123	104	81	102
21.75	C	124	93	75	111
22.50	C	116	86	84	104
23.25	C	121	86	79	96
24.00	C	115	102	85	99
24.75	C	116	88	77	107
25.50	C	126	103	78	109
26.25	C	119	105	79	102
27.00	C	115	104	77	105
27.75	C	114	96	70	99
28.50	C	113	101	66	97
29.25	C	113	101	87	97
30.00	C	117	99	84	97
30.75	C	112	95	81	100

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	122	94	79	108
32.25	C	128	94	74	106
33.00	C	119	95	75	98
33.75	C	117	95	76	102
34.50	C	115	92	69	100
35.25	C	112	91	80	98
36.00	C	115	88	79	98
36.75	C	112	85	70	96
37.50	C	112	83	76	107
38.25	C	112	91	79	98
39.00	C	112	94	80	109
39.75	C	113	87	74	107
40.50	C	114	92	78	104
41.25	C	99	86	76	95
42.00	C	116	99	76	109
42.75	C	123	103	62	99
43.50	C	113	88	86	94
44.25	C	106	92	87	96
45.00	C	112	86	80	111
45.75	C	108	91	77	106
46.50	C	106	86	74	101
47.25	C	103	90	79	100
48.00	C	107	87	78	101
48.75	C	109	85	69	101
49.50	C	104	88	80	100
50.25	C	113	89	75	102
51.00	C	107	87	75	102
51.75	C	106	87	76	101
52.50	C	117	83	77	97
53.25	C	120	77	72	103
54.00	C	118	91	72	103
54.75	C	113	72	59	97
55.50	C	109	81	74	93
56.25	C	111	80	81	99
57.00	C	104	78	85	92
57.75	C	107	83	82	104
58.50	C	105	86	73	111
59.25	C	106	91	79	106
60.00	C	101	85	77	107
60.75	C	104	92	76	107
61.50	R	106	96	74	108

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	98	93	75	103
63.00	R	104	92	75	104
63.75	R	102	86	76	109
64.50	R	99	89	75	105
65.25	R	103	85	75	98
66.00	R	102	87	75	91
66.75	R	98	81	78	93
67.50	R	106	89	71	106
68.25	R	102	81	63	97
69.00	R	105	76	69	99
69.75	R	95	78	76	98
70.50	R	109	91	74	98
71.25	R	100	85	85	97
72.00	R	106	92	91	95
72.75	R	104	96	80	97
73.50	R	100	87	86	95
74.25	R	111	96	84	95

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	157	87	100	83
1.50	A	145	83	100	81
2.25	A	138	86	84	75
3.00	A	147	89	94	78
3.75	A	157	86	95	82
4.50	A	155	84	86	90
5.25	A	169	84	91	89
6.00	A	175	86	91	90
6.75	A	165	83	107	84
7.50	A	171	80	87	94
8.25	A	150	87	90	92
9.00	A	171	86	94	86
9.75	A	175	85	84	91
10.50	A	163	81	90	88
11.25	A	179	81	88	86
12.00	A	174	81	88	85
12.75	A	169	85	89	86
13.50	A	173	89	81	84
14.25	A	169	85	85	82
15.00	C	178	84	84	83
15.75	C	161	86	88	81
16.50	C	149	84	85	81
17.25	C	152	84	85	83
18.00	C	154	87	75	78
18.75	C	153	84	86	79
19.50	C	152	81	86	68
20.25	C	147	89	93	76
21.00	C	151	87	90	83
21.75	C	151	87	83	76
22.50	C	141	87	87	85
23.25	C	148	91	85	81
24.00	C	146	92	84	93
24.75	C	121	92	85	91
25.50	C	159	92	94	84
26.25	C	158	88	88	85
27.00	C	159	88	92	85
27.75	C	140	90	88	83
28.50	C	141	89	85	82
29.25	C	141	86	86	81
30.00	C	143	93	87	80
30.75	C	143	84	88	84

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	140	93	87	84
32.25	C	141	89	82	80
33.00	C	141	93	84	84
33.75	C	144	87	78	77
34.50	C	136	90	84	82
35.25	C	134	88	86	80
36.00	C	141	88	88	80
36.75	C	144	90	87	79
37.50	C	133	89	77	76
38.25	C	136	88	83	82
39.00	C	142	86	90	77
39.75	C	120	90	91	79
40.50	C	151	89	93	81
41.25	C	143	90	81	84
42.00	C	143	90	80	73
42.75	C	141	87	87	84
43.50	C	137	91	86	75
44.25	C	140	87	83	77
45.00	C	142	91	81	81
45.75	C	140	91	92	90
46.50	C	159	86	89	88
47.25	C	144	88	87	83
48.00	C	174	90	87	85
48.75	C	190	85	78	85
49.50	C	202	89	90	84
50.25	C	209	86	89	85
51.00	C	182	94	86	84
51.75	C	167	94	83	83
52.50	C	163	90	89	82
53.25	C	159	94	96	79
54.00	C	157	89	89	84
54.75	C	156	89	96	84
55.50	C	151	86	90	82
56.25	C	159	90	87	84
57.00	C	166	87	89	85
57.75	C	163	87	94	82
58.50	C	157	89	87	78
59.25	C	158	88	90	84
60.00	C	158	83	89	82
60.75	R	154	88	88	83
61.50	R	136	84	81	80

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	170	87	90	82
63.00	R	156	85	86	72
63.75	R	146	85	98	81
64.50	R	147	81	95	90
65.25	R	140	83	95	83
66.00	R	144	83	90	84
66.75	R	146	90	87	83
67.50	R	148	87	91	84
68.25	R	135	87	90	78
69.00	R	170	84	90	85
69.75	R	133	88	82	84
70.50	R	152	86	88	81
71.25	R	145	84	93	73
72.00	R	140	83	89	86
72.75	R	140	88	90	82
73.50	R	138	82	85	75
74.25	R	142	86	85	82

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	126	83	94	149
1.50	A	136	79	97	138
2.25	A	131	79	98	151
3.00	A	131	79	112	145
3.75	A	129	74	115	139
4.50	A	124	80	114	150
5.25	A	125	76	112	142
6.00	A	122	81	110	129
6.75	A	112	92	108	141
7.50	A	113	89	100	152
8.25	A	119	83	103	136
9.00	A	115	78	106	131
9.75	A	119	78	101	141
10.50	A	103	81	102	138
11.25	A	107	77	102	141
12.00	A	116	80	100	139
12.75	A	113	78	108	138
13.50	A	113	77	110	138
14.25	A	116	83	107	144
15.00	A	118	80	105	148
15.75	C	114	77	107	146
16.50	C	113	74	98	143
17.25	C	109	80	102	139
18.00	C	110	71	100	137
18.75	C	111	78	99	130
19.50	C	111	77	98	133
20.25	C	114	73	98	139
21.00	C	118	70	99	131
21.75	C	113	76	102	140
22.50	C	108	77	108	153
23.25	C	95	80	105	149
24.00	C	103	83	102	142
24.75	C	110	84	108	166
25.50	C	123	84	94	156
26.25	C	118	84	106	160
27.00	C	112	90	109	157
27.75	C	118	83	97	150
28.50	C	116	83	104	159
29.25	C	102	82	103	165
30.00	C	100	89	112	166
30.75	C	114	92	98	154

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	119	87	102	156
32.25	C	122	90	106	163
33.00	C	112	104	97	166
33.75	C	123	98	99	168
34.50	C	118	96	97	166
35.25	C	111	90	109	154
36.00	C	106	91	119	192
36.75	C	118	87	115	176
37.50	C	128	81	102	177
38.25	C	125	77	114	189
39.00	C	125	95	104	182
39.75	C	124	102	95	150
40.50	C	122	93	95	149
41.25	C	124	104	111	167
42.00	C	124	102	117	183
42.75	C	114	116	120	176
43.50	C	112	100	119	204
44.25	C	100	105	114	207
45.00	C	109	118	108	206
45.75	C	107	86	105	227
46.50	C	116	84	116	232
47.25	C	108	99	123	202
48.00	C	125	88	106	188
48.75	C	131	80	100	161
49.50	C	119	96	122	165
50.25	C	124	117	127	161
51.00	C	120	98	131	172
51.75	C	127	108	125	149
52.50	C	125	100	122	195
53.25	C	123	92	99	173
54.00	C	126	81	113	275
54.75	C	110	99	122	250
55.50	C	125	112	119	230
56.25	C	116	113	109	217
57.00	C	106	116	105	313
57.75	C	129	105	97	168
58.50	C	127	114	128	278
59.25	C	122	118	126	268
60.00	C	130	126	135	308
60.75	C	122	124	119	296
61.50	R	121	115	128	291

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	112	116	123	255
63.00	R	119	105	125	251
63.75	R	99	114	122	244
64.50	R	103	115	116	244
65.25	R	113	112	114	253
66.00	R	113	112	114	221
66.75	R	116	114	111	203
67.50	R	111	90	111	206
68.25	R	117	96	114	196
69.00	R	102	99	107	189
69.75	R	99	104	107	184
70.50	R	108	99	106	177
71.25	R	108	99	109	178
72.00	R	110	104	101	175
72.75	R	108	107	106	181
73.50	R	110	106	106	174
74.25	R	112	92	106	165
75.00	R	113	108	100	165
75.75	R	107	102	105	161
76.50	R	107	106	102	162

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	126	107	83	149
1.50	A	124	113	79	156
2.25	A	119	108	86	139
3.00	A	113	97	77	140
3.75	A	100	102	82	140
4.50	A	105	93	79	146
5.25	A	102	97	82	146
6.00	A	95	102	85	132
6.75	A	103	95	83	134
7.50	A	108	95	74	132
8.25	A	100	93	82	133
9.00	A	101	94	74	134
9.75	A	93	92	75	138
10.50	A	99	101	84	137
11.25	A	99	85	82	132
12.00	A	99	91	77	119
12.75	A	99	92	79	129
13.50	A	92	90	82	127
14.25	A	93	107	84	122
15.00	A	84	94	78	130
15.75	C	94	93	76	129
16.50	C	88	91	82	124
17.25	C	100	89	82	131
18.00	C	103	91	77	124
18.75	C	93	93	79	130
19.50	C	105	95	84	122
20.25	C	103	91	89	125
21.00	C	107	95	83	125
21.75	C	112	93	82	120
22.50	C	97	91	84	120
23.25	C	129	100	86	125
24.00	C	129	96	85	129
24.75	C	113	101	83	128
25.50	C	136	109	95	131
26.25	C	112	117	88	134
27.00	C	133	107	88	132
27.75	C	127	91	82	140
28.50	C	130	119	82	118
29.25	C	128	111	79	126
30.00	C	157	113	76	116
30.75	C	160	109	82	122

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	174	120	78	111
32.25	C	165	119	83	122
33.00	C	154	118	87	118
33.75	C	191	109	93	122
34.50	C	252	114	76	123
35.25	C	225	122	84	111
36.00	C	202	111	97	127
36.75	C	244	117	98	125
37.50	C	171	132	76	121
38.25	C	346	130	78	126
39.00	C	228	122	91	132
39.75	C	251	118	88	131
40.50	C	172	129	80	119
41.25	C	208	125	92	122
42.00	C	315	123	94	130
42.75	C	333	126	101	126
43.50	C	381	128	123	125
44.25	C	623	110	126	122
45.00	C	475	99	117	125
45.75	C	515	130	113	124
46.50	C	640	118	115	117
47.25	C	390	131	101	131
48.00	C	611	152	83	133
48.75	C	670	135	84	129
49.50	C	401	132	80	124
50.25	C	576	135	85	127
51.00	C	522	127	109	123
51.75	C	549	131	123	114
52.50	C	554	129	128	98
53.25	C	534	136	118	116
54.00	C	548	127	119	126
54.75	C	476	132	110	132
55.50	C	673	131	121	138
56.25	C	501	134	136	126
57.00	C	489	130	118	140
57.75	C	334	142	93	135
58.50	C	582	149	111	145
59.25	C	522	130	114	144
60.00	C	495	131	118	137
60.75	C	477	136	130	121
61.50	R	319	125	117	110

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	181	119	101	104
63.00	R	172	115	101	102
63.75	R	151	111	96	102
64.50	R	145	112	91	104
65.25	R	148	108	86	103
66.00	R	134	104	89	103
66.75	R	131	107	88	103
67.50	R	131	103	87	105
68.25	R	130	99	87	104
69.00	R	133	102	87	105
69.75	R	140	98	80	102
70.50	R	134	96	88	101
71.25	R	148	101	89	100
72.00	R	155	103	83	94
72.75	R	139	97	91	96
73.50	R	136	99	75	98
74.25	R	138	93	85	93
75.00	R	140	100	87	94

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	166	110	126	107
1.50	A	180	119	119	98
2.25	A	181	124	118	99
3.00	A	229	108	111	95
3.75	A	236	117	115	93
4.50	A	195	122	118	85
5.25	A	237	121	118	95
6.00	A	199	172	114	97
6.75	A	166	179	111	93
7.50	A	175	158	111	90
8.25	A	174	158	115	100
9.00	A	165	150	112	101
9.75	A	184	175	112	94
10.50	A	187	148	117	92
11.25	A	191	140	116	99
12.00	A	172	138	115	91
12.75	A	163	147	108	96
13.50	A	161	164	104	93
14.25	A	206	131	106	91
15.00	A	137	178	106	100
15.75	C	229	159	108	102
16.50	C	167	129	94	78
17.25	C	255	138	114	89
18.00	C	197	130	111	89
18.75	C	202	147	123	97
19.50	C	273	223	127	81
20.25	C	226	342	138	87
21.00	C	210	314	162	91
21.75	C	219	352	161	75
22.50	C	288	518	257	78
23.25	C	278	402	216	95
24.00	C	516	543	225	94
24.75	C	333	488	300	95
25.50	C	399	710	303	98
26.25	C	275	689	232	124
27.00	C	484	734	313	115
27.75	C	281	810	307	124
28.50	C	321	773	300	109
29.25	C	158	629	314	135
30.00	C	361	487	313	123
30.75	C	632	574	351	142

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	1119	482	318	136
32.25	C	990	552	339	137
33.00	C	884	823	289	147
33.75	C	1348	864	324	113
34.50	C	941	928	303	135
35.25	C	1161	876	272	158
36.00	C	1058	762	332	120
36.75	C	1060	578	324	128
37.50	C	678	937	320	148
38.25	C	1511	875	334	151
39.00	C	929	655	323	113
39.75	C	1395	463	334	134
40.50	C	1106	466	257	133
41.25	C	1014	564	301	140
42.00	C	2044	926	278	154
42.75	C	1454	609	301	147
43.50	C	1887	433	340	138
44.25	C	1699	454	292	135
45.00	C	1456	925	358	151
45.75	C	833	929	306	137
46.50	C	216	1039	320	137
47.25	C	1329	1041	267	174
48.00	C	1622	988	326	170
48.75	C	1341	953	321	182
49.50	C	1495	883	334	161
50.25	C	1236	998	317	152
51.00	C	1311	870	308	173
51.75	C	1888	906	262	163
52.50	C	1347	888	278	169
53.25	C	1811	725	306	181
54.00	C	1389	1100	304	159
54.75	C	1216	797	276	178
55.50	C	1735	940	346	142
56.25	C	1857	909	282	168
57.00	C	1229	786	320	183
57.75	C	1032	864	289	192
58.50	C	1969	903	267	188
59.25	C	1929	1134	305	163
60.00	C	1952	1137	285	179
60.75	C	1924	1100	267	186
61.50	R	1585	705	328	191

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	1034	552	314	159
63.00	R	1078	457	298	140
63.75	R	785	466	268	128
64.50	R	756	477	258	128
65.25	R	891	312	259	122
66.00	R	755	257	227	125
66.75	R	874	241	220	148
67.50	R	611	325	199	128
68.25	R	524	209	213	120
69.00	R	518	165	193	113
69.75	R	439	159	195	109
70.50	R	521	152	203	106
71.25	R	648	148	198	101
72.00	R	590	135	182	101
72.75	R	658	143	176	100
73.50	R	502	130	173	101
74.25	R	477	126	176	97
75.00	R	549	134	169	98

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	111	130	115	141
1.50	A	112	129	110	147
2.25	A	109	130	124	186
3.00	A	113	125	114	158
3.75	A	113	124	114	169
4.50	A	111	126	111	179
5.25	A	106	124	102	167
6.00	A	111	125	123	148
6.75	A	106	119	132	131
7.50	A	111	123	135	144
8.25	A	103	108	118	151
9.00	A	109	129	123	151
9.75	A	110	119	124	137
10.50	A	107	128	110	111
11.25	A	107	125	107	116
12.00	A	106	121	125	126
12.75	A	108	124	115	137
13.50	A	105	128	118	140
14.25	A	107	130	112	124
15.00	C	104	122	115	116
15.75	C	105	121	109	105
16.50	C	114	126	114	105
17.25	C	113	132	122	91
18.00	C	119	138	135	85
18.75	C	130	146	142	107
19.50	C	148	172	193	111
20.25	C	182	180	272	125
21.00	C	208	158	161	135
21.75	C	218	188	245	105
22.50	C	170	202	239	131
23.25	C	187	303	133	119
24.00	C	173	473	170	156
24.75	C	186	357	257	143
25.50	C	184	542	173	139
26.25	C	193	707	170	101
27.00	C	185	746	183	134
27.75	C	206	384	230	108
28.50	C	201	199	174	121
29.25	C	205	269	280	118
30.00	C	169	618	150	152
30.75	C	149	549	251	136

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	214	767	249	139
32.25	C	173	817	229	148
33.00	C	214	530	145	135
33.75	C	227	681	202	122
34.50	C	214	687	248	145
35.25	C	207	862	248	154
36.00	C	194	1115	175	152
36.75	C	176	840	240	105
37.50	C	166	895	264	114
38.25	C	225	944	235	136
39.00	C	226	783	209	152
39.75	C	216	1254	295	129
40.50	C	233	1586	290	161
41.25	C	197	1451	258	135
42.00	C	204	1167	245	154
42.75	C	246	1233	285	142
43.50	C	222	1045	237	137
44.25	C	206	772	296	139
45.00	C	224	1160	275	142
45.75	C	225	914	209	109
46.50	C	237	961	276	127
47.25	C	213	1529	244	124
48.00	C	237	1572	264	145
48.75	C	233	1342	201	153
49.50	C	204	1253	254	141
50.25	C	228	1564	307	162
51.00	C	232	1372	280	152
51.75	C	174	1327	291	146
52.50	C	255	1279	295	133
53.25	C	252	960	393	154
54.00	C	201	2257	234	158
54.75	C	226	2061	208	158
55.50	C	246	1399	265	154
56.25	C	241	1507	287	148
57.00	C	184	2129	277	130
57.75	C	309	2286	290	172
58.50	C	248	1511	292	115
59.25	C	246	1796	367	150
60.00	C	220	2008	292	132
60.75	C	243	1308	238	128
61.50	R	212	836	308	112

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Inspiratory Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	193	590	314	106
63.00	R	169	632	270	104
63.75	R	150	373	280	104
64.50	R	165	346	265	99
65.25	R	155	322	257	96
66.00	R	142	299	235	97
66.75	R	152	283	230	94
67.50	R	139	265	227	95
68.25	R	140	237	231	92
69.00	R	130	238	234	96
69.75	R	135	222	210	89
70.50	R	134	207	218	92
71.25	R	129	209	221	87
72.00	R	121	214	203	91
72.75	R	128	199	208	89
73.50	R	127	181	207	94
74.25	R	127	184	188	88

