



State of the Art Ingredients • Fast Friendly Service

Cyclomethicone

SECTION 1 :: PRODUCT IDENTIFICATION

Product details:

Trade Name **Cyclomethicone**
INCI Name Cyclopentasiloxane

CHEMICAL FAMILY/USE: SILICONE SILOXANE BLEND
FORMULA: MIXTURE

SECTION 2 :: COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TWA	TLV STEL	OSHA PEL TWA	PEL STEL	UNITS
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1. HAZARDOUS

OCTAMETHYLCYCLOTETRA-SILOXANE
556-67-2 80-99 5 PPM NE GE REC NE GUIDE

DECAMETHYLCYCLOPENTASILOXANE
541-02-6 10-30 10 PPM NE GE REC GUIDE LINE

2. NON-HAZARDOUS

None Found

SECTION 3 :: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING!

Combustible liquid and vapor.

May be harmful if swallowed.

May irritate the skin.

May irritate the eyes.

May generate formaldehyde at temperatures greater than 150 C(300 F). See Section 3 of MSDS for details.

Adverse liver and reproductive effects reported in animals.

Mild odor

Clear liquid

POTENTIAL HEALTH EFFECTS:

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INGESTION:

Slightly toxic by ingestion.
Not an expected route of exposure.

SKIN CONTACT:

May cause mild skin irritation.

INHALATION:

None Known.

EYE CONTACT:

May cause mild eye irritation.

MEDICAL CONDITIONS AGGRAVATED:

None known.

SUBCHRONIC (TARGET ORGAN) EFFECTS:

Reproductive disorders.
May cause liver effects.

CHRONIC EFFECTS/CARCINOGENICITY:

This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

PRODUCTS/INGREDIENTS

This space reserved for special use.

PRINCIPLE ROUTES OF EXPOSURE:

None known.

Additional information on the toxicological effects of this material or it's ingredients can be found in Section 11 - Toxicological Information.



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SECTION 4 :: FIRST AID MEASURES

INGESTION:

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN:

Wash with soap and water. Get medical attention if irritation or symptoms from Section 3 develop.

INHALATION:

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN:

None known.

SECTION 5 :: FIRE FIGHTING MEASURES

FLASH POINT: 62 (C) 143.6 (F)

METHOD : PMCC.

IGNITION TEMP : UNKN (C) UNKN (F)

FLAMMABLE LIMITS IN AIR - LOWER (%): UNKN

FLAMMABLE LIMITS IN AIR - UPPER (%): UNKN

SENSITIVITY TO MECHANICAL IMPACT (Y/N): NO

SENSITIVITY TO STATIC DISCHARGE:

Sensitivity to static discharge is expected; material has a flash point below 200 F.

EXTINGUISHING MEDIA:

All standard firefighting media

SPECIAL FIREFIGHTING PROCEDURES:

Combustible.

Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.



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SECTION 6 :: ACCEDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wash walking surfaces with detergent and water to reduce slipping hazard.

Wear proper protective equipment as specified in the protective equipment section.

Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal.

SECTION 7 :: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Use ground strap and appropriate precautions for dispensing flammable liquids.

Keep container closed when not in use.

Avoid breathing vapors.

Avoid contact with skin and eyes.

Store away from heat, sources of ignition, and incompatibles.

Keep away from children.

SECTION 8 :: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Showers and eyewash stations. See "Ventilation" below.

RESPIRATORY PROTECTION:

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29 CFR 1910.134).

PROTECTIVE GLOVES:

Polyvinylchloride.

Nbr nitrile.

EYE AND FACE PROTECTION:

Safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT:

Wear eye protection and protective clothing.

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VENTILATION:

Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

SECTION 9 :: PHYSICAL AND CHEMICAL PRPERTIES

PRODUCT INFORMATION:

BOILING POINT :	175.8 (C)	348 (F)
VAPOR PRESSURE(20 C)(MM HG):	1	
VAPOR DENSITY (AIR=1) :	NEGL.	
FREEZING POINT :	11 (C)	51.8 (F)
MELTING POINT :	NA (C)	NA (F)
PHYSICAL STATE :	LIQUID	
ODOR :	FAINT	
COLOR :	CLEAR	
1 [^] ODOR THRESHOLD (PPM) :	UNK	
% VOLATILE BY VOLUME :	NA	
EVAP. RATE(BUTYL ACETATE=1):	NEGL.	
SPECIFIC GRAVITY (WATER=1) :	0.95	
DENSITY (KG/M3) :	956	
ACID/ALKALINITY (MEQ/G) :	<3 PPM	
PH :	NA	
VOC EXCL.H2O & EXEMPTS(G/L):	NT	
SOLUBILITY IN WATER (20 C) :	INSOLUBLE	
SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):	SOLUBLE, TOLUENE	

SECTION 10 :: STABILITY AND REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:

Carbon monoxide.
Carbon dioxide.
Formaldehyde.

