

CODING FORMS FOR SRC INDEXING

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Document Title		RESULTS OF RANGE FINDING TOXICOLOGICAL TESTS ON DICYCLOPENTADIENE, WITH COVER LETTER DATED 11/2/95 (SANITIZED)	
Chemical Category		DICYCLOPENTADIENE (77-73-6)	

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1803 BUILDING
November 2, 1995

The Dow Chemical Company
Midland, Michigan 48674

Document Control Officer (TS-790)
Office of Toxic Substances
Environmental Protection Agency
201 E Tower, 401 M Street SW
Washington DC 20460
ATTN: 8(d) Health and Safety Reporting Rule
(Notification Reporting)

COMPANY SIGNATURE

**ATTENTION: 8(D) HEALTH AND SAFETY REPORTING RULE (REPORTING) -
(NOTIFICATION) DOCKET OPTS-82041**

Dear Sir or Madam:

As required by 40 CFR 716 as amended, we herewith submit copies of reports which meet the requirements of the referenced rule as Health and Safety Studies. As noted in the statement enclosed with the reports, some contain Confidential Business Information.

The reports are separated into two categories for your convenience:

- Package 1: Reports which contain no Confidential Business Information and reports from which Confidential Business Information has been deleted (i.e., the "Public File copies").
- Package 2: Reports which contain no Confidential Business Information and reports in which Dow Confidential Business Information is identified (i.e., the "EPA copies").

The Dow report identification number (e.g., D0006067) has been placed on the first page of each report submitted. Please refer to this number in any correspondence regarding this submission. Some of these reports may be voluntarily submitted because we are either not sure of Dow's status as a manufacture or processor of the listed chemical; or we are not sure whether the report is a Health/Safety Study as defined in the rule.

An index to the copies of studies submitted is enclosed. It lists the Dow identification number and title of each report submitted. No studies of these chemicals are in progress, nor are we aware of any studies of which we lack copies. For your reference, we have enclosed a copy of the EPA letter extending the submission deadline.

Very truly yours,

J. R. Keith

J. R. Keith
Sr. Regulatory Consultant
Environmental & Health Regulatory Affairs
517/636-2933

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TO
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Enclosures