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	6	6	8	8
1.50	A	8	8	6	5
2.25	A	5	6	8	6
3.00	A	5	6	6	8
3.75	A	8	6	5	7
4.50	A	5	6	6	9
5.25	A	7	6	7	6
6.00	A	5	6	6	7
6.75	A	7	9	6	8
7.50	A	5	6	6	7
8.25	A	5	6	5	6
9.00	A	7	6	6	7
9.75	A	5	6	5	8
10.50	A	9	7	7	6
11.25	A	5	6	6	6
12.00	A	8	6	6	9
12.75	A	7	6	5	7
13.50	A	5	6	6	7
14.25	A	5	6	6	7
15.00	A	5	6	6	7
15.75	C	7	6	5	6
16.50	C	6	6	6	7
17.25	C	7	6	6	7
18.00	C	5	8	6	7
18.75	C	5	7	8	6
19.50	C	6	7	6	8
20.25	C	5	6	5	7
21.00	C	5	6	6	8
21.75	C	5	6	7	8
22.50	C	5	8	6	6
23.25	C	5	6	6	8
24.00	C	5	7	6	6
24.75	C	5	8	7	8
25.50	C	5	6	6	7
26.25	C	6	6	5	7
27.00	C	5	7	6	6
27.75	C	5	6	7	7
28.50	C	5	6	6	7
29.25	C	6	6	5	7
30.00	C	5	6	6	8
30.75	C	7	6	5	7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	7	6	6	8
32.25	C	5	6	5	6
33.00	C	5	6	6	6
33.75	C	5	6	5	6
34.50	C	8	6	6	8
35.25	C	6	6	6	7
36.00	C	5	6	5	6
36.75	C	5	6	6	9
37.50	C	6	7	7	7
38.25	C	6	6	5	7
39.00	C	5	7	7	6
39.75	C	6	7	6	8
40.50	C	5	8	6	7
41.25	C	8	7	6	7
42.00	C	8	7	6	7
42.75	C	6	8	6	6
43.50	C	6	6	6	8
44.25	C	5	8	7	8
45.00	C	6	7	7	7
45.75	C	6	7	6	8
46.50	C	7	7	6	8
47.25	C	7	8	5	6
48.00	C	6	8	6	7
48.75	C	5	9	7	6
49.50	C	6	7	5	7
50.25	C	5	7	5	6
51.00	C	7	8	7	7
51.75	C	9	7	5	7
52.50	C	6	6	5	7
53.25	C	7	7	6	6
54.00	C	6	7	7	7
54.75	C	5	8	7	6
55.50	C	6	8	8	8
56.25	C	6	10	6	7
57.00	C	5	8	5	6
57.75	C	5	7	5	8
58.50	C	6	8	9	7
59.25	C	5	8	6	8
60.00	C	6	8	5	7
60.75	C	5	8	5	7
61.50	R	6	7	6	9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	6	7	6	6
63.00	R	6	7	6	6
63.75	R	5	7	5	7
64.50	R	6	7	5	6
65.25	R	6	8	6	7
66.00	R	5	7	5	6
66.75	R	7	8	6	10
67.50	R	5	7	7	7
68.25	R	6	7	7	7
69.00	R	6	7	6	8
69.75	R	7	7	7	6
70.50	R	5	6	8	7
71.25	R	5	8	6	7
72.00	R	5	9	6	10
72.75	R	5	11	7	6
73.50	R	8	8	6	7
74.25	R	7	8	6	7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	7	6	5	6
1.50	A	6	6	6	6
2.25	A	8	6	7	7
3.00	A	7	5	6	6
3.75	A	6	6	5	7
4.50	A	8	7	7	6
5.25	A	12	6	6	6
6.00	A	6	6	7	7
6.75	A	10	6	5	7
7.50	A	6	6	6	6
8.25	A	7	5	6	5
9.00	A	6	6	6	6
9.75	A	8	5	6	5
10.50	A	8	5	5	5
11.25	A	6	6	5	6
12.00	A	8	7	5	6
12.75	A	6	8	5	5
13.50	A	7	5	6	5
14.25	A	7	8	6	6
15.00	C	7	7	5	5
15.75	C	6	6	6	5
16.50	C	7	7	7	5
17.25	C	6	6	5	5
18.00	C	6	5	6	6
18.75	C	6	7	5	6
19.50	C	6	7	5	7
20.25	C	6	7	6	7
21.00	C	8	9	5	6
21.75	C	5	6	5	8
22.50	C	8	6	5	10
23.25	C	6	6	6	7
24.00	C	7	6	6	6
24.75	C	9	6	5	6
25.50	C	8	7	6	5
26.25	C	6	7	5	5
27.00	C	7	6	5	6
27.75	C	6	6	5	5
28.50	C	5	6	6	7
29.25	C	7	8	5	6
30.00	C	7	6	6	6
30.75	C	5	8	6	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	7	8	5	7
32.25	C	6	6	6	6
33.00	C	6	6	6	5
33.75	C	5	9	6	5
34.50	C	6	6	6	6
35.25	C	6	6	7	6
36.00	C	7	6	6	6
36.75	C	5	6	6	7
37.50	C	6	8	6	6
38.25	C	6	6	5	6
39.00	C	6	5	5	6
39.75	C	7	6	6	7
40.50	C	6	5	5	6
41.25	C	6	6	6	6
42.00	C	6	10	6	8
42.75	C	7	6	6	7
43.50	C	6	6	5	8
44.25	C	7	7	7	8
45.00	C	6	8	6	8
45.75	C	6	6	6	9
46.50	C	6	6	5	6
47.25	C	8	7	5	6
48.00	C	29	6	5	7
48.75	C	69	7	5	6
49.50	C	11	7	5	6
50.25	C	10	9	5	7
51.00	C	14	6	6	7
51.75	C	6	6	7	6
52.50	C	10	8	8	7
53.25	C	6	7	5	7
54.00	C	7	13	7	6
54.75	C	7	14	6	7
55.50	C	8	11	7	6
56.25	C	6	6	6	6
57.00	C	6	6	6	6
57.75	C	6	6	5	6
58.50	C	6	7	6	5
59.25	C	6	5	5	9
60.00	C	6	8	8	6
60.75	R	7	6	5	7
61.50	R	8	7	8	8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	6	6	5	6
63.00	R	6	6	6	8
63.75	R	6	6	6	6
64.50	R	6	7	6	7
65.25	R	7	8	6	6
66.00	R	6	7	6	7
66.75	R	7	5	7	6
67.50	R	5	8	6	6
68.25	R	6	6	7	6
69.00	R	6	6	7	6
69.75	R	8	5	7	6
70.50	R	7	6	6	8
71.25	R	6	6	6	6
72.00	R	7	7	5	8
72.75	R	7	6	7	7
73.50	R	6	6	7	7
74.25	R	7	7	5	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	8	5	5	7
1.50	A	5	6	6	9
2.25	A	8	6	9	7
3.00	A	7	7	7	9
3.75	A	12	7	7	8
4.50	A	7	8	6	8
5.25	A	7	9	6	9
6.00	A	8	8	7	37
6.75	A	6	9	6	18
7.50	A	7	7	7	20
8.25	A	6	7	7	15
9.00	A	7	7	6	21
9.75	A	6	6	7	8
10.50	A	10	7	7	7
11.25	A	7	7	6	10
12.00	A	8	6	7	13
12.75	A	8	7	6	10
13.50	A	6	7	6	10
14.25	A	8	7	6	10
15.00	A	7	7	6	10
15.75	C	9	8	7	9
16.50	C	6	7	7	11
17.25	C	8	8	7	7
18.00	C	8	9	6	8
18.75	C	6	10	6	12
19.50	C	8	8	7	11
20.25	C	9	9	6	12
21.00	C	11	9	8	11
21.75	C	9	7	8	7
22.50	C	15	10	7	8
23.25	C	8	9	6	9
24.00	C	7	7	6	28
24.75	C	7	7	6	7
25.50	C	9	7	7	10
26.25	C	7	7	9	7
27.00	C	8	7	6	7
27.75	C	8	8	10	8
28.50	C	7	9	7	10
29.25	C	6	7	7	30
30.00	C	7	11	7	24
30.75	C	8	7	8	15

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	6	11	7	15
32.25	C	7	15	6	13
33.00	C	11	8	7	9
33.75	C	9	8	6	8
34.50	C	9	11	8	11
35.25	C	9	13	11	40
36.00	C	8	12	6	11
36.75	C	11	8	6	11
37.50	C	6	9	10	8
38.25	C	11	8	6	23
39.00	C	7	7	8	61
39.75	C	23	8	7	26
40.50	C	14	10	9	27
41.25	C	22	17	8	44
42.00	C	14	25	9	70
42.75	C	14	25	6	17
43.50	C	13	37	6	19
44.25	C	11	18	8	66
45.00	C	9	11	13	185
45.75	C	8	16	7	130
46.50	C	9	9	9	29
47.25	C	13	8	8	137
48.00	C	13	9	7	41
48.75	C	16	9	14	62
49.50	C	13	8	6	30
50.25	C	15	9	19	56
51.00	C	23	110	11	111
51.75	C	24	154	12	63
52.50	C	15	125	18	46
53.25	C	8	77	16	68
54.00	C	19	21	17	276
54.75	C	25	44	31	450
55.50	C	6	18	24	225
56.25	C	14	89	24	579
57.00	C	18	213	16	702
57.75	C	15	55	13	347
58.50	C	21	113	39	565
59.25	C	32	275	20	486
60.00	C	25	252	21	775
60.75	C	18	128	37	317
61.50	R	12	12	13	257

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	16	9	13	73
63.00	R	11	36	6	81
63.75	R	14	19	8	9
64.50	R	8	11	11	69
65.25	R	6	13	10	40
66.00	R	9	18	11	8
66.75	R	6	11	6	20
67.50	R	9	17	8	12
68.25	R	8	10	8	20
69.00	R	7	13	7	12
69.75	R	6	16	7	17
70.50	R	7	8	7	11
71.25	R	7	14	7	8
72.00	R	6	9	7	21
72.75	R	7	10	11	10
73.50	R	7	8	7	10
74.25	R	9	9	8	10
75.00	R	6	8	6	18
75.75	R	7	10	7	13
76.50	R	6	12	6	12

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	9	7	7	6
1.50	A	8	8	7	12
2.25	A	15	5	8	6
3.00	A	9	6	7	6
3.75	A	7	6	9	7
4.50	A	6	6	7	8
5.25	A	5	6	7	9
6.00	A	7	6	7	8
6.75	A	8	7	9	8
7.50	A	8	5	7	6
8.25	A	8	6	8	6
9.00	A	11	6	7	6
9.75	A	8	6	6	8
10.50	A	8	7	8	8
11.25	A	7	7	8	6
12.00	A	13	6	7	7
12.75	A	9	5	8	6
13.50	A	10	7	8	6
14.25	A	7	5	8	6
15.00	A	8	6	8	8
15.75	C	6	6	7	6
16.50	C	8	5	7	6
17.25	C	7	5	7	6
18.00	C	6	6	7	7
18.75	C	8	5	6	6
19.50	C	10	5	7	7
20.25	C	10	7	8	7
21.00	C	17	5	8	13
21.75	C	21	7	8	8
22.50	C	21	5	9	8
23.25	C	149	5	8	11
24.00	C	81	5	7	9
24.75	C	55	6	8	6
25.50	C	274	9	8	6
26.25	C	66	6	8	6
27.00	C	59	6	8	33
27.75	C	128	19	7	9
28.50	C	191	18	10	10
29.25	C	223	28	8	6
30.00	C	273	37	9	8
30.75	C	230	126	7	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	346	52	8	8
32.25	C	269	115	8	10
33.00	C	269	133	13	11
33.75	C	293	25	10	8
34.50	C	315	41	16	14
35.25	C	336	41	11	12
36.00	C	325	74	11	6
36.75	C	389	133	20	16
37.50	C	237	331	11	8
38.25	C	375	343	12	6
39.00	C	228	336	12	6
39.75	C	327	335	23	22
40.50	C	344	401	12	16
41.25	C	278	371	44	13
42.00	C	278	313	202	9
42.75	C	367	372	180	10
43.50	C	295	373	160	12
44.25	C	189	250	182	13
45.00	C	304	218	202	8
45.75	C	139	399	163	17
46.50	C	199	289	95	17
47.25	C	233	382	150	44
48.00	C	274	422	56	11
48.75	C	154	386	72	14
49.50	C	404	384	44	30
50.25	C	113	413	45	7
51.00	C	162	330	151	13
51.75	C	118	381	266	25
52.50	C	241	410	222	32
53.25	C	169	405	219	22
54.00	C	155	395	265	6
54.75	C	221	390	250	16
55.50	C	134	390	160	64
56.25	C	294	465	133	56
57.00	C	320	408	193	37
57.75	C	393	362	48	37
58.50	C	211	377	109	67
59.25	C	212	428	109	61
60.00	C	161	410	213	78
60.75	C	249	369	236	15
61.50	R	217	252	43	7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	290	201	23	7
63.00	R	182	142	38	7
63.75	R	104	60	22	9
64.50	R	69	38	13	8
65.25	R	48	25	15	7
66.00	R	34	18	10	10
66.75	R	10	25	13	7
67.50	R	11	12	9	8
68.25	R	12	10	8	10
69.00	R	11	12	7	6
69.75	R	28	6	10	7
70.50	R	15	7	10	8
71.25	R	68	7	9	7
72.00	R	78	6	8	8
72.75	R	20	8	9	7
73.50	R	20	8	9	8
74.25	R	8	8	9	8
75.00	R	17	6	10	7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	55	7	8	8
1.50	A	38	8	6	8
2.25	A	32	6	7	7
3.00	A	18	6	6	9
3.75	A	23	7	7	8
4.50	A	58	8	6	8
5.25	A	95	7	8	7
6.00	A	57	39	7	8
6.75	A	37	44	6	8
7.50	A	29	43	14	10
8.25	A	71	45	6	7
9.00	A	55	35	6	8
9.75	A	55	51	6	7
10.50	A	51	17	6	8
11.25	A	65	11	7	6
12.00	A	52	7	5	8
12.75	A	44	27	8	7
13.50	A	45	58	6	8
14.25	A	48	26	7	9
15.00	A	67	55	6	7
15.75	C	83	59	6	8
16.50	C	128	21	8	9
17.25	C	80	18	6	8
18.00	C	69	34	8	8
18.75	C	217	103	6	7
19.50	C	162	164	18	9
20.25	C	261	44	21	11
21.00	C	130	40	11	11
21.75	C	292	45	28	14
22.50	C	140	32	29	49
23.25	C	368	34	49	206
24.00	C	435	7	84	78
24.75	C	513	12	30	173
25.50	C	767	7	75	205
26.25	C	280	21	129	417
27.00	C	593	24	86	348
27.75	C	661	9	97	443
28.50	C	552	23	202	197
29.25	C	193	21	124	464
30.00	C	360	25	83	333
30.75	C	742	14	100	413

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	159	20	67	382
32.25	C	512	12	117	487
33.00	C	483	19	173	788
33.75	C	344	15	51	457
34.50	C	361	10	172	602
35.25	C	698	13	158	748
36.00	C	568	20	51	572
36.75	C	717	23	187	585
37.50	C	386	13	238	827
38.25	C	194	14	143	621
39.00	C	160	23	217	549
39.75	C	524	16	179	722
40.50	C	410	17	266	672
41.25	C	193	14	243	654
42.00	C	10	8	127	823
42.75	C	188	9	114	684
43.50	C	182	25	194	589
44.25	C	225	21	91	597
45.00	C	286	7	91	782
45.75	C	183	10	69	494
46.50	C	247	11	181	365
47.25	C	325	12	94	847
48.00	C	509	21	174	990
48.75	C	259	17	127	986
49.50	C	365	16	220	842
50.25	C	424	17	332	902
51.00	C	606	21	74	1048
51.75	C	25	23	153	867
52.50	C	389	16	172	837
53.25	C	171	17	263	1017
54.00	C	327	12	119	769
54.75	C	367	17	172	1021
55.50	C	420	13	150	756
56.25	C	197	13	195	926
57.00	C	375	18	118	1030
57.75	C	175	16	105	860
58.50	C	72	30	200	774
59.25	C	64	18	89	811
60.00	C	300	24	100	1022
60.75	C	140	26	127	1016
61.50	R	299	34	95	689

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	116	35	24	476
63.00	R	106	50	14	396
63.75	R	57	56	16	288
64.50	R	98	40	17	235
65.25	R	177	42	11	198
66.00	R	152	40	22	196
66.75	R	244	38	20	227
67.50	R	152	65	13	129
68.25	R	174	34	15	79
69.00	R	186	34	23	53
69.75	R	225	28	10	67
70.50	R	211	29	14	49
71.25	R	143	29	16	38
72.00	R	291	19	12	51
72.75	R	172	26	23	42
73.50	R	198	26	11	33
74.25	R	193	14	10	34
75.00	R	192	12	13	28

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	8	7	5	26
1.50	A	8	6	9	25
2.25	A	7	9	6	64
3.00	A	6	6	5	180
3.75	A	6	6	5	154
4.50	A	6	8	6	114
5.25	A	7	7	13	143
6.00	A	7	7	14	146
6.75	A	8	7	11	12
7.50	A	6	7	5	29
8.25	A	9	8	6	33
9.00	A	7	7	6	23
9.75	A	6	10	6	90
10.50	A	6	7	8	13
11.25	A	6	6	10	7
12.00	A	8	7	5	14
12.75	A	7	6	6	28
13.50	A	6	10	7	59
14.25	A	7	6	8	13
15.00	C	6	7	6	11
15.75	C	8	9	5	12
16.50	C	7	6	7	8
17.25	C	7	9	9	15
18.00	C	8	7	104	77
18.75	C	12	42	99	158
19.50	C	15	216	267	163
20.25	C	17	238	926	206
21.00	C	24	251	311	264
21.75	C	138	278	1377	220
22.50	C	191	289	1314	478
23.25	C	259	432	354	309
24.00	C	314	544	495	739
24.75	C	365	343	1413	677
25.50	C	508	568	923	601
26.25	C	586	410	794	355
27.00	C	607	461	966	594
27.75	C	887	463	1785	380
28.50	C	743	198	942	430
29.25	C	843	320	2998	535
30.00	C	501	461	501	829
30.75	C	340	588	1993	686

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	931	428	2216	839
32.25	C	522	150	1818	727
33.00	C	946	186	635	681
33.75	C	1049	508	1029	503
34.50	C	849	704	2159	648
35.25	C	635	530	1838	745
36.00	C	673	544	1112	676
36.75	C	651	267	1719	372
37.50	C	507	308	1767	531
38.25	C	854	461	1986	680
39.00	C	863	174	1350	754
39.75	C	883	168	1669	596
40.50	C	929	126	2044	641
41.25	C	659	266	1363	586
42.00	C	670	366	1652	718
42.75	C	1012	226	2489	618
43.50	C	794	294	1988	549
44.25	C	742	814	1713	559
45.00	C	822	270	2563	595
45.75	C	904	284	1362	335
46.50	C	878	228	2177	593
47.25	C	696	115	1551	482
48.00	C	886	225	2075	643
48.75	C	886	373	1065	622
49.50	C	680	236	2026	554
50.25	C	845	165	1923	749
51.00	C	904	260	1854	562
51.75	C	395	124	2300	636
52.50	C	853	84	1854	527
53.25	C	827	160	2121	585
54.00	C	648	90	1214	537
54.75	C	798	106	785	582
55.50	C	852	151	2110	518
56.25	C	898	175	2433	514
57.00	C	519	75	1692	479
57.75	C	871	48	2277	586
58.50	C	841	104	1915	376
59.25	C	829	87	1792	555
60.00	C	694	48	2420	432
60.75	C	519	130	1091	301
61.50	R	115	100	1062	146

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea Time [msec]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	28	158	669	137
63.00	R	16	99	626	100
63.75	R	9	232	480	91
64.50	R	11	178	449	52
65.25	R	13	205	359	69
66.00	R	12	172	288	33
66.75	R	12	185	288	24
67.50	R	10	161	243	16
68.25	R	8	169	225	16
69.00	R	11	160	215	16
69.75	R	9	170	176	20
70.50	R	10	151	179	15
71.25	R	10	141	188	16
72.00	R	12	143	60	17
72.75	R	9	153	10	19
73.50	R	10	110	8	18
74.25	R	13	125	14	20

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	0	6	15	7
1.50	A	5	6	8	0
2.25	A	5	0	8	2
3.00	A	1	5	2	4
3.75	A	7	1	1	1
4.50	A	0	0	1	7
5.25	A	4	1	7	3
6.00	A	0	6	4	2
6.75	A	1	8	2	3
7.50	A	0	0	2	4
8.25	A	0	0	0	1
9.00	A	2	1	2	2
9.75	A	0	2	0	5
10.50	A	8	3	5	1
11.25	A	0	1	9	2
12.00	A	3	1	7	8
12.75	A	6	3	0	3
13.50	A	0	2	4	3
14.25	A	0	2	2	7
15.00	A	0	0	1	7
15.75	C	2	0	0	3
16.50	C	0	1	1	1
17.25	C	5	0	3	2
18.00	C	0	13	12	3
18.75	C	2	9	14	2
19.50	C	1	9	1	6
20.25	C	0	0	2	4
21.00	C	0	0	1	7
21.75	C	0	2	7	2
22.50	C	0	15	2	3
23.25	C	0	5	1	6
24.00	C	1	8	2	3
24.75	C	3	14	7	5
25.50	C	0	0	3	3
26.25	C	1	0	0	5
27.00	C	0	0	1	1
27.75	C	0	4	10	3
28.50	C	0	1	4	4
29.25	C	1	1	0	2
30.00	C	0	0	1	6
30.75	C	7	1	0	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	3	0	2	4
32.25	C	0	0	1	1
33.00	C	0	0	3	2
33.75	C	0	0	0	1
34.50	C	3	0	5	4
35.25	C	3	1	1	3
36.00	C	0	2	0	0
36.75	C	0	2	3	8
37.50	C	0	9	4	2
38.25	C	1	6	0	6
39.00	C	0	7	2	1
39.75	C	1	15	7	3
40.50	C	0	11	1	2
41.25	C	9	13	1	5
42.00	C	5	3	4	2
42.75	C	0	0	11	1
43.50	C	1	4	3	8
44.25	C	0	2	3	7
45.00	C	1	1	3	3
45.75	C	1	0	4	4
46.50	C	3	1	4	4
47.25	C	2	1	0	1
48.00	C	1	3	2	2
48.75	C	0	6	7	2
49.50	C	4	1	0	7
50.25	C	0	0	2	1
51.00	C	2	1	5	2
51.75	C	10	0	1	3
52.50	C	3	0	0	5
53.25	C	3	5	2	2
54.00	C	1	0	8	4
54.75	C	0	12	15	2
55.50	C	1	11	15	7
56.25	C	0	13	2	4
57.00	C	2	16	0	9
57.75	C	0	13	0	5
58.50	C	1	8	9	2
59.25	C	0	5	3	3
60.00	C	1	9	1	1
60.75	C	0	2	0	2
61.50	R	1	0	2	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	4	1	2	4
63.00	R	1	0	3	2
63.75	R	0	4	0	2
64.50	R	1	0	0	1
65.25	R	1	3	2	3
66.00	R	0	1	2	6
66.75	R	8	7	1	11
67.50	R	0	0	5	5
68.25	R	1	4	15	9
69.00	R	1	12	14	3
69.75	R	5	15	7	1
70.50	R	0	5	12	2
71.25	R	0	13	3	2
72.00	R	0	8	2	7
72.75	R	1	3	6	0
73.50	R	4	7	1	3
74.25	R	1	0	1	6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	1	1	1	2
1.50	A	2	6	1	10
2.25	A	6	4	10	11
3.00	A	5	3	9	10
3.75	A	2	4	5	9
4.50	A	5	6	7	4
5.25	A	3	1	4	5
6.00	A	0	6	6	4
6.75	A	5	2	0	4
7.50	A	0	3	1	0
8.25	A	8	0	4	0
9.00	A	0	6	4	1
9.75	A	5	2	7	0
10.50	A	2	1	2	0
11.25	A	0	2	3	2
12.00	A	3	7	5	1
12.75	A	1	11	5	1
13.50	A	1	1	4	1
14.25	A	1	8	6	1
15.00	C	1	5	0	0
15.75	C	0	2	2	1
16.50	C	1	4	3	0
17.25	C	0	5	1	0
18.00	C	0	0	9	3
18.75	C	0	10	3	1
19.50	C	0	10	2	15
20.25	C	2	4	1	13
21.00	C	2	12	0	3
21.75	C	0	6	4	12
22.50	C	1	4	0	15
23.25	C	0	3	3	9
24.00	C	1	2	8	2
24.75	C	9	1	2	1
25.50	C	1	2	1	0
26.25	C	0	8	2	0
27.00	C	1	5	0	1
27.75	C	0	1	0	0
28.50	C	0	1	3	4
29.25	C	1	5	4	3
30.00	C	2	2	1	5
30.75	C	0	16	1	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	1	5	1	3
32.25	C	1	6	3	1
33.00	C	0	0	2	0
33.75	C	0	14	7	7
34.50	C	2	2	4	1
35.25	C	3	4	6	2
36.00	C	2	3	2	1
36.75	C	0	3	1	2
37.50	C	2	7	8	6
38.25	C	1	5	3	1
39.00	C	0	2	0	3
39.75	C	5	1	2	5
40.50	C	0	2	0	1
41.25	C	0	2	4	0
42.00	C	0	7	5	7
42.75	C	1	8	3	5
43.50	C	0	5	1	9
44.25	C	1	4	5	8
45.00	C	0	6	5	8
45.75	C	4	1	1	4
46.50	C	0	2	0	1
47.25	C	5	6	0	2
48.00	C	8	1	0	2
48.75	C	27	7	8	0
49.50	C	2	3	1	3
50.25	C	3	12	0	2
51.00	C	4	1	2	2
51.75	C	0	5	5	2
52.50	C	4	10	8	2
53.25	C	0	4	1	3
54.00	C	1	18	5	3
54.75	C	1	14	1	2
55.50	C	7	14	4	2
56.25	C	0	2	7	1
57.00	C	0	1	4	1
57.75	C	0	9	1	2
58.50	C	0	4	4	1
59.25	C	1	0	1	6
60.00	C	0	7	5	2
60.75	R	2	2	1	3
61.50	R	3	9	10	4