INCOMPATIBILITY (MATERIALS TO AVOID):

None known.

CONDITIONS TO AVOID:

Keep away from heat, sparks and flame.
Avoid any source of ignition.



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SECTION 11 :: TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:

ACUTE ORAL LD50 (MG/KG): UNKNOWN

ACUTE DERMAL LD50 (MG/KG): UNKNOWN

ACUTE INHALATION LC50 (MG/L): UNKNOWN

OTHER:

Octamethylcyclotetrasiloxane

Ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appeared normal) as well as hypertrophy (increased cell size).

Inhalation: In inhalation studies, laboratory rodents exposed to octamethylcyclotetrasiloxane (300 ppm five days week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents.

Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) with octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found.

Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/ongogenicity study in rats exposed to 10, 30, 150, or 700 PPM D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects were limited to the 700 PPM exposure group.

The relevance of these data to humans is unclear.

Further studies are ongoing.

In developmental toxicity studies, rats and rabbits were exposed to octamethylcyclotetrasiloxane at

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concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study.

Decamethylcyclopentasiloxane

Rodents repeatedly exposed to decamethylcyclopentasiloxane (D5) via inhalation or ingestion developed increased liver weights relative to unexposed control animals. When the exposure was stopped, livers returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Liver enlargement was due to an increase in metabolizing enzymes, and a temporary increase in the number and size of normal cells (hyperplasia and hypertrophy).

These biochemical pathways are more sensitive in rodents than in humans. Inhalation exposures that are typical in industrial use (5-10 ppm) showed no toxic effects in rodents.

A two-year combined chronic toxicity and carcinogenicity inhalation study was conducted with decamethylcyclopentasiloxane (D5) in Fisher-344 rats by whole body inhalation. A statistically significant increase in the trend for uterine endometrial tumors was observed in female rats exposed for 24 months at the highest dose level of 160 ppm. The same effects were not seen at the other dose levels of 10 and 40 ppm. No adverse effects were seen in male rats at any level. Whether or not this increase in incidence is truly related to the exposure to D5 is questionable and yet to be determined. Based on our present knowledge, it is unlikely that industrial, commercial, or consumer uses of products containing D5 would result in a significant risk to humans.

AMES TEST: NEGATIVE

SECTION 12 :: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time

CHEMICAL FATE INFORMATION: No data at this time

SECTION 13 :: DISPOSAL CONSIDERTAIIONS

DISPOSAL METHOD:

Disposal should be made in accordance with federal, state and local regulations.



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SECTION 14 :: TRANSPORT INFORMATION

DOT SHIPPING NAME: FOR BULK CONTAINERS (>119 GAL) ONLY: COMBUSTIBLE

LIQUID N.O.S. (DECAMETHYLCYCLOPENTASILOXANE)

DOT HAZARD CLASS: COMBUSTIBLE LIQUID - REGULATED IN BULK CONTAINERS ONLY

DOT LABEL(S): NONE

UN/NA NUMBER: NA1993 IN BULK

PLACARDS: COMBUSTIBLE - FOR BULK CONTAINERS ONLY

IATA:
NOT REGULATED BY IATA

IMO IMDG-code: NOT REGULATED FOR OCEAN TRANSPORTATION

EMS No: NA

EUROPEAN CLASS:
RID (OCTI): NA
ADR (ECE) : NA
RAR (IATA): NA

SECTION 15 :: REGULATORY INFORMATION

SARA SECTION 302:
None Found

SARA (311,312) HAZARD CLASS:
ACUTE HEALTH HAZARD
CHRONIC HEALTH HAZARD

FIRE HAZARD

SARA (313) CHEMICALS:
NONE
CPSC CLASSIFICATION: NA

WHMIS HAZARD CLASS:
B3 COMBUSTIBLE LIQUIDS

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D2A VERY TOXIC MATERIALS

WHMIS TRADE SECRET:

None

EXPORT:

SCHDLE B/HTSUS: 2931.00 Organo Silicone Compounds

ECCN: EAR99

HAZARD RATING SYSTEMS

HMIS FLAMMABILITY 2 , REACTIVITY 0 , HEALTH 0

NFPA HEALTH = 1, FLAMMABILITY = 2, REACTIVITY = 0

CALIFORNIA PROPOSITION 65:

NONE

SECTION 16 :: OTHER INFORMATION

Disclaimer

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