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CAS NUMBER

CHEMICAL NAME

75/00/04
DOW ITEM

DOCUMENT TITLE

00007334 ETHENE, 1,1-DICHLORO-

- 00004330 WORKER EXPOSURE TO VINYLIDENE CHLORIDE IN THE MONOMER, POLYMER AND CONVERTING INDUSTRIES
- 00004331 SUMMARY OF PERSONNEL SAMPLING FOR VINYL CHLORIDE AND VINYLIDENE CHLORIDE IN THE MICHIGAN DIVISION DURING THE FIRST HALF
- 00004332 SUMMARIZATION OF PERSONNEL SAMPLING IN THE MICHIGAN DIVISION FOR VINYL AND VINYLIDENE CHLORIDE FOR THE FIRST HALF OF '75
- 00004333 EFFECT OF 16 HR FAST AND GLUTATHIONE DEPLETION ON 1,1-DICHLOROETHYLENE-INDUCED HEPATOTOXICITY AND LETHALITY IN RATS
- 00004334 A MULTIPLE GENERATION REPRODUCTION STUDY IN RATS MAINTAINED ON DRINKING WATER CONTAINING VINYLIDENE CHLORIDE
- 00004335 RESULTS OF A 2-YEAR TOXICITY AND ONCOGENICITY STUDY WITH VINYLIDENE CHLORIDE INCORPORATED IN THE DRINKING WATER OF RATS
- 00004336 REVISION TO 00004335
- 00004337 METABOLISM AND PHARMACOKINETIC PROFILE OF VINYLIDENE CHLORIDE IN RATS FOLLOWING ORAL ADMINISTRATION
- 00004338 RESULTS OF A 97-DAY TOXICITY STUDY IN MALE AND FEMALE BEAGLE DOGS ORALLY ADMINISTERED VINYLIDENE CHLORIDE IN PEANUT OIL
- 00004339 TWO YEAR TOXICOLOGICAL STUDY OF VINYLIDENE CHLORIDE INCORPORATED IN THE DRINKING WATER OF RATS AND A NINETY SIX DAY
- 00004340 THE PHARMACOKINETICS OF ¹⁴C-VINYLIDENE CHLORIDE IN RATS FOLLOWING INHALATION EXPOSURE
- 00004341 THE EFFECT OF MATERNAALLY INHALED OR INGESTED VINYLIDENE CHLORIDE ON RAT AND RABBIT EMBRYONAL AND FETAL DEVELOPMENT
- 00004342 90 DAY REPEATED INHALATION TOXICITY STUDY OF VINYLIDENE CHLORIDE IN RATS
- 00004343 THE PHARMACOKINETICS OF VINYLIDENE CHLORIDE IN THE RAT
- 00004344 ISOLATION AND IDENTIFICATION OF VINYLIDENE CHLORIDE URINARY METABOLITES IN RATS
- 00004346 THE EFFECTS OF CORNCOB BEDDING SOAKED WITH WATER CONTAINING 200 PPM OF VINYLIDENE CHLORIDE ON POSTNATAL SURVIVAL OF RATS
- 00004347 A COMPARISON OF THE PHARMACOKINETICS OF INHALED VINYLIDENE CHLORIDE IN RATS AND MICE
- 00004349 EFFECTS OF VINYLIDENE CHLORIDE ON DNA SYNTHESIS AND DNA REPAIR IN THE RAT AND MOUSE: COMP STUDY W/DIMETHYLNITROSAMINE
- 00004350 THE PHARMACOKINETICS OF VINYLIDENE CHLORIDE IN THE RAT
- 00004351 CYTOGENETIC EFFECTS OF 1,1-DICHLOROETHYLENE ON RAT BONE MARROW CELLS
- 00004345 A COMPARISON OF FOUR MOUSE STRAINS TO SUBCHRONICALLY INHALED VINYLIDENE CHLORIDE
- 00004345 ACUTE TOXICITY OF VINYLIDENE CHLORIDE: THE EFFECTS BY SPECIES AND SEX
- 00004347 FINAL REPORT: VINYLIDENE CHLORIDE: A CHRONIC INHALATION TOXICITY AND ONCOGENICITY STUDY IN RATS
- 00004377 THE VAPOR TOXICITY OF VINYLIDENE CHLORIDE
- 00004301 A TWO YEAR TOXICOLOGICAL STUDY OF VDC INCORPORATED IN THE DRINKING WATER OF RATS AND A 96-DAY STUDY GIVEN TO DOGS
- 00004302 RESULTS OF A 90 DAY STUDY INCORPORATING VINYLIDENE CHLORIDE IN THE DRINKING WATER OF RATS
- 00004399 IN VITRO MICROBIOLOGICAL MUTAGENICITY STUDIES OF VINYLIDENE CHLORIDE
- 00004359 ACUTE TOXICOLOGICAL PROPERTIES AND INDUSTRIAL HANDLING HAZARDS OF DICYCLOPENTADIENE CONCENTRATE (1% BENZENE, 14% PARAFFIN

00007734 4,7-METHANO-1H-INDENE,
3A,4,7,7A-TETRAHYDRO-

00004

CAS NUMBER	CHEMICAL NAME	DOW ITEM	DOCUMENT TITLE
00006360		DOT TEST FOR CORROSIVENESS TO THE SKIN OF DICYCLOPENTADIENE	
00006361		DCPD 75% ACUTE ORAL TOXICITY IN THE RAT	
00006362		DCPD 75% MODIFIED MINE-INSUCTION BUEHLER CONTACT SENSITIZATION STUDY IN THE GUINEA PIG	
00006363		DCPD 75% ACUTE EYE IRRITATION TEST IN THE RABBIT	
00006364		DCPD 75% ACUTE DERMAL TOXICITY (LIMIT TEST) IN THE RAT	
00006364		DCPD 75% ACUTE DERMAL IRRITATION TEST IN THE RABBIT	
00006365		ACUTE ORAL, DERMAL, INHALATION FOR DICYCLOPENTADIENE	
00006366		SUBACUTE INHALATION STUDY OF DICYCLOPENTADIENE	
00006367		SUBACUTE INHALATION EXPOSURE HUMAN MUCOUS MEMBRANE IRRITATION/IRRITATION DICYCLOPENTADIENE	
00006368		ACUTE ORAL - RATS, ACUTE DERMAL - RABBITS, ACUTE EYE, RABBIT/ACUTE INHALATION MICE, RATS, GUINEA PIGS FINAL REPORT	
00006369		CONDITIONS CONTROLLING THE EVOLUTION OF MONOCYCLOPENTADIENE FROM DICYCLOPENTADIENE	
00006369		RESULTS OF RANGE FINDING TOXICOLOGICAL TESTS ON DICYCLOPENTADIENE	
000098292	1,2-BENZENEDIOL, 4-(1,1-DIMETHYLETHYL)		
00006368		TOXICOLOGY AND HYGIENE TERTIARY-BUTYL CATECHOL	
00006369		INFORMATION ON THE TOXIC ACTION OF TERT-BUTYL CATECHOL	
00006371		RESULTS OF RANGE FINDING TOXICOLOGICAL TESTS ON BUTYL CATECHOL	4-TERTIARY
00006372		RESULTS OF 90-DAY DIETARY FEEDING STUDIES OF 4-TERT-BUTYL PYROCATECHOL IN RATS	
00006373		1,2-BENZENEDIOL, MIXTURE WITH METHANOL (22:78): ACUTE PROPERTIES	TOXICOLOGIC
00006374		DOT TEST FOR CORROSIVENESS CONDUCTED ON 4-T-BUTYL CATECHOL	
00006375		4-T-BUTYL CATECHOL IN METHANOL SOLUTION	
00006376		THE TOPICAL ACTION OF BUTYL CATECHOL	
00006376		RESULTS OF RANGE FINDING TOXICOLOGICAL TESTS ON HEXALIN	
00006353		THE TOXICITY OF DIMETHYL ANILINE	
00006354		THE TOXICITY OF ANILINE, ANILINE HYDROCHLORIDE, DIMETHYL ANILINE AND DIMETHYL ANILINE	
000542927	1,3-CYCLOPENTADIENE		
00006332		RESULTS OF REPEATED EXPOSURE OF LABORATORY ANIMALS TO VARIOUS CONCENTRATIONS OF CYCLOPENTADIENE	
00006364		SUBACUTE INHALATION EXPOSURE CYCLOPENTADIENE MONOMER	
00006365		ACUTE ORAL, DERMAL, INHALATION EXPOSURE OF METHYLCYCLOPENTA-DIENE IN RATS	