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	0	1	3	0
63.00	R	0	0	7	8
63.75	R	0	2	2	1
64.50	R	0	8	1	1
65.25	R	2	10	1	3
66.00	R	3	11	4	2
66.75	R	1	0	5	1
67.50	R	0	9	6	0
68.25	R	7	1	5	1
69.00	R	0	4	2	1
69.75	R	7	0	8	1
70.50	R	1	2	5	2
71.25	R	0	8	4	3
72.00	R	1	6	1	2
72.75	R	1	1	2	2
73.50	R	0	5	4	3
74.25	R	1	15	4	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	8	1	0	0
1.50	A	0	2	1	6
2.25	A	2	1	11	0
3.00	A	1	3	2	2
3.75	A	7	8	4	4
4.50	A	2	9	0	1
5.25	A	2	16	0	4
6.00	A	4	13	2	24
6.75	A	2	7	0	20
7.50	A	1	1	2	5
8.25	A	0	1	2	14
9.00	A	2	2	0	18
9.75	A	1	0	2	4
10.50	A	9	1	2	1
11.25	A	4	2	0	4
12.00	A	3	0	2	8
12.75	A	3	3	2	4
13.50	A	2	8	0	5
14.25	A	2	1	0	3
15.00	A	3	1	0	2
15.75	C	3	2	2	2
16.50	C	0	5	1	4
17.25	C	2	2	1	0
18.00	C	2	14	0	2
18.75	C	0	14	1	6
19.50	C	3	15	2	4
20.25	C	3	17	0	7
21.00	C	5	19	6	7
21.75	C	4	10	5	7
22.50	C	7	23	2	1
23.25	C	6	11	0	1
24.00	C	2	3	1	7
24.75	C	3	2	0	0
25.50	C	3	2	6	2
26.25	C	1	1	3	0
27.00	C	1	1	0	0
27.75	C	2	3	10	2
28.50	C	1	5	3	2
29.25	C	1	6	4	7
30.00	C	5	5	0	6
30.75	C	3	3	3	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	0	10	1	5
32.25	C	1	15	0	3
33.00	C	3	1	1	2
33.75	C	1	1	2	0
34.50	C	4	7	7	1
35.25	C	6	16	6	12
36.00	C	8	12	0	1
36.75	C	6	17	0	2
37.50	C	0	17	5	0
38.25	C	4	21	0	6
39.00	C	2	1	1	11
39.75	C	8	2	6	16
40.50	C	5	6	6	10
41.25	C	10	10	6	21
42.00	C	3	16	3	24
42.75	C	4	10	1	4
43.50	C	8	27	0	2
44.25	C	11	12	1	13
45.00	C	3	5	7	35
45.75	C	5	26	5	18
46.50	C	4	13	5	3
47.25	C	13	4	1	22
48.00	C	5	11	4	8
48.75	C	4	14	8	20
49.50	C	6	3	0	11
50.25	C	6	1	4	19
51.00	C	9	64	1	24
51.75	C	6	70	4	27
52.50	C	5	64	9	9
53.25	C	2	56	8	17
54.00	C	6	26	7	28
54.75	C	11	25	5	37
55.50	C	0	8	4	19
56.25	C	7	39	14	32
57.00	C	7	71	6	31
57.75	C	4	36	6	38
58.50	C	7	56	6	35
59.25	C	10	83	5	31
60.00	C	6	77	3	29
60.75	C	7	44	[illegible]	20
61.50	R	4	4	3	24

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	7	1	2	8
63.00	R	6	20	0	6
63.75	R	8	7	1	0
64.50	R	2	4	3	12
65.25	R	1	4	4	2
66.00	R	2	6	4	0
66.75	R	1	4	0	5
67.50	R	4	17	2	2
68.25	R	4	6	2	4
69.00	R	3	7	2	3
69.75	R	1	8	1	4
70.50	R	2	1	1	1
71.25	R	1	10	1	1
72.00	R	0	1	3	11
72.75	R	1	3	6	1
73.50	R	1	1	1	2
74.25	R	2	5	2	2
75.00	R	0	1	0	8
75.75	R	2	2	2	4
76.50	R	0	5	0	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	4	1	7	1
1.50	A	3	5	9	9
2.25	A	17	1	5	1
3.00	A	7	1	8	0
3.75	A	5	0	8	1
4.50	A	2	1	10	1
5.25	A	1	1	5	2
6.00	A	8	0	5	5
6.75	A	6	2	6	2
7.50	A	3	0	8	0
8.25	A	2	1	5	0
9.00	A	6	0	9	0
9.75	A	7	0	11	2
10.50	A	4	2	6	3
11.25	A	3	6	3	0
12.00	A	10	3	6	3
12.75	A	5	1	6	0
13.50	A	5	5	5	0
14.25	A	4	0	4	1
15.00	A	8	0	7	2
15.75	C	3	1	7	0
16.50	C	5	1	3	0
17.25	C	4	0	2	0
18.00	C	2	1	9	2
18.75	C	7	0	3	0
19.50	C	3	0	4	1
20.25	C	6	1	5	1
21.00	C	15	0	6	8
21.75	C	12	1	10	3
22.50	C	17	1	5	5
23.25	C	57	0	5	5
24.00	C	36	0	6	4
24.75	C	33	0	5	0
25.50	C	88	6	2	0
26.25	C	43	1	4	0
27.00	C	23	0	5	15
27.75	C	53	17	4	3
28.50	C	76	6	6	5
29.25	C	83	11	7	0
30.00	C	76	12	14	3
30.75	C	70	48	7	0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	74	20	6	3
32.25	C	67	42	6	4
33.00	C	66	54	6	6
33.75	C	61	9	6	1
34.50	C	55	18	15	3
35.25	C	58	13	6	6
36.00	C	57	29	5	0
36.75	C	58	49	5	7
37.50	C	57	71	14	4
38.25	C	37	80	15	0
39.00	C	41	82	9	0
39.75	C	44	72	15	10
40.50	C	54	79	18	9
41.25	C	42	85	17	9
42.00	C	41	78	36	1
42.75	C	45	75	28	2
43.50	C	28	74	19	2
44.25	C	11	67	26	4
45.00	C	16	68	30	1
45.75	C	17	71	30	8
46.50	C	10	79	20	7
47.25	C	26	74	30	15
48.00	C	13	72	21	3
48.75	C	16	78	26	3
49.50	C	24	74	17	11
50.25	C	15	78	25	1
51.00	C	10	76	24	5
51.75	C	16	72	28	9
52.50	C	18	81	24	20
53.25	C	16	73	28	10
54.00	C	12	71	22	0
54.75	C	9	73	25	4
55.50	C	14	75	27	18
56.25	C	21	73	15	23
57.00	C	26	73	21	9
57.75	C	29	77	13	10
58.50	C	12	73	19	16
59.25	C	20	75	20	16
60.00	C	19	79	21	23
60.75	C	15	84	28	5
61.50	R	45	101	14	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	77	109	11	2
63.00	R	82	84	16	1
63.75	R	50	36	16	5
64.50	R	37	25	6	2
65.25	R	26	12	13	2
66.00	R	21	10	8	5
66.75	R	3	12	9	1
67.50	R	3	6	6	2
68.25	R	5	5	5	4
69.00	R	5	5	2	0
69.75	R	11	1	7	2
70.50	R	5	1	6	3
71.25	R	29	1	4	1
72.00	R	31	0	7	4
72.75	R	8	3	4	2
73.50	R	8	5	9	4
74.25	R	1	2	3	5
75.00	R	7	0	5	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	35	4	1	1
1.50	A	22	3	0	4
2.25	A	22	1	1	0
3.00	A	5	4	1	6
3.75	A	6	4	1	7
4.50	A	29	3	0	8
5.25	A	35	1	2	5
6.00	A	29	16	1	2
6.75	A	26	24	1	3
7.50	A	17	20	4	12
8.25	A	35	29	0	2
9.00	A	34	22	0	1
9.75	A	28	23	0	1
10.50	A	24	6	0	8
11.25	A	33	3	1	0
12.00	A	28	0	0	11
12.75	A	25	17	2	1
13.50	A	29	22	1	7
14.25	A	22	19	1	11
15.00	A	42	31	0	4
15.75	C	30	28	1	1
16.50	C	51	8	6	14
17.25	C	23	8	0	7
18.00	C	31	20	3	10
18.75	C	68	52	0	0
19.50	C	42	58	9	9
20.25	C	47	17	10	10
21.00	C	38	18	7	4
21.75	C	50	16	18	14
22.50	C	20	9	2	31
23.25	C	33	10	5	58
24.00	C	22	1	9	38
24.75	C	27	3	2	52
25.50	C	27	0	3	62
26.25	C	28	4	8	61
27.00	C	24	4	8	51
27.75	C	27	1	7	45
28.50	C	25	3	10	44
29.25	C	40	5	10	38
30.00	C	27	10	5	44
30.75	C	16	2	7	45

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	6	13	2	49
32.25	C	7	3	7	52
33.00	C	10	1	15	41
33.75	C	4	1	4	41
34.50	C	12	0	4	43
35.25	C	8	2	12	45
36.00	C	10	5	5	46
36.75	C	7	6	6	52
37.50	C	14	1	8	44
38.25	C	3	1	7	45
39.00	C	14	6	10	41
39.75	C	6	9	12	48
40.50	C	6	10	12	49
41.25	C	9	9	14	45
42.00	C	0	0	17	43
42.75	C	3	5	12	40
43.50	C	1	12	9	47
44.25	C	3	12	15	44
45.00	C	4	0	9	40
45.75	C	11	0	13	37
46.50	C	19	0	10	38
47.25	C	6	0	15	43
48.00	C	3	4	9	36
48.75	C	6	0	12	36
49.50	C	4	0	12	38
50.25	C	9	0	15	34
51.00	C	5	0	12	38
51.75	C	1	1	14	39
52.50	C	8	0	17	39
53.25	C	1	6	13	37
54.00	C	6	0	18	39
54.75	C	5	3	24	37
55.50	C	2	0	15	36
56.25	C	5	1	16	37
57.00	C	6	6	13	36
57.75	C	11	2	22	35
58.50	C	5	4	21	33
59.25	C	1	0	22	35
60.00	C	1	1	21	37
60.75	C	2	0	23	36
61.50	R	3	5	15	50

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	4	5	11	70
63.00	R	5	16	4	81
63.75	R	6	19	3	93
64.50	R	7	14	5	83
65.25	R	10	22	3	80
66.00	R	9	21	4	86
66.75	R	7	23	4	81
67.50	R	16	26	2	57
68.25	R	12	23	2	44
69.00	R	21	26	5	31
69.75	R	25	24	1	42
70.50	R	24	23	3	30
71.25	R	12	25	3	30
72.00	R	20	14	2	31
72.75	R	17	19	7	30
73.50	R	24	21	1	19
74.25	R	27	14	1	24
75.00	R	21	5	3	18

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	3	1	0	26
1.50	A	3	1	4	14
2.25	A	3	6	0	27
3.00	A	6	1	0	71
3.75	A	3	1	0	67
4.50	A	1	4	1	49
5.25	A	1	1	19	48
6.00	A	2	0	9	61
6.75	A	7	4	9	7
7.50	A	1	2	0	16
8.25	A	6	14	1	21
9.00	A	1	2	0	10
9.75	A	2	16	1	54
10.50	A	3	3	2	11
11.25	A	0	0	11	0
12.00	A	6	3	0	8
12.75	A	3	0	1	18
13.50	A	2	4	2	34
14.25	A	2	0	3	9
15.00	C	3	2	1	7
15.75	C	7	3	1	7
16.50	C	2	0	3	3
17.25	C	4	7	3	16
18.00	C	8	1	26	73
18.75	C	9	31	31	76
19.50	C	12	87	29	66
20.25	C	13	71	36	66
21.00	C	6	72	35	56
21.75	C	14	54	27	65
22.50	C	27	55	25	53
23.25	C	38	41	29	55
24.00	C	40	26	26	48
24.75	C	40	29	22	47
25.50	C	41	27	20	51
26.25	C	38	20	22	55
27.00	C	38	20	21	47
27.75	C	39	32	17	49
28.50	C	41	45	28	54
29.25	C	41	33	14	50
30.00	C	34	23	22	45
30.75	C	38	24	17	47

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	38	17	18	41
32.25	C	34	12	17	47
33.00	C	38	28	28	46
33.75	C	35	19	23	59
34.50	C	40	16	17	46
35.25	C	32	19	19	47
36.00	C	35	13	18	50
36.75	C	39	15	18	58
37.50	C	33	13	18	53
38.25	C	41	16	15	47
39.00	C	40	17	18	48
39.75	C	36	8	17	53
40.50	C	37	4	13	52
41.25	C	41	8	20	56
42.00	C	40	10	17	49
42.75	C	33	9	14	53
43.50	C	42	10	16	54
44.25	C	33	19	17	55
45.00	C	42	11	15	55
45.75	C	39	17	18	64
46.50	C	39	15	15	47
47.25	C	35	3	17	49
48.00	C	39	7	17	51
48.75	C	39	8	20	53
49.50	C	40	6	18	54
50.25	C	39	6	19	47
51.00	C	39	10	19	56
51.75	C	30	6	18	54
52.50	C	39	6	17	54
53.25	C	40	14	15	49
54.00	C	38	1	23	56
54.75	C	40	3	17	53
55.50	C	40	7	17	53
56.25	C	37	5	17	58
57.00	C	40	2	20	58
57.75	C	36	0	15	55
58.50	C	42	6	17	63
59.25	C	41	3	18	58
60.00	C	39	2	17	66
60.75	C	38	7	27	73
61.50	R	22	9	32	73

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

Apnea/Logging Period [#]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	5	19	45	68
63.00	R	6	16	47	56
63.75	R	3	43	56	50
64.50	R	2	48	60	36
65.25	R	4	65	70	48
66.00	R	3	62	79	21
66.75	R	2	68	81	16
67.50	R	4	68	85	10
68.25	R	1	73	88	10
69.00	R	5	75	89	7
69.75	R	1	92	87	18
70.50	R	2	84	88	11
71.25	R	3	81	90	11
72.00	R	4	83	26	10
72.75	R	1	90	2	15
73.50	R	2	72	1	10
74.25	R	5	80	7	14

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	1.0	1.1	1.1	1.0
1.50	A	.9	1.0	1.1	1.1
2.25	A	.9	1.1	1.1	1.1
3.00	A	.9	1.0	1.1	1.1
3.75	A	.9	1.0	1.2	1.1
4.50	A	.9	1.1	1.3	1.1
5.25	A	.9	1.1	1.3	1.1
6.00	A	1.0	1.1	1.1	1.2
6.75	A	1.0	1.0	1.2	1.1
7.50	A	1.0	1.1	1.3	1.1
8.25	A	1.1	1.1	1.2	1.1
9.00	A	1.0	1.1	1.4	1.2
9.75	A	1.1	1.1	1.3	1.1
10.50	A	1.0	1.1	1.3	1.2
11.25	A	1.0	1.1	1.2	1.2
12.00	A	1.0	1.1	1.1	1.2
12.75	A	1.0	1.1	1.6	1.2
13.50	A	1.0	1.1	1.4	1.2
14.25	A	1.1	1.1	1.6	1.1
15.00	A	1.1	1.1	1.5	1.0
15.75	C	1.1	1.2	1.5	1.0
16.50	C	1.1	1.2	1.5	1.1
17.25	C	1.0	1.2	1.6	1.1
18.00	C	1.1	1.0	1.3	1.1
18.75	C	1.0	1.0	1.2	1.2
19.50	C	1.1	1.0	1.6	1.1
20.25	C	1.1	1.1	1.5	1.1
21.00	C	1.1	1.1	1.5	1.1
21.75	C	1.1	1.2	1.5	1.1
22.50	C	1.1	1.0	1.6	1.2
23.25	C	1.1	1.1	1.7	1.1
24.00	C	1.1	1.1	1.4	1.2
24.75	C	1.0	1.0	1.3	1.1
25.50	C	1.1	1.1	1.6	1.1
26.25	C	1.1	1.2	1.7	1.2
27.00	C	1.1	1.2	1.7	1.2
27.75	C	1.1	1.1	1.6	1.2
28.50	C	1.1	1.2	1.4	1.2
29.25	C	1.1	1.2	1.6	1.2
30.00	C	1.1	1.2	1.5	1.1
30.75	C	1.0	1.2	1.5	1.1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	1.0	1.2	1.5	1.1
32.25	C	1.1	1.2	1.7	1.2
33.00	C	1.1	1.2	1.7	1.2
33.75	C	1.1	1.2	1.6	1.2
34.50	C	1.1	1.2	1.5	1.2
35.25	C	1.1	1.2	1.7	1.2
36.00	C	1.1	1.2	1.6	1.2
36.75	C	1.1	1.2	1.5	1.2
37.50	C	1.1	1.1	1.8	1.2
38.25	C	1.1	1.0	1.7	1.2
39.00	C	1.1	1.0	1.6	1.2
39.75	C	1.1	.9	1.5	1.2
40.50	C	1.1	1.0	1.7	1.2
41.25	C	1.0	1.1	1.7	1.2
42.00	C	1.0	1.2	1.6	1.2
42.75	C	1.1	1.3	1.2	1.2
43.50	C	1.0	1.2	1.8	1.1
44.25	C	1.1	1.3	1.6	1.2
45.00	C	1.1	1.5	1.6	1.2
45.75	C	1.1	1.4	1.5	1.2
46.50	C	1.1	1.4	1.7	1.3
47.25	C	1.1	1.4	1.6	1.3
48.00	C	1.1	1.3	1.5	1.2
48.75	C	1.1	1.4	1.6	1.2
49.50	C	1.0	1.4	1.7	1.2
50.25	C	1.1	1.4	1.6	1.2
51.00	C	1.2	1.4	1.5	1.2
51.75	C	1.0	1.3	1.6	1.2
52.50	C	1.1	1.4	1.6	1.2
53.25	C	1.0	1.4	1.6	1.2
54.00	C	1.1	1.5	1.6	1.2
54.75	C	1.1	1.3	1.3	1.3
55.50	C	1.1	1.3	1.0	1.1
56.25	C	1.2	1.2	1.4	1.2
57.00	C	1.1	1.1	1.5	1.2
57.75	C	1.1	1.0	1.6	1.2
58.50	C	1.2	1.2	1.5	1.2
59.25	C	1.2	1.2	1.6	1.3
60.00	C	1.1	1.3	1.6	1.2
60.75	C	1.2	1.3	1.6	1.2
61.50	R	1.2	1.3	1.6	1.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	1.2	1.3	1.6	1.2
63.00	R	1.2	1.3	1.6	1.2
63.75	R	1.2	1.3	1.6	1.2
64.50	R	1.1	1.3	1.5	1.3
65.25	R	1.2	1.3	1.6	1.3
66.00	R	1.2	1.4	1.5	1.2
66.75	R	1.1	1.3	1.6	1.1
67.50	R	1.2	1.4	1.6	1.2
68.25	R	1.2	1.3	1.2	1.2
69.00	R	1.2	1.2	1.0	1.2
69.75	R	1.1	1.0	1.3	1.3
70.50	R	1.2	1.0	1.2	1.3
71.25	R	1.2	1.1	1.3	1.3
72.00	R	1.2	1.2	1.4	1.3
72.75	R	1.2	1.3	1.4	1.3
73.50	R	1.2	1.3	1.4	1.3
74.25	R	1.2	1.3	1.5	1.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	.9	1.2	1.2	1.3
1.50	A	.8	1.1	1.2	1.3
2.25	A	.8	1.1	1.0	1.1
3.00	A	.8	1.1	1.1	1.2
3.75	A	.8	1.1	1.1	1.1
4.50	A	.8	1.2	1.1	1.5
5.25	A	.8	1.2	1.2	1.3
6.00	A	.8	1.1	1.2	1.3
6.75	A	.8	1.2	1.3	1.4
7.50	A	.8	1.2	1.2	1.5
8.25	A	.8	1.2	1.2	1.5
9.00	A	.8	1.2	1.2	1.4
9.75	A	.8	1.3	1.2	1.4
10.50	A	.8	1.3	1.2	1.4
11.25	A	.8	1.3	1.2	1.4
12.00	A	.8	1.2	1.2	1.4
12.75	A	.8	1.1	1.3	1.4
13.50	A	.8	1.2	1.3	1.5
14.25	A	.9	1.2	1.2	1.5
15.00	C	.8	1.3	1.3	1.5
15.75	C	.8	1.4	1.3	1.5
16.50	C	.9	1.3	1.4	1.5
17.25	C	.9	1.3	1.3	1.5
18.00	C	.9	1.3	1.3	1.5
18.75	C	.9	1.2	1.3	1.6
19.50	C	.9	1.2	1.3	1.2
20.25	C	.9	1.3	1.3	1.3
21.00	C	.9	1.2	1.4	1.3
21.75	C	.9	1.2	1.4	1.3
22.50	C	1.0	1.2	1.4	1.2
23.25	C	1.0	1.2	1.3	1.3
24.00	C	.9	1.2	1.2	1.6
24.75	C	.8	1.3	1.2	1.6
25.50	C	.9	1.3	1.3	1.6
26.25	C	.8	1.3	1.4	1.6
27.00	C	.9	1.2	1.3	1.5
27.75	C	1.0	1.3	1.3	1.7
28.50	C	1.0	1.4	1.3	1.6
29.25	C	1.0	1.3	1.3	1.6
30.00	C	1.0	1.3	1.4	1.6
30.75	C	1.0	1.1	1.4	1.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	1.0	1.3	1.4	1.6
32.25	C	1.0	1.2	1.4	1.6
33.00	C	1.0	1.3	1.5	1.7
33.75	C	1.0	1.1	1.3	1.5
34.50	C	1.0	1.2	1.3	1.7
35.25	C	.9	1.3	1.3	1.7
36.00	C	1.0	1.3	1.4	1.7
36.75	C	1.0	1.2	1.3	1.7
37.50	C	.9	1.3	1.3	1.7
38.25	C	1.0	1.3	1.2	1.7
39.00	C	1.0	1.3	1.4	1.6
39.75	C	.9	1.3	1.3	1.7
40.50	C	1.0	1.2	1.4	1.8
41.25	C	.9	1.3	1.4	1.7
42.00	C	1.0	1.2	1.4	1.5
42.75	C	1.0	1.3	1.3	1.4
43.50	C	1.0	1.3	1.5	1.5
44.25	C	1.0	1.3	1.4	1.4
45.00	C	1.0	1.2	1.3	1.6
45.75	C	.9	1.3	1.5	1.7
46.50	C	.9	1.3	1.5	1.8
47.25	C	.9	1.3	1.5	1.7
48.00	C	.8	1.4	1.5	1.6
48.75	C	.8	1.3	1.3	1.8
49.50	C	.9	1.4	1.3	1.8
50.25	C	.9	1.3	1.4	1.8
51.00	C	.9	1.4	1.4	1.8
51.75	C	1.0	1.2	1.2	1.8
52.50	C	.9	1.3	1.1	1.8
53.25	C	.9	1.5	1.2	1.9
54.00	C	.9	1.3	1.3	1.9
54.75	C	1.0	1.4	1.4	1.9
55.50	C	.9	1.3	1.4	1.9
56.25	C	.9	1.5	1.4	1.9
57.00	C	.9	1.6	1.2	1.9
57.75	C	1.0	1.3	1.3	1.9
58.50	C	1.0	1.4	1.3	1.9
59.25	C	1.0	1.5	1.4	1.9
60.00	C	.9	1.5	1.5	1.9
60.75	R	.9	1.5	1.5	1.9
61.50	R	.9	1.3	1.2	2.0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	.9	1.5	1.3	1.9
63.00	R	1.0	1.5	1.1	1.8
63.75	R	1.0	1.5	1.3	2.1
64.50	R	1.0	1.4	1.4	1.9
65.25	R	1.0	1.3	1.4	1.9
66.00	R	1.0	1.3	1.4	2.0
66.75	R	.9	1.5	1.4	1.9
67.50	R	1.0	1.3	1.4	1.9
68.25	R	.9	1.5	1.4	2.0
69.00	R	.9	1.4	1.5	1.9
69.75	R	.9	1.5	1.3	1.9
70.50	R	.9	1.4	1.2	1.9
71.25	R	1.0	1.3	1.3	1.9
72.00	R	1.0	1.3	1.5	2.0
72.75	R	1.0	1.5	1.4	2.0
73.50	R	1.0	1.4	1.4	2.0
74.25	R	1.0	1.2	1.3	2.0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	1.2	1.2	1.2	1.3
1.50	A	1.2	1.3	1.2	1.1
2.25	A	1.1	1.2	1.0	1.2
3.00	A	1.2	1.3	1.0	1.2
3.75	A	1.2	1.1	1.1	1.2
4.50	A	1.2	1.0	1.2	1.3
5.25	A	1.2	1.0	1.3	1.3
6.00	A	1.2	1.0	1.2	1.1
6.75	A	1.3	1.2	1.2	1.1
7.50	A	1.2	1.3	1.2	1.2
8.25	A	1.3	1.3	1.2	1.1
9.00	A	1.3	1.4	1.2	1.1
9.75	A	1.3	1.4	1.2	1.2
10.50	A	1.2	1.4	1.2	1.2
11.25	A	1.4	1.4	1.2	1.2
12.00	A	1.2	1.4	1.2	1.2
12.75	A	1.2	1.4	1.2	1.2
13.50	A	1.3	1.3	1.2	1.2
14.25	A	1.2	1.4	1.2	1.2
15.00	A	1.2	1.4	1.2	1.3
15.75	C	1.3	1.5	1.2	1.3
16.50	C	1.3	1.5	1.3	1.3
17.25	C	1.3	1.5	1.2	1.4
18.00	C	1.3	1.4	1.3	1.3
18.75	C	1.3	1.2	1.2	1.2
19.50	C	1.4	1.0	1.3	1.2
20.25	C	1.3	1.1	1.2	1.2
21.00	C	1.4	1.1	1.2	1.1
21.75	C	1.4	1.0	1.3	1.2
22.50	C	1.4	1.0	1.2	1.2
23.25	C	1.4	1.3	1.2	1.3
24.00	C	1.5	1.4	1.3	1.2
24.75	C	1.4	1.4	1.3	1.4
25.50	C	1.4	1.5	1.3	1.3
26.25	C	1.4	1.5	1.3	1.3
27.00	C	1.5	1.5	1.4	1.3
27.75	C	1.5	1.5	1.3	1.3
28.50	C	1.5	1.4	1.5	1.3
29.25	C	1.5	1.3	1.[illegible]	1.5
30.00	C	1.5	1.5	1.3	1.3
30.75	C	1.4	1.5	1.4	1.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	1.5	1.5	1.3	1.3
32.25	C	1.5	1.3	1.4	1.3
33.00	C	1.7	1.6	1.5	1.4
33.75	C	1.6	1.6	1.4	1.4
34.50	C	1.5	1.5	1.5	1.4
35.25	C	1.6	1.3	1.7	1.3
36.00	C	1.5	1.4	1.5	1.5
36.75	C	1.6	1.1	1.6	1.5
37.50	C	1.6	1.2	1.5	1.4
38.25	C	1.7	1.2	1.7	1.4
39.00	C	1.6	1.6	1.7	1.4
39.75	C	1.8	1.8	1.7	1.6
40.50	C	1.7	1.8	1.3	1.3
41.25	C	1.8	1.8	1.6	1.3
42.00	C	1.9	1.7	1.7	1.0
42.75	C	2.0	1.8	1.8	1.3
43.50	C	1.9	1.5	1.6	1.4
44.25	C	1.6	1.7	1.9	1.3
45.00	C	1.6	2.0	1.8	.9
45.75	C	1.7	1.3	1.6	1.2
46.50	C	1.8	1.2	1.9	1.4
47.25	C	1.7	1.4	2.1	1.3
48.00	C	1.8	1.2	2.0	1.6
48.75	C	2.2	1.1	1.9	1.3
49.50	C	1.9	1.9	2.9	1.6
50.25	C	1.8	2.0	2.4	1.4
51.00	C	2.0	1.1	2.3	1.1
51.75	C	2.0	.9	2.2	1.3
52.50	C	2.1	1.0	2.2	1.5
53.25	C	2.0	1.1	2.3	1.6
54.00	C	2.1	1.2	2.3	1.1
54.75	C	2.1	1.6	2.4	.6
55.50	C	2.2	2.1	3.2	1.1
56.25	C	2.1	1.5	2.3	.4
57.00	C	2.0	.8	2.4	.6
57.75	C	2.2	1.5	2.8	.5
58.50	C	2.1	1.2	2.9	.6
59.25	C	2.2	.5	2.5	.7
60.00	C	2.1	.7	2.7	.4
60.75	C	2.1	1.6	2.7	1.2
61.50	R	1.8	2.0	1.9	.9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	1.8	1.8	1.7	1.3
63.00	R	1.7	1.6	1.8	1.3
63.75	R	1.8	1.8	1.8	1.3
64.50	R	1.6	1.7	1.5	1.2
65.25	R	1.6	1.7	1.5	1.5
66.00	R	1.6	1.6	1.6	1.3
66.75	R	1.5	1.5	1.5	1.3
67.50	R	1.5	1.7	1.5	1.3
68.25	R	1.5	1.6	1.5	1.3
69.00	R	1.5	1.6	1.4	1.3
69.75	R	1.6	1.5	1.4	1.3
70.50	R	1.5	1.6	1.5	1.3
71.25	R	1.5	1.5	1.4	1.3
72.00	R	1.5	1.5	1.4	1.3
72.75	R	1.5	1.5	1.4	1.3
73.50	R	1.4	1.5	1.4	1.3
74.25	R	1.4	1.3	1.4	1.3
75.00	R	1.5	1.3	1.4	1.3
75.75	R	1.5	1.5	1.4	1.3
76.50	R	1.5	1.5	1.4	1.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	1.1	1.2	1.4	1.1
1.50	A	1.2	1.1	1.4	1.1
2.25	A	1.0	1.1	1.5	1.2
3.00	A	1.1	1.2	1.3	1.2
3.75	A	1.1	1.2	1.4	1.2
4.50	A	1.3	1.3	1.3	1.1
5.25	A	1.2	1.3	1.3	1.2
6.00	A	1.1	1.3	1.5	1.2
6.75	A	1.2	1.3	1.6	1.2
7.50	A	1.3	1.3	1.5	1.2
8.25	A	1.4	1.3	1.4	1.2
9.00	A	1.3	1.3	1.3	1.2
9.75	A	1.3	1.4	1.2	1.2
10.50	A	1.3	1.3	1.4	1.2
11.25	A	1.4	1.2	1.6	1.3
12.00	A	1.4	1.1	1.4	1.3
12.75	A	1.4	1.2	1.4	1.2
13.50	A	1.5	1.2	1.5	1.3
14.25	A	1.5	1.3	1.5	1.2
15.00	A	1.4	1.4	1.4	1.3
15.75	C	1.5	1.3	1.5	1.3
16.50	C	1.4	1.4	1.7	1.3
17.25	C	1.3	1.4	1.6	1.2
18.00	C	1.3	1.3	1.3	1.3
18.75	C	1.3	1.3	1.3	1.3
19.50	C	1.4	1.4	1.5	1.3
20.25	C	1.4	1.4	1.5	1.2
21.00	C	1.5	1.4	1.5	1.3
21.75	C	1.5	1.5	1.4	1.3
22.50	C	1.5	1.4	1.5	1.3
23.25	C	.8	1.4	1.6	1.3
24.00	C	1.3	1.5	1.7	1.4
24.75	C	1.4	1.5	1.9	1.4
25.50	C	.2	1.7	1.8	1.4
26.25	C	1.2	1.7	1.8	1.4
27.00	C	1.5	1.8	1.8	1.3
27.75	C	1.1	1.5	1.6	1.6
28.50	C	.6	1.9	1.8	1.6
29.25	C	.3	1.8	1.7	1.5
30.00	C	.3	1.8	1.7	1.6
30.75	C	.3	1.2	1.8	1.7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	.2	1.8	1.5	1.9
32.25	C	.3	1.4	1.7	1.9
33.00	C	.3	1.0	2.4	1.7
33.75	C	.2	1.8	2.6	1.8
34.50	C	.2	1.8	2.2	2.0
35.25	C	.2	2.2	2.4	1.8
36.00	C	.2	1.7	2.7	2.0
36.75	C	.1	1.4	3.1	1.8
37.50	C	.3	.4	2.5	1.9
38.25	C	.2	.3	2.1	1.9
39.00	C	.3	.3	2.5	1.8
39.75	C	.2	.2	2.4	1.9
40.50	C	.2	.2	1.9	1.9
41.25	C	.3	.1	2.6	1.8
42.00	C	.2	.3	2.2	2.0
42.75	C	.1	.2	2.6	1.8
43.50	C	.2	.2	3.2	1.9
44.25	C	.2	.4	2.8	1.9
45.00	C	.2	.4	2.5	2.0
45.75	C	.2	.2	2.3	1.8
46.50	C	.2	.3	2.9	1.9
47.25	C	.2	.2	2.5	2.0
48.00	C	.2	.1	2.3	2.3
48.75	C	.2	.2	2.2	2.3
49.50	C	.2	.2	2.2	1.9
50.25	C	.2	.1	2.2	2.0
51.00	C	.2	.2	2.8	1.9
51.75	C	.2	.2	2.6	1.8
52.50	C	.2	.1	2.8	1.7
53.25	C	.2	.1	2.8	2.0
54.00	C	.2	.2	2.8	2.0
54.75	C	.2	.1	2.6	1.9
55.50	C	.2	.2	2.7	1.8
56.25	C	.2	.1	3.2	1.7
57.00	C	.2	.2	2.7	2.0
57.75	C	.2	.2	2.8	2.0
58.50	C	.2	.1	2.9	2.0
59.25	C	.2	.2	2.9	2.0
60.00	C	.2	.1	2.1	1.7
60.75	C	.2	.1	2.4	2.2
61.50	R	.2	.2	2.4	1.8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	.2	.3	2.2	1.6
63.00	R	.4	.7	2.2	1.5
63.75	R	.8	1.3	2.1	1.4
64.50	R	1.0	1.4	2.0	1.5
65.25	R	1.0	1.5	2.0	1.4
66.00	R	1.2	1.6	1.9	1.4
66.75	R	1.3	1.5	1.8	1.4
67.50	R	1.3	1.6	1.9	1.4
68.25	R	1.2	1.7	1.8	1.3
69.00	R	1.2	1.6	1.8	1.4
69.75	R	1.2	1.6	1.7	1.4
70.50	R	1.2	1.7	1.8	1.4
71.25	R	1.0	1.6	1.8	1.4
72.00	R	.9	1.6	1.8	1.6
72.75	R	1.2	1.5	1.9	1.4
73.50	R	1.3	1.6	1.8	1.4
74.25	R	1.3	1.7	1.8	1.5
75.00	R	1.2	1.6	1.9	1.5

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	.7	1.1	1.2	1.2
1.50	A	.8	1.1	1.3	1.2
2.25	A	.8	1.1	1.3	1.3
3.00	A	.9	1.1	1.3	1.3
3.75	A	1.0	1.1	1.2	1.2
4.50	A	.6	1.1	1.2	1.3
5.25	A	.6	1.1	1.3	1.2
6.00	A	.7	.8	1.3	1.2
6.75	A	.9	.8	1.3	1.3
7.50	A	.9	1.0	1.5	1.2
8.25	A	.7	.9	1.4	1.2
9.00	A	.8	.9	1.4	1.3
9.75	A	.8	.9	1.3	1.3
10.50	A	.8	1.2	1.3	1.2
11.25	A	.8	1.2	1.3	1.3
12.00	A	.9	1.2	1.3	1.2
12.75	A	.9	1.0	1.3	1.3
13.50	A	.9	1.0	1.3	1.2
14.25	A	.8	1.1	1.3	1.1
15.00	A	.5	.7	1.3	1.2
15.75	C	.7	1.0	1.3	1.3
16.50	C	.4	1.2	1.5	1.2
17.25	C	.7	1.1	1.6	1.3
18.00	C	.8	1.1	1.5	1.2
18.75	C	.3	.8	1.5	1.4
19.50	C	.2	.2	1.7	1.3
20.25	C	.2	.2	2.1	1.6
21.00	C	.3	.3	2.1	1.8
21.75	C	.2	.3	1.7	1.6
22.50	C	.2	.2	2.0	1.6
23.25	C	.2	.3	2.0	.8
24.00	C	.2	.2	1.8	1.6
24.75	C	.1	.2	2.1	1.2
25.50	C	.1	.2	1.6	.6
26.25	C	.2	.2	2.5	.4
27.00	C	.1	.2	2.0	.5
27.75	C	.2	.2	1.8	.4
28.50	C	.1	.2	1.8	.6
29.25	C	.3	.2	1.8	.6
30.00	C	.2	.2	1.8	.4
30.75	C	.1	.2	1.6	.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	.1	.2	2.0	.4
32.25	C	.1	.2	1.9	.2
33.00	C	.1	.2	1.7	.2
33.75	C	.1	.2	1.8	.5
34.50	C	.1	.2	1.7	.3
35.25	C	.1	.2	1.8	.2
36.00	C	.1	.2	1.8	.3
36.75	C	.1	.2	1.7	.2
37.50	C	.1	.1	1.7	.2
38.25	C	.1	.2	1.5	.2
39.00	C	.1	.2	1.9	.4
39.75	C	.1	.2	1.8	.2
40.50	C	.1	.2	1.9	.2
41.25	C	.1	.2	1.8	.2
42.00	C	.1	.1	1.8	.1
42.75	C	.1	.2	2.1	.3
43.50	C	.1	.2	1.8	.2
44.25	C	.1	.2	1.5	.3
45.00	C	.1	.2	1.7	.2
45.75	C	.1	.2	1.8	.4
46.50	C	.3	.1	1.8	.4
47.25	C	.1	.1	1.5	.1
48.00	C	.1	.1	1.8	.1
48.75	C	.1	.1	1.8	.1
49.50	C	.1	.2	1.7	.1
50.25	C	.1	.1	1.8	.3
51.00	C	.1	.2	1.7	.1
51.75	C	.1	.2	1.8	.1
52.50	C	.1	.2	1.8	.2
53.25	C	.1	.2	2.1	.1
54.00	C	.1	.1	1.6	.3
54.75	C	.1	.2	1.6	.1
55.50	C	.1	.1	1.5	.3
56.25	C	.1	.1	1.9	.2
57.00	C	.1	.1	1.8	.1
57.75	C	.1	.1	1.5	.2
58.50	C	.0	.1	1.7	.2
59.25	C	.1	.1	1.5	.2
60.00	C	.1	.1	1.5	.1
60.75	C	.1	.1	1.9	.1
61.50	R	.1	.2	1.4	.1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	.2	.2	.9	.1
63.00	R	.2	.3	.9	.1
63.75	R	.2	.2	1.0	.3
64.50	R	.2	.2	.9	.5
65.25	R	.2	.4	.8	.7
66.00	R	.2	.4	1.0	.6
66.75	R	.2	.5	1.0	.5
67.50	R	.3	.4	1.1	1.0
68.25	R	.4	.6	1.0	1.3
69.00	R	.3	.7	1.2	1.4
69.75	R	.3	.8	1.2	1.3
70.50	R	.3	.8	1.1	1.5
71.25	R	.3	.8	1.1	1.5
72.00	R	.3	1.0	1.1	1.5
72.75	R	.3	.9	1.2	1.5
73.50	R	.3	1.0	1.3	1.6
74.25	R	.3	1.0	1.2	1.6
75.00	R	.3	1.1	1.4	1.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	1.1	1.0	1.1	.8
1.50	A	1.1	1.0	1.1	1.0
2.25	A	1.1	1.0	1.1	.8
3.00	A	1.0	1.0	1.1	.4
3.75	A	1.1	1.0	1.1	.5
4.50	A	1.1	1.0	1.1	.6
5.25	A	1.1	1.0	1.2	.7
6.00	A	1.1	1.0	1.3	.5
6.75	A	1.0	1.0	1.4	1.1
7.50	A	1.1	1.0	1.1	1.0
8.25	A	1.1	.9	1.1	.9
9.00	A	1.1	1.0	1.1	1.0
9.75	A	1.1	.9	1.1	.8
10.50	A	1.1	1.0	1.2	1.0
11.25	A	1.1	1.0	1.1	1.1
12.00	A	1.1	1.1	1.1	1.1
12.75	A	1.1	1.1	1.1	1.1
13.50	A	1.1	1.0	1.1	1.0
14.25	A	1.1	1.0	1.1	1.0
15.00	C	1.1	1.0	1.0	1.1
15.75	C	1.1	1.1	1.2	1.2
16.50	C	1.0	1.1	1.1	1.1
17.25	C	1.1	1.0	1.2	1.3
18.00	C	1.1	1.0	1.2	.7
18.75	C	1.2	.9	.9	.6
19.50	C	1.4	.2	1.3	.7
20.25	C	1.5	.1	.1	.4
21.00	C	1.7	.2	.4	.4
21.75	C	1.9	.1	.4	.5
22.50	C	1.4	.1	.3	.3
23.25	C	1.0	.1	.7	.4
24.00	C	.8	.1	.7	.2
24.75	C	.9	.2	.3	.2
25.50	C	.7	.1	.4	.3
26.25	C	.5	.1	.5	.4
27.00	C	.5	.0	.6	.3
27.75	C	.3	.1	.2	.3
28.50	C	.3	.2	.3	.4
29.25	C	.2	.2	.1	.3
30.00	C	.6	.1	.5	.2
30.75	C	.6	.1	.1	.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	.2	.1	.2	.2
32.25	C	.5	.1	.2	.2
33.00	C	.1	.1	.5	.3
33.75	C	.1	.1	.3	.3
34.50	C	.1	.1	.1	.3
35.25	C	.3	.0	.2	.3
36.00	C	.4	.0	.3	.3
36.75	C	.3	.0	.2	.5
37.50	C	.5	.1	.1	.4
38.25	C	.1	.0	.3	.4
39.00	C	.1	.0	.2	.3
39.75	C	.2	.1	.2	.4
40.50	C	.1	.0	.3	.3
41.25	C	.2	.0	.2	.3
42.00	C	.2	.0	.3	.3
42.75	C	.1	.1	.1	.3
43.50	C	.1	.0	.2	.4
44.25	C	.4	.0	.2	.4
45.00	C	.1	.1	.1	.4
45.75	C	.1	.1	.4	.5
46.50	C	.1	.1	.1	.4
47.25	C	.2	.1	.1	.4
48.00	C	.1	.0	.2	.5
48.75	C	.1	.1	.3	.4
49.50	C	.3	.1	.2	.3
50.25	C	.2	.1	.1	.3
51.00	C	.1	.1	.1	.3
51.75	C	.7	.1	.0	.2
52.50	C	.1	.1	.2	.4
53.25	C	.1	.1	.1	.7
54.00	C	.3	.0	.2	.6
54.75	C	.2	.1	.5	.6
55.50	C	.1	.1	.1	.7
56.25	C	.2	.0	.0	.4
57.00	C	.3	.1	.1	.4
57.75	C	.1	.0	.2	.3
58.50	C	.1	.1	.2	.7
59.25	C	.1	.0	.1	.3
60.00	C	.2	.0	.1	.4
60.75	C	.5	.1	.2	.8
61.50	R	1.2	.2	.1	1.1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