Process Informatic

DOW CONFIDENTIAL
BUSINESS INFORMATION
40 CFR 2.201 - 2.215

00005

**THE DOW CHEMICAL COMPANY
HEALTH AND ENVIRONMENTAL SCIENCES**

**1803 Building
Midland, Michigan 48674-1803**

Telecopy Number: 517/636-6451

Telex: HESCT

TELECOPY TRANSMITTAL SHEET

Date: November 8, 1995

To: Zenobia Jones, EPA

COMPANY S&P

From: Judy Timmons, 1803 Building

Phone: 517-636-1614

**No of Pages 4
(including this page)**

NOTE: Attached in the sanitized version of our cover letter for the 8(d) Submission we sent to you November 2, 1995. This copy may be included in the public file copy of this submission.

If you do not receive all material being transmitted, please call the sender listed above.



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95 NOV -7 AM 11:46 Biochemical Research Department
The Dow Chemical Company

80960000985

Process Information

RESULTS OF RANGE FINDING TOXICOLOGICAL TESTS ON DICYCLOPENTADIENE

File K No. Process Information
Chg. Rept. By Personal Information

Signed Personal Information Checked Personal Information
Date May 28, 1957 Date May 29, 1957

THIS REPORT IS THE PROPERTY OF THE DOW CHEMICAL COMPANY

PROBLEM

This material is being handled in the company. What is its toxicity and what handling precautions are necessary?

CONCLUSIONS

The material has a moderate acute oral toxicity. It has a solvent action upon the skin and possibly impedes healing of abraded areas. It causes only a slight transitory response upon contact with the eye.

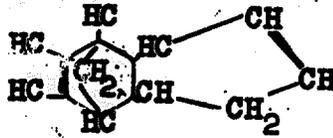
The subject material presents a rather serious problem from inhalation. Handling precautions should include provisions for hoods, or other adequate ventilation. The material should not be allowed to remain upon the skin. Washing with soap and water should help prevent difficulty. Safety glasses should probably be worn to avoid the pain and discomfort of getting the material in the eye.

These conclusions are based upon range finding toxicological tests and are limited to precautions for industrial handling of the material. Development of specific uses will require consideration of the health problems presented and of the need for further toxicological studies.