ET/IT

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	1.5	.2	.1	1.1
63.00	R	1.3	.1	.1	1.4
63.75	R	1.4	.1	.1	1.4
64.50	R	1.4	.2	.1	1.6
65.25	R	1.4	.1	.1	1.5
66.00	R	1.3	.2	.1	1.7
66.75	R	1.3	.1	.2	1.8
67.50	R	1.3	.2	.2	1.8
68.25	R	1.3	.2	.2	1.8
69.00	R	1.3	.2	.2	1.7
69.75	R	1.3	.1	.3	1.7
70.50	R	1.3	.2	.3	1.7
71.25	R	1.3	.2	.2	1.7
72.00	R	1.3	.2	.8	1.7
72.75	R	1.3	.2	1.0	1.7
73.50	R	1.3	.4	1.0	1.7
74.25	R	1.3	.3	1.0	1.7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	2	1	2	2
1.50	A	2	1	2	2
2.25	A	2	1	2	2
3.00	A	2	2	2	2
3.75	A	2	1	2	2
4.50	A	2	1	2	2
5.25	A	2	1	2	2
6.00	A	2	1	2	2
6.75	A	2	1	2	2
7.50	A	2	1	2	2
8.25	A	2	1	2	2
9.00	A	2	1	2	2
9.75	A	2	1	2	2
10.50	A	2	1	2	2
11.25	A	2	1	2	2
12.00	A	2	1	2	2
12.75	A	2	1	2	2
13.50	A	2	1	2	2
14.25	A	2	1	1	2
15.00	A	2	1	2	2
15.75	C	2	1	1	2
16.50	C	2	1	1	2
17.25	C	2	1	2	2
18.00	C	2	2	2	2
18.75	C	2	1	2	2
19.50	C	2	1	2	2
20.25	C	2	1	2	2
21.00	C	2	1	2	2
21.75	C	2	1	2	2
22.50	C	2	1	2	2
23.25	C	2	1	2	2
24.00	C	2	1	2	2
24.75	C	2	1	2	2
25.50	C	2	1	2	2
26.25	C	2	1	1	2
27.00	C	2	1	1	2
27.75	C	2	1	2	2
28.50	C	2	1	2	2
29.25	C	2	1	1	2
30.00	C	2	1	2	2
30.75	C	2	1	1	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
31.50	C	2	1	2	2
32.25	C	2	1	2	2
33.00	C	2	1	2	2
33.75	C	2	1	2	2
34.50	C	2	1	2	2
35.25	C	2	1	2	2
36.00	C	2	1	2	2
36.75	C	2	1	2	2
37.50	C	2	1	2	2
38.25	C	2	1	1	2
39.00	C	2	1	1	2
39.75	C	2	2	2	2
40.50	C	2	2	1	2
41.25	C	2	1	2	2
42.00	C	2	1	2	2
42.75	C	2	1	2	2
43.50	C	2	1	2	2
44.25	C	2	1	2	2
45.00	C	2	1	2	2
45.75	C	2	1	2	2
46.50	C	2	1	2	2
47.25	C	2	1	1	2
48.00	C	2	1	2	2
48.75	C	2	1	2	2
49.50	C	2	1	1	2
50.25	C	2	1	2	2
51.00	C	2	1	2	2
51.75	C	2	1	2	2
52.50	C	2	1	1	2
53.25	C	2	1	2	2
54.00	C	2	1	2	2
54.75	C	2	1	2	2
55.50	C	2	1	2	2
56.25	C	2	1	2	2
57.00	C	2	1	2	2
57.75	C	2	1	1	2
58.50	C	2	1	2	2
59.25	C	2	1	1	2
60.00	C	2	1	2	2
60.75	C	2	1	1	2
61.50	R	2	1	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	2	1	1	2
63.00	R	2	1	1	2
63.75	R	2	1	1	2
64.50	R	2	1	2	2
65.25	R	2	1	1	2
66.00	R	2	1	2	2
66.75	R	2	1	1	2
67.50	R	2	1	2	2
68.25	R	2	1	2	2
69.00	R	2	1	2	2
69.75	R	2	1	2	2
70.50	R	2	1	2	2
71.25	R	2	1	2	2
72.00	R	2	1	2	2
72.75	R	2	1	2	2
73.50	R	2	1	2	2
74.25	R	2	1	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	2	1	2	2
1.50	A	2	1	2	2
2.25	A	2	2	2	2
3.00	A	2	2	2	2
3.75	A	2	2	2	2
4.50	A	2	1	2	2
5.25	A	2	1	2	2
6.00	A	2	1	2	2
6.75	A	3	1	2	2
7.50	A	2	1	2	2
8.25	A	2	1	2	2
9.00	A	2	2	2	2
9.75	A	3	1	2	2
10.50	A	2	1	2	2
11.25	A	2	1	2	2
12.00	A	2	1	2	2
12.75	A	2	2	2	2
13.50	A	2	1	2	2
14.25	A	2	2	2	2
15.00	C	2	2	2	2
15.75	C	2	1	2	2
16.50	C	2	1	2	2
17.25	C	2	1	2	2
18.00	C	2	1	2	2
18.75	C	2	2	2	2
19.50	C	2	2	2	2
20.25	C	2	2	2	2
21.00	C	2	2	2	2
21.75	C	2	2	2	2
22.50	C	2	1	2	2
23.25	C	2	2	2	2
24.00	C	2	1	2	2
24.75	C	2	1	2	2
25.50	C	2	2	2	2
26.25	C	2	1	2	2
27.00	C	2	1	2	2
27.75	C	2	1	2	2
28.50	C	2	1	2	2
29.25	C	2	1	2	2
30.00	C	2	1	2	2
30.75	C	2	2	2	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	2	2	2	2
32.25	C	2	1	2	2
33.00	C	2	1	2	1
33.75	C	2	1	2	2
34.50	C	2	1	2	2
35.25	C	2	1	2	1
36.00	C	2	1	2	2
36.75	C	2	1	2	1
37.50	C	2	1	2	2
38.25	C	2	1	2	1
39.00	C	2	1	2	2
39.75	C	2	1	2	2
40.50	C	2	1	2	2
41.25	C	2	1	2	1
42.00	C	2	1	2	2
42.75	C	2	2	2	2
43.50	C	2	1	2	2
44.25	C	2	2	2	2
45.00	C	2	1	2	2
45.75	C	2	1	2	2
46.50	C	2	1	2	2
47.25	C	2	1	2	2
48.00	C	2	1	2	2
48.75	C	3	1	2	1
49.50	C	2	1	2	2
50.25	C	2	1	2	2
51.00	C	2	1	2	2
51.75	C	2	1	2	2
52.50	C	2	2	2	2
53.25	C	2	1	2	2
54.00	C	2	1	2	2
54.75	C	2	1	2	2
55.50	C	2	1	2	2
56.25	C	2	1	2	2
57.00	C	2	1	2	1
57.75	C	2	1	2	2
58.50	C	2	1	2	2
59.25	C	2	1	2	2
60.00	C	2	1	2	2
60.75	R	2	1	2	1
61.50	R	2	1	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	2	1	2	2
63.00	R	2	1	2	2
63.75	R	2	1	2	1
64.50	R	2	1	2	1
65.25	R	2	1	2	1
66.00	R	2	1	2	1
66.75	R	2	1	2	2
67.50	R	2	1	2	1
68.25	R	2	1	2	1
69.00	R	2	1	2	1
69.75	R	2	1	2	1
70.50	R	2	1	2	1
71.25	R	2	1	2	2
72.00	R	2	1	2	1
72.75	R	2	1	2	1
73.50	R	2	1	2	1
74.25	R	2	1	2	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	2	2	2	2
1.50	A	2	2	2	2
2.25	A	2	2	2	2
3.00	A	2	1	2	2
3.75	A	2	2	2	2
4.50	A	2	2	2	2
5.25	A	2	2	2	2
6.00	A	2	2	2	3
6.75	A	2	2	2	3
7.50	A	2	1	2	2
8.25	A	2	2	2	3
9.00	A	2	1	2	2
9.75	A	2	1	2	2
10.50	A	2	1	2	2
11.25	A	2	1	2	3
12.00	A	2	1	2	2
12.75	A	2	1	2	2
13.50	A	2	2	2	2
14.25	A	2	1	2	2
15.00	A	2	1	2	2
15.75	C	2	1	2	2
16.50	C	2	2	2	2
17.25	C	2	1	2	2
18.00	C	2	2	2	2
18.75	C	2	2	2	2
19.50	C	2	2	2	2
20.25	C	2	2	2	2
21.00	C	2	2	2	3
21.75	C	2	2	2	2
22.50	C	2	2	2	2
23.25	C	2	2	2	2
24.00	C	2	2	2	3
24.75	C	2	1	2	2
25.50	C	2	1	2	2
26.25	C	2	1	2	2
27.00	C	2	1	2	2
27.75	C	2	1	2	3
28.50	C	2	2	2	2
29.25	C	2	2	2	3
30.00	C	2	1	2	3
30.75	C	2	1	2	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/T7 [x 1/1000]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	2	2	2	2
32.25	C	2	2	2	2
33.00	C	2	1	3	2
33.75	C	2	1	3	2
34.50	C	2	2	2	2
35.25	C	2	2	3	3
36.00	C	2	2	2	3
36.75	C	2	2	3	3
37.50	C	2	2	2	2
38.25	C	2	2	3	3
39.00	C	2	1	3	3
39.75	C	2	1	3	4
40.50	C	2	2	3	4
41.25	C	2	2	3	3
42.00	C	2	2	3	2
42.75	C	2	2	3	3
43.50	C	2	2	3	2
44.25	C	2	2	4	3
45.00	C	2	2	3	2
45.75	C	2	2	3	3
46.50	C	2	2	4	3
47.25	C	2	2	4	3
48.00	C	2	2	4	4
48.75	C	2	2	4	3
49.50	C	2	2	5	4
50.25	C	2	2	4	4
51.00	C	2	2	4	4
51.75	C	2	2	4	3
52.50	C	2	2	4	4
53.25	C	2	2	4	5
54.00	C	2	3	4	3
54.75	C	2	3	4	2
55.50	C	2	2	5	4
56.25	C	2	3	4	3
57.00	C	2	2	4	3
57.75	C	2	2	4	3
58.50	C	2	2	4	3
59.25	C	2	1	4	3
60.00	C	2	1	5	2
60.75	C	2	2	4	3
61.50	R	2	2	4	3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	2	2	3	3
63.00	R	2	2	3	3
63.75	R	2	2	3	3
64.50	R	2	1	3	3
65.25	R	1	1	3	4
66.00	R	2	1	3	3
66.75	R	2	1	3	3
67.50	R	2	1	3	3
68.25	R	2	2	3	3
69.00	R	2	1	2	3
69.75	R	1	1	3	3
70.50	R	1	1	2	2
71.25	R	2	1	2	2
72.00	R	2	1	2	3
72.75	R	2	1	2	2
73.50	R	1	1	2	2
74.25	R	2	2	2	2
75.00	R	2	1	2	3
75.75	R	2	1	2	2
76.50	R	1	1	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	2	2	2	2
1.50	A	2	2	2	2
2.25	A	3	2	2	2
3.00	A	3	2	2	2
3.75	A	2	1	2	2
4.50	A	2	1	2	2
5.25	A	2	1	2	2
6.00	A	2	1	2	2
6.75	A	2	1	2	2
7.50	A	2	1	2	2
8.25	A	1	1	2	2
9.00	A	2	1	2	2
9.75	A	2	1	2	2
10.50	A	2	1	2	2
11.25	A	2	2	2	2
12.00	A	2	2	2	2
12.75	A	2	2	2	2
13.50	A	2	2	2	2
14.25	A	2	2	2	2
15.00	A	2	1	2	2
15.75	C	2	1	2	2
16.50	C	2	1	2	2
17.25	C	2	1	2	2
18.00	C	2	1	2	2
18.75	C	2	1	2	2
19.50	C	2	1	2	2
20.25	C	2	1	2	2
21.00	C	2	1	2	2
21.75	C	2	1	2	2
22.50	C	2	1	2	2
23.25	C	2	1	2	2
24.00	C	3	1	2	2
24.75	C	2	1	2	2
25.50	C	1	2	2	2
26.25	C	2	2	2	2
27.00	C	2	2	2	2
27.75	C	2	2	2	2
28.50	C	1	2	2	2
29.25	C	1	2	2	1
30.00	C	2	2	2	2
30.75	C	2	2	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	1	2	2	3
32.25	C	2	2	2	2
33.00	C	1	2	2	2
33.75	C	2	3	3	2
34.50	C	2	3	3	2
35.25	C	2	2	3	2
36.00	C	2	3	3	2
36.75	C	1	2	3	2
37.50	C	2	1	3	2
38.25	C	3	1	3	2
39.00	C	3	1	3	2
39.75	C	2	1	3	2
40.50	C	2	1	3	3
41.25	C	2	1	4	2
42.00	C	3	1	3	2
42.75	C	2	1	3	2
43.50	C	4	1	4	2
44.25	C	5	1	4	2
45.00	C	4	1	4	2
45.75	C	4	1	3	2
46.50	C	4	1	4	3
47.25	C	3	1	4	3
48.00	C	4	1	4	3
48.75	C	5	1	3	2
49.50	C	2	1	3	2
50.25	C	5	1	3	2
51.00	C	3	1	4	2
51.75	C	4	1	4	3
52.50	C	3	1	4	3
53.25	C	4	1	4	2
54.00	C	3	1	4	2
54.75	C	4	1	4	2
55.50	C	4	1	4	2
56.25	C	3	1	5	2
57.00	C	3	1	4	3
57.75	C	2	1	5	2
58.50	C	4	1	5	3
59.25	C	3	1	4	2
60.00	C	3	1	4	2
60.75	C	3	1	4	3
61.50	R	2	1	3	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	1	1	3	2
63.00	R	1	1	3	2
63.75	R	1	2	2	2
64.50	R	2	2	2	2
65.25	R	2	2	2	2
66.00	R	2	2	2	2
66.75	R	2	2	2	2
67.50	R	2	2	2	2
68.25	R	2	2	2	2
69.00	R	2	2	2	2
69.75	R	2	2	2	2
70.50	R	2	2	2	2
71.25	R	2	1	2	2
72.00	R	2	1	2	2
72.75	R	2	1	2	2
73.50	R	2	1	2	1
74.25	R	2	1	2	2
75.00	R	2	1	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	1	1	2	2
1.50	A	1	1	2	2
2.25	A	2	1	2	2
3.00	A	1	1	2	2
3.75	A	1	1	2	2
4.50	A	2	1	2	2
5.25	A	1	1	2	2
6.00	A	2	1	2	2
6.75	A	1	1	2	2
7.50	A	1	1	3	2
8.25	A	1	1	2	2
9.00	A	1	1	2	2
9.75	A	1	1	2	2
10.50	A	1	1	2	2
11.25	A	1	1	2	2
12.00	A	1	1	2	2
12.75	A	1	1	2	2
13.50	A	1	1	2	2
14.25	A	1	1	2	2
15.00	A	2	1	2	2
15.75	C	1	1	2	2
16.50	C	2	1	3	2
17.25	C	1	1	3	2
18.00	C	1	1	3	2
18.75	C	1	1	3	2
19.50	C	2	1	4	2
20.25	C	2	3	5	2
21.00	C	3	3	5	3
21.75	C	2	2	6	3
22.50	C	3	1	6	2
23.25	C	2	2	8	2
24.00	C	2	3	7	2
24.75	C	2	2	7	2
25.50	C	1	2	6	2
26.25	C	2	1	9	1
27.00	C	1	1	9	2
27.75	C	1	1	8	1
28.50	C	2	1	8	3
29.25	C	2	2	9	2
30.00	C	3	3	9	2
30.75	C	2	4	9	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	4	3	8	2
32.25	C	3	2	9	1
33.00	C	3	1	9	1
33.75	C	4	1	9	2
34.50	C	4	1	9	2
35.25	C	3	1	8	1
36.00	C	3	2	9	1
36.75	C	3	2	8	1
37.50	C	3	1	8	1
38.25	C	4	1	9	1
39.00	C	4	2	9	1
39.75	C	3	3	9	1
40.50	C	3	3	8	1
41.25	C	4	3	9	1
42.00	C	5	2	8	1
42.75	C	5	3	9	1
43.50	C	5	3	8	1
44.25	C	4	4	7	1
45.00	C	4	1	8	1
45.75	C	5	1	7	2
46.50	C	2	1	8	2
47.25	C	4	1	7	1
48.00	C	3	1	7	1
48.75	C	4	1	7	1
49.50	C	4	1	7	1
50.25	C	3	1	7	1
51.00	C	3	1	7	1
51.75	C	4	1	7	1
52.50	C	3	1	7	1
53.25	C	4	2	7	1
54.00	C	4	1	7	1
54.75	C	4	2	6	1
55.50	C	4	1	6	1
56.25	C	4	1	5	1
57.00	C	3	2	6	1
57.75	C	4	3	5	1
58.50	C	5	1	4	2
59.25	C	4	1	5	1
60.00	C	4	1	5	1
60.75	C	4	1	5	1
61.50	R	4	1	4	1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	3	1	4	1
63.00	R	2	1	4	1
63.75	R	2	1	4	1
64.50	R	2	1	4	1
65.25	R	2	1	4	1
66.00	R	2	1	4	1
66.75	R	2	1	4	1
67.50	R	1	1	3	1
68.25	R	1	1	4	2
69.00	R	1	1	3	2
69.75	R	1	1	3	1
70.50	R	1	1	4	2
71.25	R	1	1	3	2
72.00	R	1	1	3	2
72.75	R	1	1	3	1
73.50	R	1	1	3	2
74.25	R	1	1	3	2
75.00	R	1	1	3	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	2	2	2	3
1.50	A	2	2	2	3
2.25	A	2	2	2	3
3.00	A	2	2	2	3
3.75	A	2	2	2	3
4.50	A	2	2	2	3
5.25	A	2	2	2	3
6.00	A	2	2	2	5
6.75	A	2	2	2	2
7.50	A	2	2	2	3
8.25	A	2	2	2	3
9.00	A	2	2	2	3
9.75	A	2	2	2	3
10.50	A	2	2	2	2
11.25	A	2	2	2	2
12.00	A	2	2	2	3
12.75	A	2	2	2	3
13.50	A	2	2	2	4
14.25	A	2	2	2	3
15.00	C	2	2	2	3
15.75	C	2	2	2	3
16.50	C	2	2	2	2
17.25	C	2	2	2	3
18.00	C	2	2	4	3
18.75	C	2	2	4	2
19.50	C	3	1	5	3
20.25	C	4	2	2	2
21.00	C	4	2	3	3
21.75	C	4	2	2	2
22.50	C	3	2	2	2
23.25	C	3	2	3	2
24.00	C	2	2	3	2
24.75	C	2	3	2	2
25.50	C	2	2	2	2
26.25	C	2	4	3	2
27.00	C	2	4	3	3
27.75	C	1	3	2	2
28.50	C	1	3	2	2
29.25	C	1	3	2	2
30.00	C	2	4	2	2
30.75	C	2	4	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	1	4	2	2
32.25	C	2	5	2	2
33.00	C	1	4	2	2
33.75	C	1	3	2	1
34.50	C	1	3	1	2
35.25	C	2	4	2	2
36.00	C	2	6	2	2
36.75	C	1	7	1	2
37.50	C	2	5	2	2
38.25	C	1	6	2	1
39.00	C	1	6	2	1
39.75	C	1	7	2	1
40.50	C	1	9	2	2
41.25	C	1	7	2	1
42.00	C	1	5	2	1
42.75	C	1	5	2	2
43.50	C	1	5	2	2
44.25	C	1	3	2	2
45.00	C	1	4	2	1
45.75	C	1	5	3	2
46.50	C	1	5	2	2
47.25	C	1	7	2	2
48.00	C	1	5	1	2
48.75	C	1	3	2	2
49.50	C	1	3	1	1
50.25	C	1	5	2	1
51.00	C	1	3	1	1
51.75	C	2	3	1	1
52.50	C	1	3	2	1
53.25	C	1	7	2	2
54.00	C	1	9	2	2
54.75	C	1	5	3	2
55.50	C	1	3	2	2
56.25	C	1	5	1	1
57.00	C	2	5	1	1
57.75	C	1	6	2	1
58.50	C	1	5	1	2
59.25	C	1	7	2	1
60.00	C	1	5	1	1
60.75	C	1	4	2	1
61.50	R	2	3	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PEF*(IT+ET)/TV [x 1/1000]

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	2	2	2	2
63.00	R	2	2	2	2
63.75	R	2	1	2	2
64.50	R	2	1	2	2
65.25	R	2	1	2	2
66.00	R	2	1	2	2
66.75	R	2	1	2	2
67.50	R	2	1	2	2
68.25	R	2	1	2	2
69.00	R	2	1	2	2
69.75	R	2	1	2	2
70.50	R	2	1	2	2
71.25	R	2	1	2	2
72.00	R	2	1	2	2
72.75	R	2	1	3	2
73.50	R	2	1	3	2
74.25	R	2	1	2	2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
.75	A	1.0	1.6	1.2	1.1
1.50	A	.9	1.6	1.2	1.1
2.25	A	.9	1.7	1.2	1.3
3.00	A	.9	1.4	1.2	1.3
3.75	A	.9	1.5	1.3	1.3
4.50	A	.9	1.6	1.5	1.3
5.25	A	.9	1.7	1.5	1.2
6.00	A	1.0	1.7	1.3	1.3
6.75	A	1.0	1.5	1.3	1.3
7.50	A	1.0	1.7	1.3	1.3
8.25	A	1.1	1.7	1.4	1.3
9.00	A	1.0	1.7	1.6	1.4
9.75	A	1.1	1.7	1.6	1.4
10.50	A	1.0	1.7	1.5	1.4
11.25	A	1.0	1.7	1.4	1.5
12.00	A	1.0	1.7	1.2	1.4
12.75	A	1.0	1.7	1.7	1.4
13.50	A	1.0	1.8	1.5	1.4
14.25	A	1.1	1.8	1.8	1.3
15.00	A	1.1	1.8	1.7	1.2
15.75	C	1.1	1.8	1.7	1.2
16.50	C	1.1	1.9	1.9	1.2
17.25	C	.9	1.8	1.8	1.3
18.00	C	1.0	1.5	1.5	1.3
18.75	C	1.0	1.6	1.4	1.3
19.50	C	1.1	1.5	1.7	1.3
20.25	C	1.1	1.6	1.6	1.3
21.00	C	1.2	1.7	1.8	1.3
21.75	C	1.2	1.8	1.7	1.2
22.50	C	1.2	1.8	1.7	1.3
23.25	C	1.1	1.7	1.9	1.4
24.00	C	1.2	1.7	1.5	1.4
24.75	C	1.0	1.6	1.5	1.2
25.50	C	1.0	1.8	1.8	1.3
26.25	C	1.1	1.8	2.0	1.4
27.00	C	1.1	2.0	1.9	1.4
27.75	C	1.2	1.9	1.7	1.5
28.50	C	1.2	1.8	1.6	1.4
29.25	C	1.2	1.9	1.8	1.4
30.00	C	1.2	2.1	1.6	1.4
30.75	C	1.1	2.0	1.8	1.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
.75	A	1.0	1.7	1.2	1.5
1.50	A	.9	1.6	1.2	1.5
2.25	A	1.0	1.4	1.0	1.4
3.00	A	.9	1.5	1.0	1.4
3.75	A	1.0	1.4	1.1	1.3
4.50	A	.9	1.6	1.1	1.6
5.25	A	.9	1.8	1.3	1.4
6.00	A	.9	1.6	1.2	1.5
6.75	A	.8	1.7	1.3	1.5
7.50	A	.9	1.8	1.3	1.7
8.25	A	.8	1.8	1.2	1.6
9.00	A	1.0	1.6	1.2	1.6
9.75	A	.8	1.8	1.3	1.6
10.50	A	.9	2.0	1.3	1.7
11.25	A	1.0	2.0	1.3	1.6
12.00	A	.9	1.8	1.2	1.7
12.75	A	.9	1.5	1.3	1.7
13.50	A	1.0	1.6	1.4	1.7
14.25	A	1.0	1.6	1.3	1.7
15.00	C	.9	1.4	1.3	1.7
15.75	C	1.0	1.8	1.4	1.8
16.50	C	1.0	1.8	1.5	1.8
17.25	C	1.0	1.8	1.3	1.8
18.00	C	1.0	1.8	1.4	1.9
18.75	C	1.0	1.6	1.4	1.9
19.50	C	1.0	1.7	1.4	1.7
20.25	C	.9	1.6	1.5	1.5
21.00	C	1.0	1.5	1.5	1.5
21.75	C	1.0	1.6	1.5	1.5
22.50	C	1.0	1.7	1.5	1.4
23.25	C	1.0	1.6	1.4	1.4
24.00	C	1.0	1.6	1.3	1.9
24.75	C	.9	1.8	1.2	1.7
25.50	C	1.0	1.6	1.4	1.8
26.25	C	.9	1.6	1.4	1.8
27.00	C	.9	1.6	1.4	1.8
27.75	C	1.1	1.8	1.4	1.9
28.50	C	1.1	1.9	1.4	1.9
29.25	C	1.1	1.7	1.3	1.9
30.00	C	1.1	1.8	1.5	1.8
30.75	C	1.1	1.5	1.5	1.9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 1

Time [min]	Phase	Animal Identification 1	2	3	4
62.25	R	1.2	2.5	1.9	1.5
63.00	R	1.3	2.4	2.0	1.5
63.75	R	1.2	2.4	1.9	1.6
64.50	R	1.2	2.5	1.8	1.6
65.25	R	1.2	2.6	1.9	1.7
66.00	R	1.2	2.5	1.8	1.5
66.75	R	1.2	2.4	1.9	1.4
67.50	R	1.2	2.6	1.8	1.5
68.25	R	1.3	2.3	1.4	1.5
69.00	R	1.2	2.2	1.3	1.5
69.75	R	1.2	1.9	1.4	1.5
70.50	R	1.2	1.8	1.4	1.6
71.25	R	1.3	2.0	1.5	1.6
72.00	R	1.3	2.1	1.5	1.6
72.75	R	1.3	2.5	1.5	1.6
73.50	R	1.2	2.3	1.6	1.6
74.25	R	1.3	2.4	1.7	1.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
62.25	R	1.0	2.1	1.3	2.2
63.00	R	1.0	2.3	1.1	2.0
63.75	R	1.1	2.2	1.2	2.4
64.50	R	1.1	2.1	1.4	2.2
65.25	R	1.1	1.8	1.5	2.2
66.00	R	1.0	2.0	1.4	2.3
66.75	R	1.0	2.1	1.4	2.2
67.50	R	1.0	2.0	1.5	2.2
68.25	R	1.0	2.1	1.4	2.3
69.00	R	1.0	2.0	1.6	2.2
69.75	R	1.0	2.1	1.5	2.2
70.50	R	1.0	2.2	1.3	2.3
71.25	R	1.0	2.0	1.3	2.3
72.00	R	1.1	2.0	1.6	2.3
72.75	R	1.1	2.3	1.5	2.3
73.50	R	1.1	2.1	1.5	2.4
74.25	R	1.1	1.8	1.3	2.3

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 2

Time [min]	Phase	Animal Identification 5	6	7	8
31.50	C	1.1	1.5	1.5	1.8
32.25	C	1.1	1.6	1.5	1.9
33.00	C	1.1	1.7	1.6	2.0
33.75	C	1.1	1.6	1.4	1.8
34.50	C	1.1	1.7	1.3	2.0
35.25	C	1.0	1.7	1.3	2.0
36.00	C	1.0	1.8	1.5	2.0
36.75	C	1.1	1.8	1.4	2.0
37.50	C	1.0	1.8	1.4	2.0
38.25	C	1.1	1.9	1.2	2.1
39.00	C	1.0	1.7	1.4	1.9
39.75	C	1.0	1.8	1.4	2.0
40.50	C	1.0	1.7	1.4	2.1
41.25	C	1.0	1.8	1.6	2.0
42.00	C	1.0	1.8	1.4	1.8
42.75	C	1.1	1.7	1.4	1.6
43.50	C	1.2	1.8	1.6	1.7
44.25	C	1.2	1.7	1.6	1.7
45.00	C	1.2	1.7	1.4	1.8
45.75	C	.9	1.9	1.5	2.0
46.50	C	1.0	1.8	1.5	2.0
47.25	C	.9	1.9	1.6	1.8
48.00	C	.9	2.1	1.6	1.8
48.75	C	.9	1.9	1.4	2.1
49.50	C	1.0	2.1	1.3	2.1
50.25	C	1.0	1.7	1.5	2.0
51.00	C	1.0	1.9	1.5	2.0
51.75	C	1.1	1.8	1.2	2.0
52.50	C	1.0	1.7	1.1	2.0
53.25	C	1.0	1.9	1.2	2.0
54.00	C	1.0	1.8	1.3	2.1
54.75	C	1.1	1.8	1.4	2.1
55.50	C	1.0	1.7	1.5	2.1
56.25	C	1.0	2.0	1.5	2.1
57.00	C	1.0	2.2	1.2	2.1
57.75	C	1.0	1.8	1.4	2.1
58.50	C	1.0	1.9	1.4	2.2
59.25	C	1.0	2.1	1.5	2.1
60.00	C	1.0	2.0	1.6	2.0
60.75	R	1.0	2.1	1.6	2.2
61.50	R	1.0	1.9	1.2	2.2

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
31.50	C	1.7	1.8	1.2	1.2
32.25	C	1.6	1.7	1.2	1.1
33.00	C	1.6	2.1	1.2	1.1
33.75	C	1.6	2.0	1.1	1.2
34.50	C	1.7	1.8	1.2	1.2
35.25	C	1.6	1.5	1.1	1.0
36.00	C	1.5	1.6	1.3	1.0
36.75	C	1.7	1.5	1.1	1.1
37.50	C	1.7	1.5	1.1	1.1
38.25	C	1.5	1.5	1.1	1.0
39.00	C	1.7	2.0	1.1	.9
39.75	C	1.6	2.1	1.1	1.0
40.50	C	1.7	1.8	1.1	1.1
41.25	C	1.6	1.8	1.0	1.1
42.00	C	1.5	1.5	.9	1.1
42.75	C	1.6	1.5	1.0	1.0
43.50	C	1.7	1.4	1.0	1.1
44.25	C	1.6	1.5	1.0	1.0
45.00	C	1.8	1.8	1.0	.9
45.75	C	1.9	1.5	1.0	1.0
46.50	C	1.8	1.5	1.0	1.0
47.25	C	1.5	1.7	1.0	1.0
48.00	C	1.5	1.5	1.0	1.0
48.75	C	1.6	1.4	1.1	1.1
49.50	C	1.7	1.8	1.0	1.0
50.25	C	1.7	1.7	1.0	1.0
51.00	C	1.5	1.4	1.0	.9
51.75	C	1.6	1.3	1.0	1.0
52.50	C	1.6	1.3	.9	1.0
53.25	C	1.7	1.5	1.0	.8
54.00	C	1.7	1.2	1.0	.9
54.75	C	1.6	1.5	1.0	.8
55.50	C	1.8	1.7	1.0	.9
56.25	C	1.7	1.3	1.1	.7
57.00	C	1.7	1.4	1.1	.9
57.75	C	1.8	1.4	1.2	.8
58.50	C	1.8	1.6	1.0	.9
59.25	C	1.8	1.4	1.0	.7
60.00	C	1.8	1.4	.9	.8
60.75	C	1.8	1.6	1.0	.8
61.50	R	1.8	1.9	.9	.7

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
.75	A	1.3	1.4	1.3	1.1
1.50	A	1.2	1.5	1.2	1.0
2.25	A	1.2	1.5	1.1	1.1
3.00	A	1.3	1.6	1.0	1.1
3.75	A	1.3	1.4	1.1	1.1
4.50	A	1.3	1.2	1.2	1.2
5.25	A	1.3	1.3	1.2	1.1
6.00	A	1.3	1.2	1.2	1.0
6.75	A	1.4	1.4	1.1	1.1
7.50	A	1.4	1.6	1.2	1.2
8.25	A	1.4	1.6	1.2	1.0
9.00	A	1.4	1.7	1.2	1.1
9.75	A	1.4	1.8	1.1	1.1
10.50	A	1.3	1.8	1.1	1.1
11.25	A	1.6	1.8	1.2	1.1
12.00	A	1.5	1.8	1.2	1.1
12.75	A	1.4	1.9	1.2	1.1
13.50	A	1.4	1.5	1.2	1.1
14.25	A	1.4	1.8	1.2	1.1
15.00	A	1.4	1.8	1.2	1.1
15.75	C	1.5	2.0	1.1	1.1
16.50	C	1.5	1.9	1.3	1.2
17.25	C	1.5	2.1	1.2	1.2
18.00	C	1.5	1.8	1.3	1.2
18.75	C	1.6	1.6	1.2	1.2
19.50	C	1.6	1.3	1.3	1.2
20.25	C	1.6	1.4	1.3	1.1
21.00	C	1.6	1.3	1.2	1.1
21.75	C	1.6	1.3	1.2	1.0
22.50	C	1.6	1.4	1.2	1.1
23.25	C	1.6	1.6	1.2	1.2
24.00	C	1.6	1.6	1.2	1.1
24.75	C	1.7	1.8	1.2	1.1
25.50	C	1.6	1.9	1.2	1.1
26.25	C	1.7	1.9	1.1	1.2
27.00	C	1.6	2.0	1.1	1.2
27.75	C	1.6	2.0	1.2	1.1
28.50	C	1.7	1.8	1.2	1.2
29.25	C	1.6	1.7	1.2	1.1
30.00	C	1.7	2.0	1.1	1.1
30.75	C	1.7	1.9	1.2	1.1

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
.75	A	1.2	1.4	1.4	1.2
1.50	A	1.3	1.2	1.4	1.2
2.25	A	.9	1.3	1.4	1.3
3.00	A	1.0	1.5	1.3	1.3
3.75	A	1.1	1.5	1.3	1.3
4.50	A	1.2	1.7	1.3	1.2
5.25	A	1.3	1.7	1.3	1.3
6.00	A	1.2	1.5	1.5	1.2
6.75	A	1.3	1.7	1.6	1.3
7.50	A	1.5	1.7	1.6	1.3
8.25	A	1.8	1.7	1.4	1.3
9.00	A	1.5	1.8	1.3	1.3
9.75	A	1.5	1.8	1.3	1.2
10.50	A	1.6	1.7	1.3	1.2
11.25	A	1.7	1.5	1.6	1.4
12.00	A	1.6	1.4	1.4	1.3
12.75	A	1.5	1.5	1.5	1.2
13.50	A	1.8	1.5	1.4	1.3
14.25	A	1.8	1.5	1.5	1.3
15.00	A	1.7	1.7	1.4	1.2
15.75	C	1.7	1.7	1.5	1.3
16.50	C	1.5	1.9	1.7	1.3
17.25	C	1.5	1.8	1.6	1.3
18.00	C	1.6	1.7	1.3	1.4
18.75	C	1.6	1.7	1.3	1.3
19.50	C	1.6	1.7	1.5	1.3
20.25	C	1.5	1.8	1.4	1.3
21.00	C	1.2	1.8	1.6	1.3
21.75	C	1.3	1.8	1.3	1.3
22.50	C	1.3	1.8	1.5	1.4
23.25	C	1.1	1.7	1.6	1.2
24.00	C	1.0	1.9	1.6	1.4
24.75	C	1.3	2.0	1.8	1.4
25.50	C	1.2	1.6	1.8	1.5
26.25	C	1.1	1.7	1.8	1.4
27.00	C	1.2	1.9	1.6	1.3
27.75	C	1.3	1.5	1.5	1.5
28.50	C	1.1	1.7	1.8	1.4
29.25	C	1.0	1.5	1.5	1.6
30.00	C	1.0	1.7	1.6	1.5
30.75	C	.9	1.3	1.6	1.5

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 3

Time [min]	Phase	Animal Identification 9	10	11	12
62.25	R	1.8	2.0	.9	.9
63.00	R	1.9	1.9	.9	.9
63.75	R	1.9	1.8	.9	.9
64.50	R	1.9	1.9	1.0	.8
65.25	R	2.0	1.9	1.0	.8
66.00	R	1.9	2.0	1.0	.9
66.75	R	1.7	2.0	1.0	.9
67.50	R	1.8	2.4	1.0	.9
68.25	R	1.7	2.0	.9	.9
69.00	R	1.7	2.1	1.0	.9
69.75	R	2.1	2.0	1.0	.9
70.50	R	1.9	2.1	1.1	1.0
71.25	R	1.7	2.0	1.1	1.0
72.00	R	1.8	2.2	1.1	1.0
72.75	R	1.8	2.1	1.1	1.0
73.50	R	1.8	2.1	1.1	1.0
74.25	R	1.8	1.7	1.1	1.0
75.00	R	1.7	1.9	1.2	1.0
75.75	R	1.9	2.1	1.2	1.0
76.50	R	1.9	2.0	1.2	1.0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
62.25	R	1.0	1.4	1.4	1.5
63.00	R	1.1	1.5	1.4	1.5
63.75	R	1.2	1.5	1.5	1.5
64.50	R	1.2	1.5	1.6	1.4
65.25	R	1.2	1.7	1.6	1.4
66.00	R	1.3	1.7	1.6	1.4
66.75	R	1.3	1.6	1.7	1.4
67.50	R	1.3	1.7	1.7	1.4
68.25	R	1.3	1.8	1.8	1.4
69.00	R	1.3	1.8	1.7	1.4
69.75	R	1.3	1.8	1.7	1.4
70.50	R	1.3	2.0	1.8	1.4
71.25	R	1.1	1.9	1.7	1.5
72.00	R	1.1	1.9	1.8	1.6
72.75	R	1.3	2.0	1.9	1.5
73.50	R	1.3	1.9	1.9	1.6
74.25	R	1.3	2.2	1.8	1.6
75.00	R	1.3	2.1	1.8	1.6

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
31.50	C	1.0	1.2	.5	1.2
32.25	C	1.1	1.2	.5	1.1
33.00	C	1.3	2.3	.5	1.0
33.75	C	1.2	2.3	.4	1.1
34.50	C	1.0	2.2	.5	1.0
35.25	C	1.1	2.2	.6	1.0
36.00	C	1.1	1.5	.5	1.0
36.75	C	1.0	1.5	.5	1.0
37.50	C	1.2	1.9	.5	1.0
38.25	C	1.4	2.1	.5	1.1
39.00	C	1.2	1.4	.5	1.3
39.75	C	1.3	1.2	.5	1.1
40.50	C	1.1	1.3	.6	1.1
41.25	C	1.1	1.3	.5	1.1
42.00	C	1.2	1.5	.5	1.1
42.75	C	1.0	1.3	.5	1.1
43.50	C	1.1	1.4	.5	1.1
44.25	C	1.2	1.1	.5	1.1
45.00	C	1.3	1.7	.5	1.0
45.75	C	1.0	2.0	.6	1.2
46.50	C	1.2	2.2	.6	1.1
47.25	C	1.4	2.2	.7	.9
48.00	C	1.4	2.1	.6	1.0
48.75	C	1.1	2.6	.6	1.0
49.50	C	1.2	2.7	.5	1.0
50.25	C	1.2	2.8	.6	1.0
51.00	C	1.1	2.8	.6	.9
51.75	C	1.2	2.7	.7	1.0
52.50	C	1.3	2.7	.6	1.0
53.25	C	1.2	1.6	.7	1.0
54.00	C	1.3	2.3	.6	1.1
54.75	C	1.1	1.5	.6	1.0
55.50	C	1.2	1.8	.6	1.0
56.25	C	1.2	1.7	.7	1.1
57.00	C	1.1	1.7	.6	1.0
57.75	C	1.1	1.2	.7	1.1
58.50	C	1.0	1.7	.8	1.1
59.25	C	1.4	1.8	.7	1.2
60.00	C	1.2	2.1	.7	1.1
60.75	C	1.3	2.8	.8	.9
61.50	R	1.2	2.4	.8	1.0

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 4

Time [min]	Phase	Animal Identification 13	14	15	16
31.50	C	1.0	1.5	1.4	1.3
32.25	C	1.1	1.5	1.7	1.4
33.00	C	1.0	1.3	1.8	1.4
33.75	C	.9	1.3	1.8	1.5
34.50	C	1.0	1.3	1.5	1.5
35.25	C	1.1	1.6	1.5	1.3
36.00	C	.9	1.3	1.5	1.4
36.75	C	1.1	1.6	1.6	1.3
37.50	C	1.0	1.3	1.5	1.4
38.25	C	1.0	1.4	1.5	1.5
39.00	C	1.0	1.4	1.5	1.4
39.75	C	1.0	1.3	1.5	1.3
40.50	C	1.1	1.4	1.3	1.4
41.25	C	1.1	1.4	1.5	1.3
42.00	C	1.1	1.4	1.4	1.4
42.75	C	1.0	1.3	1.4	1.4
43.50	C	1.0	1.3	1.2	1.5
44.25	C	.9	1.3	1.2	1.3
45.00	C	.8	1.2	1.3	1.4
45.75	C	1.0	1.5	1.2	1.3
46.50	C	.9	1.4	1.3	1.3
47.25	C	.9	1.5	1.3	1.3
48.00	C	1.0	1.5	1.2	1.3
48.75	C	1.0	1.5	1.4	1.5
49.50	C	1.0	1.5	1.3	1.3
50.25	C	1.0	1.4	1.4	1.3
51.00	C	1.1	1.6	1.3	1.4
51.75	C	1.0	1.4	1.1	1.3
52.50	C	1.1	1.4	1.2	1.4
53.25	C	1.0	1.4	1.2	1.5
54.00	C	1.1	1.3	1.2	1.4
54.75	C	1.0	1.5	1.2	1.4
55.50	C	1.0	1.4	1.3	1.3
56.25	C	1.1	1.3	1.2	1.4
57.00	C	1.0	1.5	1.2	1.3
57.75	C	1.1	1.4	1.2	1.3
58.50	C	1.0	1.5	1.2	1.3
59.25	C	1.0	1.5	1.3	1.4
60.00	C	1.1	1.5	1.2	1.3
60.75	C	1.0	1.3	1.4	1.3
61.50	R	1.0	1.5	1.3	1.5

Phase: A = Adaptation, C = Challenge, R = Recovery

BEST COPY AVAILABLE

2-Chloracrylnitril / RD50

PIF/PEF

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
.75	A	1.3	1.5	1.0	1.3
1.50	A	1.3	1.6	1.1	1.4
2.25	A	1.3	1.6	1.0	1.5
3.00	A	1.4	1.6	1.1	1.5
3.75	A	1.5	1.6	1.1	1.4
4.50	A	1.1	1.6	1.1	1.5
5.25	A	1.3	1.5	1.1	1.4
6.00	A	1.1	1.7	1.1	1.5
6.75	A	1.3	1.5	1.2	1.5
7.50	A	1.3	2.2	1.0	1.5
8.25	A	1.3	1.9	1.1	1.3
9.00	A	1.4	1.8	1.1	1.5
9.75	A	1.4	2.6	1.2	1.5
10.50	A	1.3	2.6	1.1	1.3
11.25	A	1.4	2.4	1.1	1.5
12.00	A	1.5	2.4	1.1	1.5
12.75	A	1.3	2.0	1.2	1.5
13.50	A	1.5	2.3	1.2	1.5
14.25	A	1.3	2.0	1.2	1.5
15.00	A	1.1	2.0	1.2	1.4
15.75	C	1.4	2.1	1.2	1.4
16.50	C	1.2	2.3	1.2	1.6
17.25	C	1.4	2.2	1.1	1.6
18.00	C	1.3	2.2	1.1	1.5
18.75	C	1.5	2.0	1.0	1.6
19.50	C	1.2	1.3	.9	1.6
20.25	C	1.1	1.3	.8	1.6
21.00	C	1.1	1.1	.8	1.6
21.75	C	1.1	1.6	.7	1.5
22.50	C	1.2	1.7	.6	1.6
23.25	C	1.2	1.5	.7	1.3
24.00	C	1.4	1.5	.7	1.5
24.75	C	1.1	1.5	.6	1.4
25.50	C	1.5	1.6	.6	1.5
26.25	C	1.2	1.9	.6	1.4
27.00	C	1.5	1.7	.5	1.3
27.75	C	1.5	1.7	.5	1.3
28.50	C	1.2	1.8	.5	1.0
29.25	C	1.2	1.5	.5	1.2
30.00	C	1.1	1.0	.4	1.0
30.75	C	1.0	.9	.4	1.0

Phase: A = Adaptation, C = Challenge, R = Recovery

BEST COPY AVAILABLE

2-Chloracrylnitril / RD50

PIF/PEF

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
.75	A	1.1	1.1	1.2	.8
1.50	A	1.1	1.1	1.2	.9
2.25	A	1.1	1.1	1.2	.8
3.00	A	1.0	1.1	1.2	.8
3.75	A	1.1	1.1	1.1	.8
4.50	A	1.1	1.1	1.2	.7
5.25	A	1.2	1.1	1.2	.6
6.00	A	1.1	1.1	1.1	.6
6.75	A	1.1	1.2	1.3	1.1
7.50	A	1.1	1.1	1.1	.9
8.25	A	1.2	1.0	1.2	.9
9.00	A	1.1	1.1	1.1	1.0
9.75	A	1.1	1.1	1.1	.9
10.50	A	1.2	1.1	1.2	1.0
11.25	A	1.2	1.2	1.1	1.0
12.00	A	1.2	1.2	1.0	.9
12.75	A	1.1	1.2	1.1	.9
13.50	A	1.2	1.2	1.1	.7
14.25	A	1.2	1.2	1.1	.8
15.00	C	1.1	1.2	1.1	1.0
15.75	C	1.1	1.2	1.2	1.0
16.50	C	1.0	1.2	1.1	1.1
17.25	C	1.0	1.1	.9	1.2
18.00	C	1.0	1.2	.8	.9
18.75	C	1.0	1.1	.9	1.0
19.50	C	1.1	1.1	.8	.9
20.25	C	1.0	1.1	.6	.9
21.00	C	1.0	1.0	.9	.8
21.75	C	1.0	1.0	.7	.9
22.50	C	1.1	1.1	.7	.8
23.25	C	1.0	.9	.9	.9
24.00	C	1.0	1.0	.8	.7
24.75	C	1.0	1.0	.9	.8
25.50	C	1.0	1.0	1.0	.8
26.25	C	1.0	.9	.8	.8
27.00	C	1.1	.9	.9	.7
27.75	C	1.2	1.2	.8	.8
28.50	C	.9	1.1	.8	.8
29.25	C	1.2	1.0	.7	.8
30.00	C	1.0	.9	1.0	.8
30.75	C	.9	.8	.8	.8