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DATA SHEET OF PROPERTIES, HEALTH HAZARDS, AND PRECAUTIONS FOR SAFE HANDLING OF MATERIALS

MOLECULAR FORMULA C₁₀H₁₂		CHEMICAL NAME Dicyclopentadiene	
MOLECULAR WEIGHT 132	INDUSTRIAL HYGIENE STANDARD 250 ppm or less	SYNONYMS -----	
STRUCTURAL FORMULA - OR COMPOSITION of monomer			



PHYSICAL AND CHEMICAL PROPERTIES	BOILING POINT 170°C 760 mm.	EXPLOSIVE LIMITS (BY VOL. IN AIR) --	FLASH POINT -- °F.	IGNITION TEMP. 680 °C	MELTING POINT 33.6°C	ODOR (INCLUDES CONCENTRATION IN AIR) Campher like
	CORROSIVENESS -----	CHEMICAL REACTIVITY -----		STABILITY Decomposes to monomer at boiling point	PHYSICAL STATE Liquid	COLOR Clear

TYPE OF CONTACT		CLASSIFICATION OF TOXIC PROPERTIES	
TOXIC PROPERTIES	EYE	<input checked="" type="checkbox"/> May cause no response or no more than very slight to slight temporary pain and/or irritation of the eyelids. <input type="checkbox"/> May cause sufficient injury to the eye to result in loss of time from work. (This includes damage to the cornea which heals or nearly heals in a week and/or considerable conjunctival irritation with edema.)	<input type="checkbox"/> May cause some permanent loss of vision (this includes damage to cornea or internal injury which is incompletely healed in week.) <input type="checkbox"/> Vapor exposure may cause severe pain, lachrymation or serious injury to the eyes.
	SKIN	<input type="checkbox"/> Single prolonged exposure (hours) causes no effect. Several repeated prolonged exposures may or may not cause the development of some slight irritation. <input checked="" type="checkbox"/> Single prolonged exposure may cause some reddening of the skin. Repeated prolonged contacts may cause appreciable irritation, possibly a mild burn and/or some permanent or transitory systemic depression or absorption.	<input type="checkbox"/> Single short exposure (minutes) may cause considerable irrit and/or single prolonged or frequently repeated short exposures cause a burn and/or may cause systemic injury, even death. <input type="checkbox"/> An exposure rapidly causes severe burns and/or serious eye injury, even death.
	DUST OR MIST	<input type="checkbox"/> No systemic injury expected. No irritation to nose and throat in dusty or misty atmospheres. <input type="checkbox"/> Throat and nose irritation in a dusty or misty atmosphere is painful but not intolerable and/or prolonged or repeated exposures may cause systemic injury.	<input type="checkbox"/> Dusty or misty atmosphere painful to nose and throat (irritation to most people) and/or exposure may cause serious systemic injury. <input type="checkbox"/> Short exposure (minutes) may cause death or serious systemic injury.
	VAPOR	<input type="checkbox"/> Exposures do not cause any effects other than some very slight irritation or pain to the eyes or respiratory passages at the most. <input type="checkbox"/> Single exposures exceeding 1/2 hour, or frequently repeated exposures of shorter duration, may cause slight anesthesia and/or slight systemic injury, and/or cause appreciable, but not intolerable, irritation of respiratory passages. <input type="checkbox"/> Even very short exposure will cause serious systemic injury or death.	<input checked="" type="checkbox"/> Exposures may cause extreme drowsiness, and/or serious systemic injury, and/or may cause intolerable irritation to the respiratory passages. <input type="checkbox"/> Short exposures may cause unconsciousness, and/or serious systemic injury, including death.
INGESTION	<input checked="" type="checkbox"/> Amounts which may be swallowed incidental to industrial handling will not cause injury.	<input type="checkbox"/> Amounts which may be swallowed incidental to industrial handling and use may cause serious injury.	

COMMENTS

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<p>EYE CONTACT</p>	<p><input checked="" type="checkbox"/> If the eyes are contaminated, they should be flushed immediately with copious amounts of flowing water for at least 15 minutes.</p> <p><input checked="" type="checkbox"/> Medical attention should be obtained if irritation persists or develops after washing of the eyes.</p> <p><input type="checkbox"/> Medical attention should be obtained.</p> <p><input type="checkbox"/> MEDICAL ATTENTION SHOULD THEN BE OBTAINED WITHOUT DELAY.</p>
<p>SKIN CONTACT</p>	<p><input checked="" type="checkbox"/> Any injuries or irritations which may develop should receive medical attention.</p> <p><input type="checkbox"/> Contaminated clothing and shoes should be removed and not re-used until thoroughly cleaned.</p> <p><input type="checkbox"/> Wash contaminated skin with soap and plenty of water.</p> <p><input checked="" type="checkbox"/> Contaminated clothing, including shoes, should be removed and the affected skin area should be washed thoroughly with soap and plenty of water.</p> <p><input type="checkbox"/> Medical attention should then be obtained.</p> <p><input type="checkbox"/> Contaminated clothing and shoes should not be re-used until thoroughly cleaned.</p> <p><input type="checkbox"/> All contaminated clothing, including shoes, must be removed immediately and the affected skin area flushed thoroughly with water from a safety shower, or other suitable device and cleansed with soap and plenty of water.</p> <p><input type="checkbox"/> MEDICAL ATTENTION MUST THEN BE OBTAINED AS RAPIDLY AS POSSIBLE.</p> <p><input type="checkbox"/> Contaminated clothing including shoes, must not be re-used until thoroughly cleaned or must be discarded.</p>
<p>INHALATION</p>	<p><input checked="" type="checkbox"/> If a person should experience any noticeable ill effects from breathing the vapor or fumes of this material, medical attention should be obtained promptly.</p> <p><input checked="" type="checkbox"/> If a person should be overcome from breathing this material, he should be removed to fresh air at once, be made to rest, kept warm, and MEDICAL ATTENTION SHOULD BE OBTAINED IMMEDIATELY. If breathing stops, artificial respiration should be administered.</p>
<p>INGESTION</p>	<p><input checked="" type="checkbox"/> If appreciable amounts of material are swallowed, vomiting should be induced by tickling the back of the tongue with the finger or by giving an emetic such as 2 tablespoonsful of table salt in a glass of warm water. Medical attention should then be obtained.</p> <p><input type="checkbox"/> If the material is swallowed, vomiting must be induced by tickling the back of the tongue with the finger or by giving an emetic such as 2 tablespoonsful of table salt in a glass of warm water. MEDICAL ATTENTION SHOULD THEN BE OBTAINED WITHOUT DELAY</p>

COMMENTS:

SAMPLE INFORMATION

C. R. I. Name: Dicyclopentadiene

Common Name: Dicyclopentadiene

Source: Enjay Company Incorporated

Reference: MD-8

Melting Point: 33.6

Boiling Point: 170°C at 760 mm.

K Number: Process Information

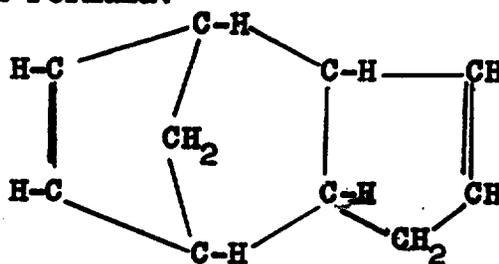
Date Request Received: 10-1-56

Physical State: Liquid

Soluble: Acetone, xylene, kerosene

Molecular Formula: $C_{10}H_{12}$

Structural Formula:



SUMMARY OF RANGE FINDING TOXICOLOGICAL DATA

Acute Oral Toxicity

<u>Animal</u>	<u>Prep. Fed</u>	<u>Dose (g./kg.)</u>	<u>No.Died No.Fed</u>	<u>Response-Remarks</u>
F.Rat	10% in corn oil	1.0	2/2	
F.Rat	10% in corn oil	0.5	0/2	Animal reserved for autopsy died. Slight to moderate weight loss.
F.Rat	10% in corn oil	0.25	0/2	Slight to moderate weight loss. Severe pathology of liver.
F.Rat	10% in corn oil	0.126	0/2	Moderate pathology of the liver, slight weight loss.

Eye Contact - Rabbit

<u>Material</u>	<u>Treatment</u>	<u>Response-Remarks</u>
100%	Unwashed and washed with water	Slight to moderate pain, very slight transitory corneal irritation which was healed after one day.

Skin Contact - Rabbit

<u>Material</u>	<u>Condition of Skin</u>	<u>No. of Appl.</u>	<u>Site</u>	<u>Response-Remarks</u>
100%	Intact	10	Ear	Slight hyperemia, moderate necrosis after seven applicator.
100%	Intact	10	Belly	Slight edema, moderate ex-foliation.
100%	Abraded	2	Belly	Moderate hyperemia, slight edema, moderate necrosis. Healing was definitely prolonged

Skin Absorption

There is no indication, from the skin irritation tests conducted, that this material is absorbed through the skin in toxic amounts.

Inhalation (Saturated Atmosphere) (Calculated 2500 ppm) :

<u>Animal</u>	<u>Bath Temp.</u>	<u>Hours Exposed</u>	<u>No. Died No. Treated</u>	<u>Response-Remarks</u>
Rat	Room	2.0	3/3	Rats were staggering, bloody tears on one animal. Two rats were dead on removal; remaining rat died two days after exposure. Bloody noses. Animals were nervous the following day. Lung irritation, severely fatty and necrotic liver.
Rat	Room	1.0	0/3	Animals were unsteady on their feet after an hour; conscious and appeared a little bit drunk on removal. Moderate weight loss. Pathology essentially negative.



CERTIFICATE OF AUTHENTICITY

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