Phase: A = Adaptation, C = Challenge, R = Recovery

BEST COPY AVAILABLE

2-Chloracrylnitril / RD50

PIF/PEF

Group: 5

Time [min]	Phase	Animal Identification 17	18	19	20
62.25	R	1.2	2.6	.6	1.3
63.00	R	1.4	2.5	.6	1.4
63.75	R	1.3	2.0	.7	1.6
64.50	R	1.3	1.4	.7	1.7
65.25	R	1.6	1.5	.6	1.5
66.00	R	1.6	1.6	.7	1.6
66.75	R	1.6	1.9	.7	1.4
67.50	R	1.8	1.7	.8	1.5
68.25	R	1.8	1.6	.7	1.5
69.00	R	1.9	1.8	.8	1.6
69.75	R	1.8	1.8	.8	1.6
70.50	R	2.2	1.9	.7	1.7
71.25	R	2.3	1.9	.8	1.7
72.00	R	2.4	1.9	.8	1.8
72.75	R	2.3	2.0	.8	1.8
73.50	R	2.2	2.0	.8	1.8
74.25	R	2.3	1.9	.8	1.9
75.00	R	2.4	2.1	.9	1.9

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
62.25	R	1.1	1.3	.6	1.5
63.00	R	1.1	1.5	.7	1.5
63.75	R	1.2	1.5	.7	1.4
64.50	R	1.2	1.7	.7	1.5
65.25	R	1.2	1.8	.7	1.5
66.00	R	1.1	1.7	.7	1.6
66.75	R	1.2	1.5	.7	1.7
67.50	R	1.3	1.5	.8	1.7
68.25	R	1.2	1.3	.7	1.7
69.00	R	1.2	1.4	.7	1.6
69.75	R	1.2	1.4	.7	1.7
70.50	R	1.3	1.4	.7	1.7
71.25	R	1.2	1.3	.7	1.8
72.00	R	1.3	1.3	.8	1.7
72.75	R	1.3	1.4	.8	1.8
73.50	R	1.3	1.4	.8	1.7
74.25	R	1.3	1.5	.9	1.8

Phase: A = Adaptation, C = Challenge, R = Recovery

2-Chloracrylnitril / RD50

PIF/PEF

Group: 6

Time [min]	Phase	Animal Identification 21	22	23	24
31.50	C	1.0	1.1	.7	.7
32.25	C	.9	1.1	.7	.8
33.00	C	1.1	1.0	1.0	.9
33.75	C	1.1	1.1	1.0	1.0
34.50	C	1.2	1.4	.8	.9
35.25	C	.8	1.5	.7	.9
36.00	C	.9	1.2	.9	.9
36.75	C	1.1	1.0	.8	1.1
37.50	C	1.0	1.1	.7	1.0
38.25	C	1.1	1.1	.7	1.0
39.00	C	1.2	1.1	.8	.9
39.75	C	1.2	1.2	.8	1.1
40.50	C	1.2	1.3	.8	.9
41.25	C	.9	1.2	.7	1.0
42.00	C	1.0	1.3	.7	.9
42.75	C	1.2	1.2	.7	.8
43.50	C	1.3	1.1	.8	1.0
44.25	C	1.0	1.2	.7	.9
45.00	C	1.2	1.3	.7	.9
45.75	C	1.3	1.0	.9	1.1
46.50	C	1.3	1.4	.8	1.0
47.25	C	1.0	1.2	1.0	1.0
48.00	C	1.3	1.3	.8	1.0
48.75	C	1.3	1.7	.9	.9
49.50	C	1.1	1.6	.9	1.1
50.25	C	1.4	1.4	.9	1.0
51.00	C	1.5	1.7	.9	1.0
51.75	C	1.0	1.7	.8	1.0
52.50	C	1.3	1.5	.7	1.1
53.25	C	1.3	.8	.8	1.0
54.00	C	1.0	1.0	.9	1.0
54.75	C	1.2	1.5	1.1	1.1
55.50	C	1.4	1.8	.9	1.1
56.25	C	1.4	1.4	.8	1.0
57.00	C	1.0	1.7	.9	1.2
57.75	C	1.0	1.4	.8	.9
58.50	C	1.4	1.3	.9	1.1
59.25	C	1.4	1.1	.7	1.1
60.00	C	1.3	1.6	.8	1.1
60.75	C	1.2	1.5	.9	1.4
61.50	R	1.0	1.2	.7	1.4

Phase: A = Adaptation, C = Challenge, R = Recovery

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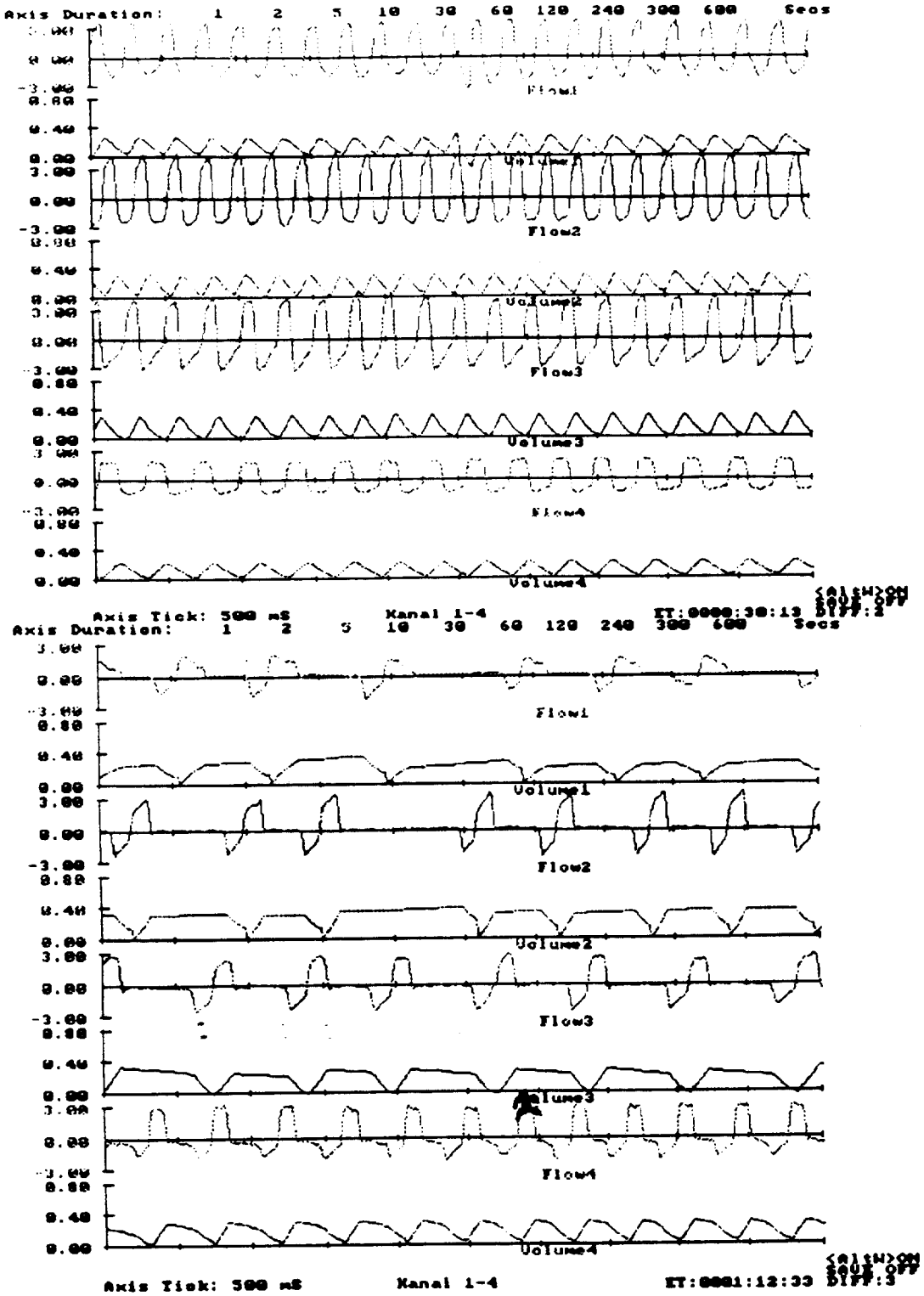
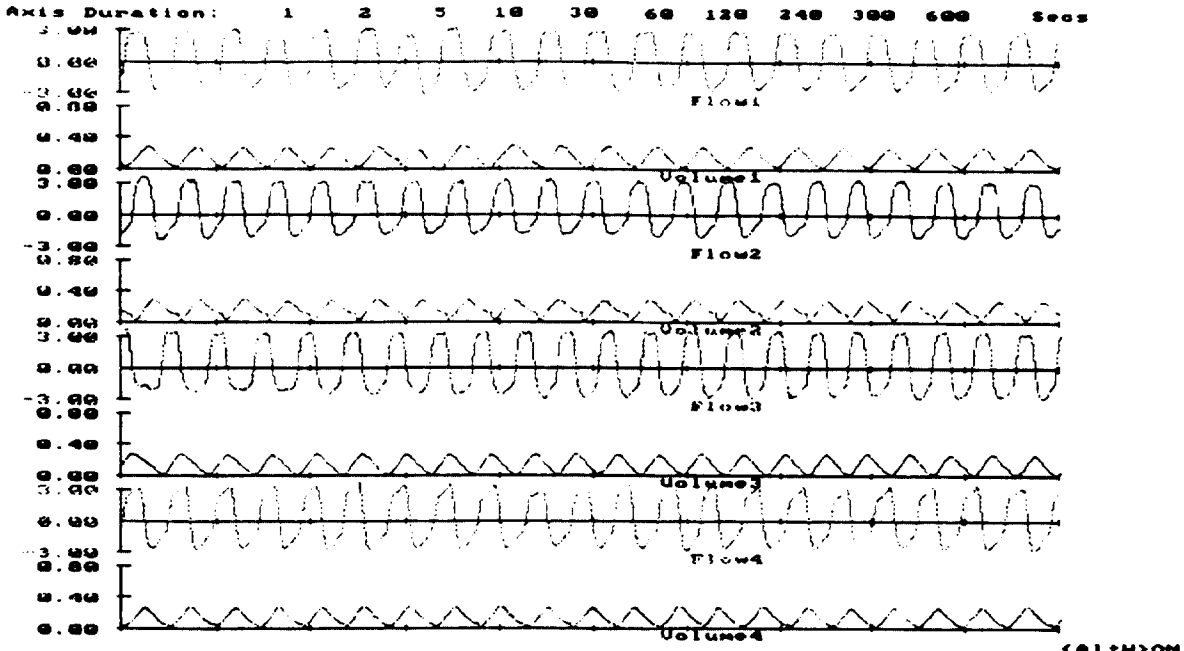
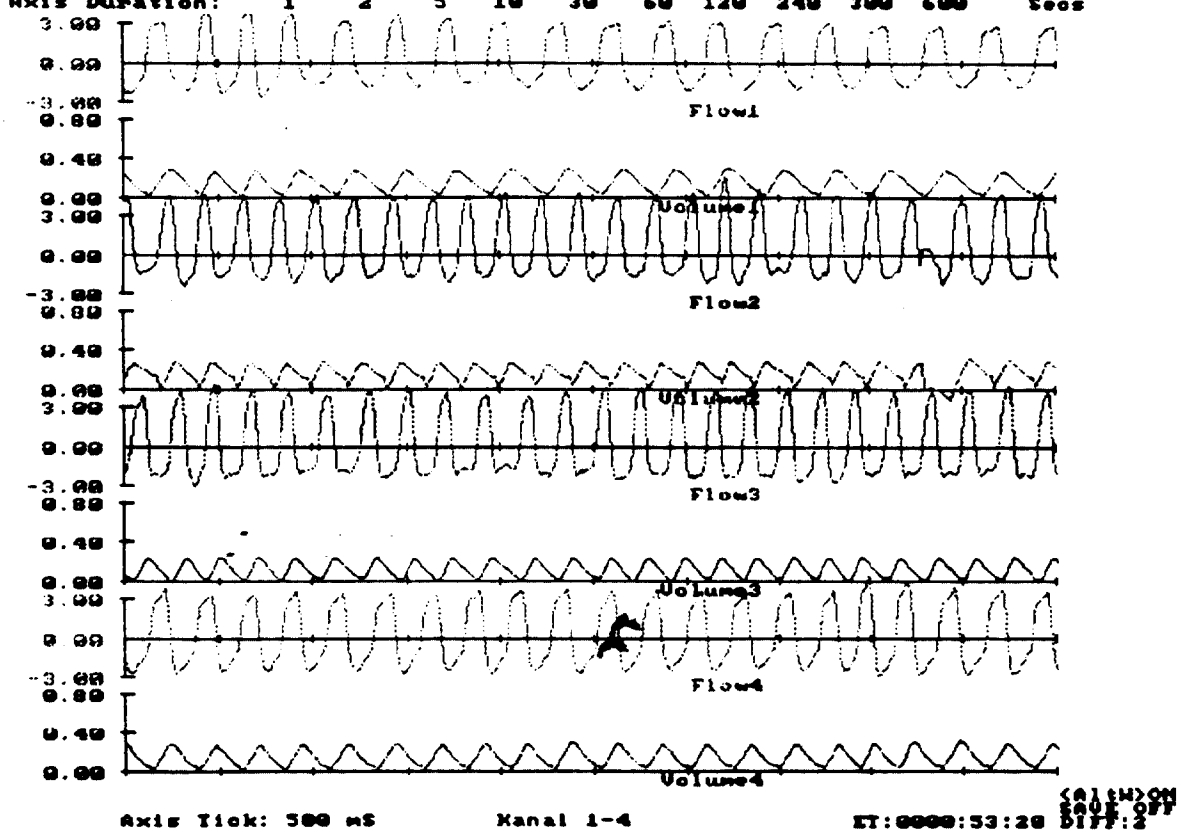
Exposure to 28.6 mg 2-CHLOROACRYLONITRILE/m³ air
(upper panel: prior to exposure, lower panel: towards and of exposure)



Analysis of Breathing Pattern - Examples

air control (upper panel: prior to exposure, lower panel: towards and of exposure)





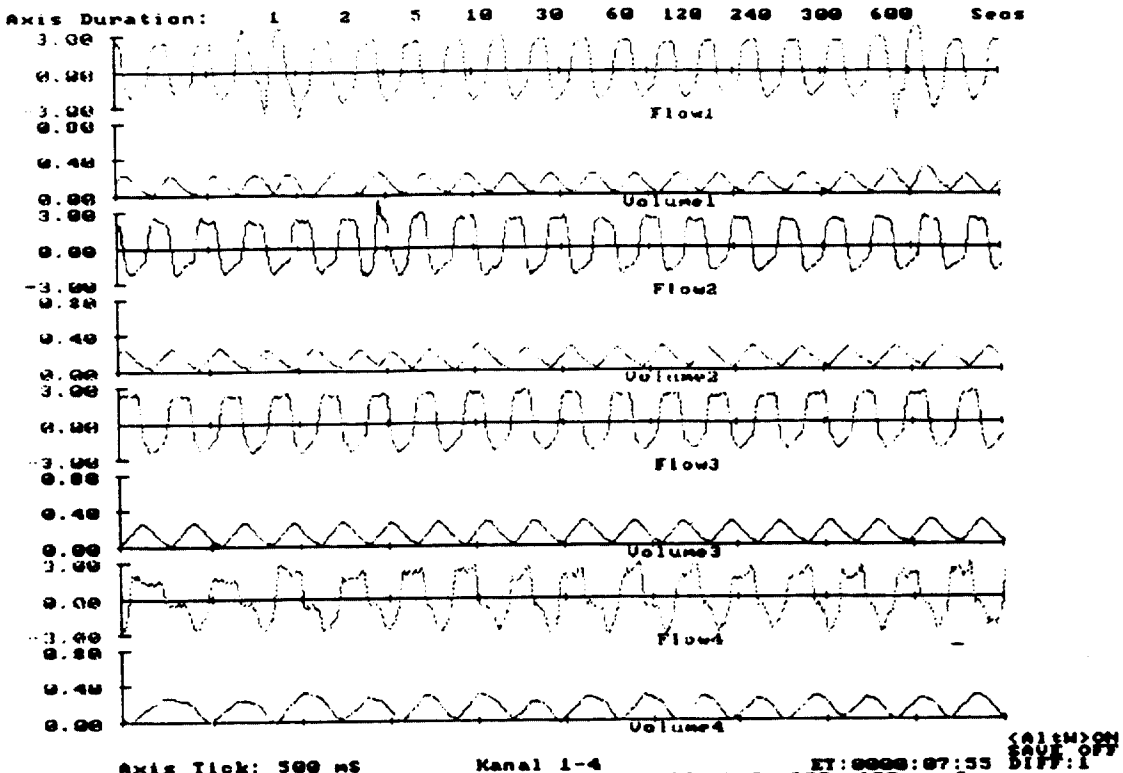
Gross pathology report

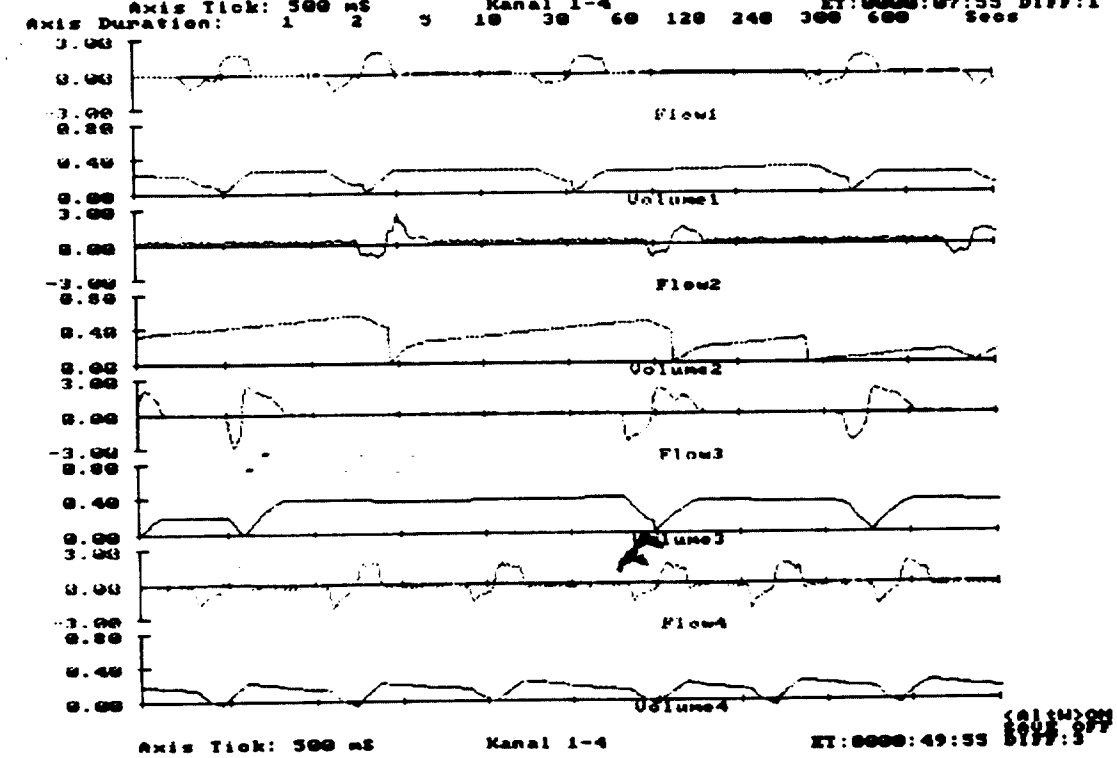
Individual findings

Group	Animal No.	Time of death	Sacrificed after	Pathology findings
1	1		7 d	no observable findings
	2		7 d	no observable findings
	3		7 d	no observable findings
	4		7 d	no observable findings
2	17		7 d	no observable findings
	18		7 d	no observable findings
	19		7 d	no observable findings
	20		7 d	no observable findings
3	9		7 d	no observable findings
	10		7 d	no observable findings
	11		7 d	no observable findings
	12		7 d	no observable findings
4	13		7 d	no observable findings
	14		7 d	no observable findings
	15		7 d	no observable findings
	16		7 d	no observable findings
5	21		7 d	no observable findings
	22		7 d	no observable findings
	23		7 d	no observable findings
	24		7 d	no observable findings
6	5		7 d	no observable findings
	6		7 d	no observable findings
	7		7 d	no observable findings
	8		7 d	no observable findings

Exposure to 80.8 mg 2-CHLOROACRYLONITRILE/m³ air

(upper panel: prior to exposure, lower panel: towards and of exposure)





Chow Specification - Impurities

Impurity	Max. acceptable value	LUFA - Limit of detection	Altromin *
Aflatoxine B1 / B2	0.01	0.0025	nng
Aflatoxine G1 / G2	0.01	0.0025	nng
Antibiotic activity	± 0		nng
Arsenic	2.0	0.2	0.3
Fluoride	150.0	5.0	22.0
Mercury	0.1	0.01	0.08
Lead	5.0	0.1	0.37
Cadmium		0.01	0.10
Selenium		0.10	1.0
Tecnazene		0.001	< 0.001
Quintozene		0.001	< 0.001
HCB (Hexachlorbenzene)		0.001	< 0.001
α -HCH		0.001	< 0.001
β -HCH		0.002	< 0.002
τ -HCH	0.1	0.001	0.002
Heptachlor	0.03	0.005	< 0.005
Heptachlorepoxid	0.03	0.005	< 0.005
α - Chlordan	0.05	0.005	< 0.005
τ - Chlordan	0.05	0.005	< 0.005
Aldrin	0.02	0.005	< 0.005
Dieldrin	0.02	0.005	< 0.005
Endrin	0.02	0.01	< 0.01
o.p - DDE	0.05	0.005	< 0.005
p.p - DDE	0.05	0.005	< 0.005
o.p - DDD	0.05	0.005	< 0.005
o.p - DDT	0.05	0.005	< 0.005
p.p - DDD	0.05	0.01	< 0.01
p.p - DDT	0.05	0.01	< 0.01
Methoxychlor		0.01	< 0.01
PCB qual.			nng
Chlorthion		0.01	< 0.01
Disulfothion		0.005	< 0.005
Malathion		0.01	< 0.01
Methylparathion		0.005	< 0.005
Ethylparathion		0.01	< 0.01
Sulfotepp		0.002	< 0.002
Fenthion		0.005	< 0.005
Diazinon		0.01	< 0.01
Dibrom		0.02	< 0.02
Dimethoate		0.005	< 0.005
Trichlorphon		0.01	< 0.01
Fenitrothion		0.01	< 0.01

* In this study Altromin 1324 was used. 4 is the degree of pelletation.
Dimension: ppm

Chow Specification - Nutrients

Altromin Standard Diets 1320 / Totally Pathogene Free TPF®

ALTROMIN 1320 Rat & Mouse Maintenance Diet has now been successfully used for in excess of 30 years and is normally fed to animals aged 8 weeks or over. The diet should be offered ad libitum together with an ample supply of fresh water. Sealed in polyethylene lined sacks, ALTROMIN 1320 can be passed directly into the SPF facility following surface disinfection. ALTROMIN 1324 consists of 10.0 mm pellets.

Specification of Maintenance Diet Rats/Rats

Nutrients (average % content in the diet)		Amino Acids (average % content in the diet)	
Crude protein	19.0	Lysine	0.90
Crude fat	4.0	Methionine	0.30
Crude fiber	6.0	Cystine	0.30
Ash	7.0	Phenylalanine	0.80
Moisture	13.5	Tyrosine	0.60
Nitrogen-free extract	50.5	Arginine	1.10
		Histidine	0.40
Metabolizable Energy (calculated)		Tryptophane	0.20
Kcal/kg	2850.0	Threonine	0.60
MJ/kg	11.9	Isoleucine	0.80
		Leucine	1.30
Minerals (average % content in the diet)		Valine	0.90
Calcium	0.9		
Phosphorus	0.7	Trace elements (average mg content in 1 kg diet)	
Magnesium	0.2	Manganese	75.0
Sodium	0.2	Iron	180.0
Potassium	1.0	Copper	5.0
		Zinc	70.0
		Iodine	0.9
		Fluorine	15.0

Vitamins (additive in 1 kg diet)	Standard-Diet	Standard-Diet fortified
Vitamin A	15000.0 IU	25000.0 IU
Vitamin D_3	600.0 IU	1000.0 IU
Vitamin E	75.0 mg	125.0 mg
Vitamin K_3	3.0 mg	5.0 mg
Vitamin B_1	18.0 mg	30.0 mg
Vitamin B_2	12.0 mg	20.0 mg
Vitamin B_6	9.0 mg	15.0 mg
Vitamin B_{12}	24.0 mcg	40.0 mcg
Nicotinic acid	36.0 mg	60.0 mg
Pantothenic acid	21.0 mg	35.0 mg
Folic acid	2.0 mg	3.0 mg
Biotin	60.0 mcg	100.0 mcg
Choline	600.0 mg	1000.0 mg
Vitamin C	36.0 mg	60.0 mg

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IDENTITÄTSPRÜFUNG

BAYER AG ZF-Forschungsdienste Gebäude Q 18 51368 Leverkusen	Datum : 10.Apr.1996 Studiennummer: A 95/0023/02 LEV Prüfleiter : Dr.Seelemann Vertreter : Dr.Hamm

Prüfsubstanz: 2-Chloracrylnitril

Auftraggeber: Dr.Paetz, BALK, LEV, Gebäude D 8 Auftragsnummer: 95/008

Chemische Bezeichnung : 2-Chloracrylnitril

Summenformel	: C_3H_2ClN	Molare Masse	: 87,5 g/mol
CAS-Nr.	: 920-37-6	Charge/Partie-Nr.	: B 0006
Proben-Nr./Jahr	: 950744/1996	Datum Probenabholung	: 03.04.96
Herstellbetrieb	: OC-F/ZeTO	Herstelldatum	: 28.02.96
Artikel-Nr.	: 00840165	Haltbarkeit bis	: 03.10.96

Beginn der Prüfung : 04.04.96
Ende der Prüfung : 10.04.96

1. Beschreibung der Methoden und Einzelergebnisse

1.1 Prüfung : Identitätsprüfung (IR)
SOP : D 0085601 DZA
Betreuer : Dr.Seelemann
Ergebnis : Identität entspricht
Beschreibung der Methode:
Von einem kleinen Teil der Probensubstanz wird ein Film zwischen zwei Kaliumbromidfenstern hergestellt.
Von dieser Probe wird ein hochaufgelöstes FTIR-Spektrum aufgenommen und ausgewertet.

2. Bewertung und Kommentar

- Identität wurde durch Spektrenvergleich festgestellt.

3. Archivierung von Aufzeichnungen

GLP-Archiv, Bayer AG, ZF-D Zentrale Analytik Leverkusen, Gebäude O 13, 51368 Leverkusen

Prüfplan, Rohdaten, Abschluß- und Inspektionsberichte sowie weitere für eine Nachprüfung relevante Unterlagen werden archiviert.

4. Archivierung des Rückstellmusters

GLP-Probenlager, Bayer AG, ZF-D Zentrale Analytik Leverkusen, Gebäude O 13, 51368 Leverkusen

Tap Water Specification

No	Substance	Limit mg/l	computed as	equivalent mmol/m³	acceptable error of value (± mg/l)
1	Arsenic	0.04	As	0.5	0.015
2	Lead	0.04	Pb	0.2	0.02
3	Cadmium	0.005	Cd	0.04	0.002
4	Chrome	0.05	Cr	1	0.01
5	Cyanide	0.05	CN-	2	0.01
6	Fluoride	1.5	F-	79	0.2
7	Nickel	0.05	Ni	0.9	0.01
8	Nitrate	50	NO_3^-	806	2
9	Nitrite	0.1	NO_2^-	2.2	0.02
10	Mercury	0.001	Hg	0.005	0.0005
11	Polycyclic aromatic carbohyrates - Fluoranthene - Benzo-b-fluoranthene - Benzo-k-fluoranthene - Benzo-a-pyrene - Benzo-(ghi)-perylene - Indeno-(1,2,3-cd)-pyrene	sum 0.0002	C	0.02	0.00004
12	Organochlorine compounds - 1,1,1-Trichlorethane - Trichlorethylene - Tetrachlorethylene - Dichlormethane	sum 0.01	-	-	0.004
	- Tetrachlormethane	0.003	CCl4	0.02	0.001
13	a. Pesticides	individual compound 0.0001	-	-	0.00005
	b. Polychlorinated Polybromated biphenyles and terphenyles	sum 0.0005	-	-	0.0002
14	Antimony	0.01	Sb	0.08	0.002
15	Selenium	0.01	Se	0.13	0.002

Bayer AG
ZF-D Zentrale Analytik Leverkusen
Gebäude O 13
51368 Leverkusen

Qualitätssicherungserklärung zum Abschlußbericht

Studien-Nr. bzw. Auftrag-Nr.: A 95/0023/02 LEV

Titel der GLP-Untersuchung : 2-Chloracrylnitril

Art der Studie: Identitätsprüfung

Diese GLP-Untersuchung wurde durch die Qualitätssicherung überprüft. Die Zeitpunkte der Inspektionen und die Zeitpunkte der Berichte an den Leiter der Prüfeinrichtung und an den Prüfleiter sind nachfolgend aufgeführt:

Überprüfung (Datum)	Bericht (Datum)
04.04.96	04.04.96
10.04.96	10.04.96

Die im Abschlußbericht dieser Untersuchung wiedergegebenen Ergebnisse werden auf der Basis der aktuellen SOP,'s/Analysenmethoden überprüft. Sie entsprechen nach unserem besten Wissen den vorliegenden Rohdaten.

Qualitätssicherung:

10.04.96

(Datum)

(Dr. Dittrich)

IDENTITÄTSPRÜFUNG

BAYER AG
ZF-Forschungsdienste
Gebäude Q 18
51368 Leverkusen

Datum : 10.Apr.1996
Studiennummer: A 95/0023/02 LEV
Prüfleiter : Dr.Seelemann
Vertreter : Dr.Hamm

Prüfsubstanz: 2-Chloracrylnitril

Auftraggeber: Dr.Paetz, BALK, LEV, Gebäude D 8 Auftragsnummer: 95/008

5. **Erklärung des Prüfleiters**

Die Untersuchungen wurden in Übereinstimmung mit den OECD-Grundsätzen der Guten Laborpraxis (GLP) vom 04.02.83 (veröffentlicht im Bundesanzeiger Nr.42a vom 02.03.83) und den Grundsätzen der Guten Laborpraxis (GLP) gemäß Anhang 1 des Gesetzes zum Schutz vor gefährlichen Stoffen (Chemikaliengesetz) vom 25.07.1994 (veröffentlicht im Bundesgesetzblatt, Teil I vom 29.07.1994) durchgeführt.

Prüfleiter: 10.04.96 Seelemann
(Datum) (Dr.Seelemann)

Anlagen: Erklärung der Qualitätssicherungseinheit

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2. SUMMARY

An analytical method is described which can be used to determine the test material concentrations of 2-CHLORACRYLNITRIL in test atmospheres.
This method was developed to quantify the test material. The test atmosphere vapor was absorbed in impinger flask filled with toluene. After complete absorption in toluene it was quantified analytically by gas chromatography (GC) using an electron capture detector (ECD). Standard solutions of approved test material were used as a basis for evaluation.

With a 10 litre atmosphere samples and end solution volumes of 50 ml, the limits of quantification for this test substance have been found to be **0.224 mg test material/m^3**.

3. INTRODUCTION

Analytical methods for the quantification **2-CHLORACRYLNITRIL** in test atmospheres was developed. This work was conducted in preparation for investigations on the inhalation toxicity of this test material. The method and its validation is described in this report.

A vapor of the test material was absorbed in impinger flask filled with toluene. After complete absorption with tolueneit is quantified analytically by gas chromatography. The GC is equipped with an electron capture detector (ECD). Standard solutions of approved test material were used as a basis for evaluation.

Investigations necessary for drafting the Standard Operating Procedure were conducted in May 96 at the Institute of Industrial Toxicology, Department of Toxicology of Bayer AG, D-42096 Wuppertal-Elberfeld, Friedrich-Ebert-Strasse 217-333.

The study documentation (raw data and final analytical report) has been archived in locations specified by Bayer AG, in accordance with GLP requirements.

Study-No.: T2060844

Parts of the analytical method validation (GC) was presented in study no. T9059294.

4. MATERIALS AND METHOD

4.1. GAS CHROMATOGRAPHY

4.1.1. Instrument

Gas chromatograph HP 5890 II equipped with **
- split/splitless injector for capillary columns
- ECD (electron capture Detector)
- Autosampler (HP 7673B)
- Integration: HP 3365 DOS-WorkStation / Chemserver **

supplied from Hewlett-Packard Inc.

4.1.2. Method

Column:	fused Silica	L: 60 m; ID: 0.32 mm
Stationary phase:	DB 1701	100% dimethylpolysiloxane
Film thickness:		1.0 µm
Temperatures:	Injector:	200°C
	Oven:	70°C {1.0 min} –>10°/min–>180°C {0.01 min}
	Detector:	250°C
Carrier gas:	Helium:	1.5 ml/min (70°C)
Make up Gas:	argon/methane:	30.0 ml/min
Injection volume:		1.0 µl autosampler (splitless) –

4.2. OTHER INSTRUMENTS

Gas measuring device (Elster) **
Mini A-Pump (P) (Leybold-Heräeus) **
Rotameter (R) **
Manometer (D) **
Needle valve (V)
calibrated thermometer for temperature measurement
calibrated barometer
Standard laboratory equipment and glassware

Impinger flasks (50 ml)
Filling: each Flask 20 ml toluene

Gas tight Syringes (25 µl; 100 µl; 250 µl; 10 ml ; Hamilton) **

** or equivalent

(The instruments are regulary maintained and calibrated.)

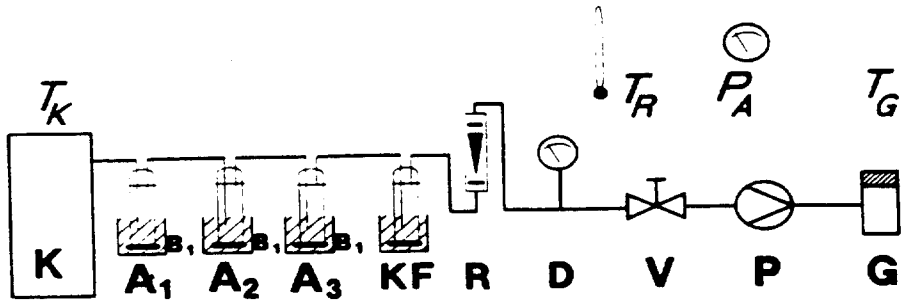
4.3. SOLVENTS AND CHEMICALS

Toluene p.a.; Merck

5. SAMPLE COLLECTION AND PREPARATION

Two (three) series-connected impinger flasks each with 20 ml toluene (A_1+A_2) were connected to the sampling instrument (air throughput 0.5 l/min) (Fig. 1). The total volume of air sampled (V_X), the temperature of the gas flowmeter (T_G), the temperature of the inhalation chamber (T_K), and the barometric pressure (P_A) are recorded.
After the end of the sample collection the contents of both bottles (A_1, A_2) were transfered together to a 50 ml volumetric flask. The volumetric flask is then brought up to volume with toluene.
The 3rd wash bottle (A_3) served the purpose of assuring that all of the test material was collected by the first two bottles. As no detectable amounts of test material and toluene were recovered after sampling any atmosphere concentration, addition of this bottle was found to be not required. All fractions were injected onto the GC after appropriate dilution.

Figure 1: Sample collection instrument



K	Inhalation chamber	P	Pump
A_1-A_3	impinger; with: 20 ml nitro toluene each	G	Gas flow meter
A_3+KF	condenser (optional)	T_G	Temperature of Gas flow meter
R	Flow meter	T_K	Temperature of chamber
D	Manometer	T_R	Room Temperature
V	Needle valve	P_A	Barometric pressure

6. CALIBRATION OF THE ANALYTICAL METHOD

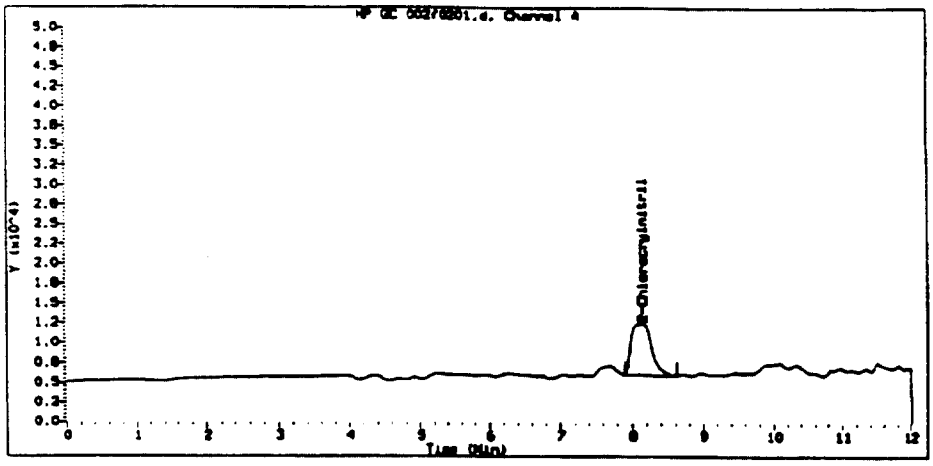
To set-up the calibration series, test material solutions in toluene were prepared with appropriate concentrations. The method-specific parameters were adjusted on the GC instrument. For method calibration 1.0 µl of each standard concentration was injected.
Fig. 2 shows a typical chromatogram of these external calibration solutions. A statistically evaluated calibration curve is shown in Fig. 3. This curve was plotted by the integrator and was based upon the injected concentrations. The calibration curve was plotted anew for each analysis sequence, and deviations from this calibration range were therefore possible. All sample concentrations are always within the calibration range documented for each sample sequence. The quantitative evaluation was performed by determination and comparing the peak area of 2-CHLORACRYLNITRIL of the analytical solution with the peak areas of the external standard solutions. Cis/trans isomerism caused the peak broadening.

Retention time: 2-CHLORACRYLNITRIL approx. 8.2 min

concentration range: 0.0448 to 0.252 µg/ml

Figure 2: typical GC chromatograms of standard solutions 2-CHLORACRYLNITRIL

2.1.: concentration: 0.063 µg/ml



2.2.: concentration: 0.224 µg/ml

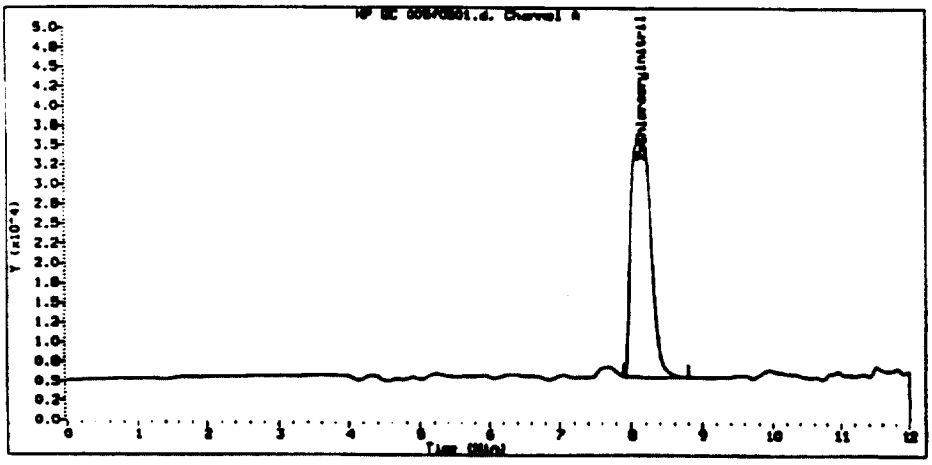
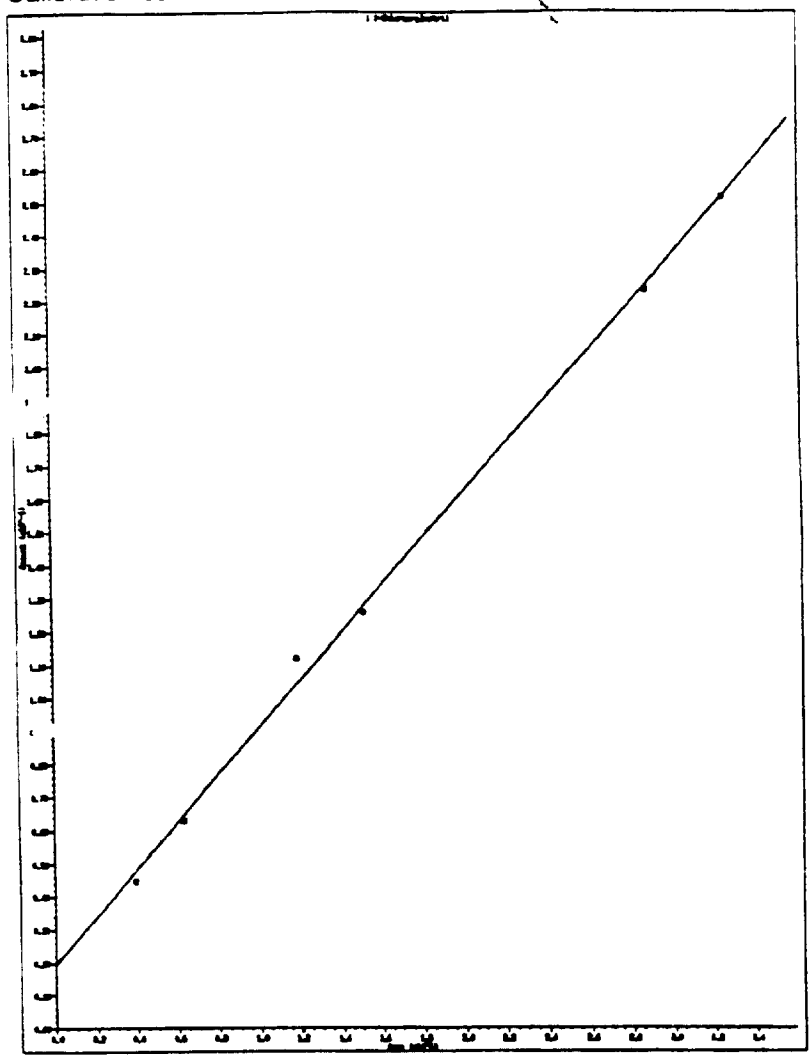


Figure 3: Calibration curve for 2-CHLORACRYLNITRIL date: May 13, 1996



The calibrations are linear in the ranges shown. The linear regression value is $r^2 = 0.998$.

10. RECOVERY

A recovery assessment was not required. It was tested, that all of the test material was scrubbed by the used bottles.

11. DETECTION LIMIT

0.0448 µg test material/ml toluene is the limit of quantification of the analytical measurement using this method. With a sample collection volume of 10 litres and an end dilution volume of 50 ml, a concentration of **0.224 µg test material/m^3** can be accurately determined.

12. LITERATURE

ChemG
Bundesgesetzblatt, Part I of July 29, 1994
Grundsätze der Guten Laborpraxis, Seite 539-547.

End of Report

7. CALCULATION OF THE ANALYTICAL RESULTS

Each sample within a sequence was injected twice. The integrator evaluates each sample based on the plotted external standard calibration curves (see section 6.). The results are expressed in units of µg test material/ml solution.
The test material concentration or solvent concentration in the test atmosphere was determined from the relationship:

$$\text{mg test material} / m^3 \text{ air} = \frac{X * F}{V_X} * \frac{(273 + T_G)}{(273 + T_K)}$$

F		dilution factor (= 50 for undiluted analytical solution)
X	[µg/ml]	test material concentration in the analytical solution
V_X	[l]	chamber atmosphere collected volume
T_G	[°C]	temperature of the gas flowmeter
T_K	[°C]	temperature of the inhalation chamber

8. STABILITY

The stability of 2-CHLORACRYLNITRIL in toluene was checked at room temperature over a period of 76 hours. The solutions tested were found to be stable. No decrease in concentrations were observed. The raw data were presented in study no. T9059294.

9. PRECISION

The precision of this analytical method was assessed by 10 separate injections for each of two relevant concentrations of the calibration standards. The concentration values obtained with a statistical evaluation (coefficient of variation c_V) are presented in table 1. The precision of this method was found to satisfy the analytical requirements.

Table 1:

0.0496 [µg/ml]	0.230 [µg/ml]
0.064	0.233
0.066	0.235
0.064	0.238
0.063	0.234
0.062	0.234
0.064	0.236
0.063	0.239
0.063	0.248
0.064	0.239
0.065	0.244
MEAN = 0.064	**MEAN = 0.238**
c_V = 1.8%	**c_V = 2.0%**