

# SAFETY DATA SHEET

## Cyclo-2244 (D4) Cyclomethicone

Data Prepared: October 1<sup>st</sup>, 2022



### SECTION 1: Product and company identification

Product name : Cyclo-2244 Cyclomethicone

Other means of identification

Synonyms : Cyclotetrasiloxane

#### Manufacturer or supplier details

Company name of supplier : Clearco Products Co Inc.

Address : 15 York Road  
Willow Grove, PA 19090 U.S.A.

Telephone : 215-366-7860

Emergency Telephone : CHEM TEL: 1-800-255-3924 (DOMESTIC)  
+01-813-248-0585 (INTERNATIONAL)

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### SECTION 2: Hazards identification

#### Hazard Classification

##### Physical Hazards

Flammable liquids : Category 3

##### Health Hazards

Toxic to reproduction : Category 2

#### Unknown toxicity-Health

Acute toxicity, dermal	0%
Acute toxicity, inhalation, vapor	0%
Acute toxicity, inhalation, dust or mist	0%

#### Label Elements

Hazard Symbol :



Signal Word

: Warning

Hazard Statement

: H226; Flammable liquid and vapour  
H361; Suspected of damaging fertility or the unborn child.

## Precautionary statements

<b>Prevention</b>	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof (electrical, ventilating/lighting/...) equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
<b>Response</b>	: If ON SKIN (or hair): Take off immediately all contaminated clothing. Rise skin with water (or shower). IF exposed or concerned: Get medical advice/attention. In case of fire: Use... to extinguish.
<b>Storage</b>	: Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	: Dispose of contents/container to an appropriate treatment and disposal facility accordance with applicable laws and regulations, and product characteristics at time of disposal.
<b>Other hazards which do not result in GHS classification</b>	: None

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## SECTION 3: Composition/information on ingredients

### Substances

Chemical identity	CAS number	Content in percent (%)
Octamethylcyclotetrasiloxane	556-67-2	50- <100%

All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume

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## SECTION 4: First aid measures

<b>General information:</b>	No action shall be taken involving any personal risk or without suitable training. Do not give victim anything to drink if he is unconscious. Get medical attention if symptoms occur.
<b>Ingestion:</b>	If swallowed, do NOT induce vomiting. Give a glass of water. Do not give victim anything to drink if he is unconscious. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms persist.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If no breathing give artificial respiration using a barrier device. If breathing is difficult trained personnel should give oxygen. Get medical attention immediately.
<b>Skin contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms persist. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

**Most important symptoms/effects, acute and delayed****Symptoms:** No data available**Hazards:** No data available**Indication of immediate medical attention and special treatment needed****Treatment:** There is not specific antidote. Treatment is symptomatic and supportive.

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**SECTION 5: Fire-fighting measures****General Fire Hazards:** Do not use water jet as an extinguisher, as this will spread the fire. Use water spray to keep fire-exposed containers cool.**Suitable (and unsuitable) extinguishing media****Suitable extinguishing media** : All standard extinguishing agents are suitable**Unsuitable extinguishing media** : No data available**Specific hazards arising from the chemical** : Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Ground container and transfer equipment to eliminate static electric sparks.**Special protective equipment and precautions for firefighters****Special fire fighting procedures** : Keep away from sources of ignition-No smoking. Take precautionary measures against static discharges. Product may charge electrostatically during pouring or filling. All equipment used when handling the product must be grounded.**Special protective equipment for fire-fighters** : 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: Accidental release measures****Personal precautions, protective equipment and emergency procedures** : Avoid contact with skin and eyes. Keep out of reach of children. Attention: Not for injection into humans.**Methods and material for containment and cleaning up** : Warn other workers of spill. 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.**Notification procedures** : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area)**Environmental precautions** : Avoid discharge into drains, water courses or onto the ground.

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**SECTION 7: Handling and storage****Precautions for safe handling** : Sensitivity to static discharge is expected; material has a flash point below 200F. Do not breathe vapor/spray. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. See Section 8 of the SDS for Personal Protective Equipment. Wash hands after handling. Material can accumulate static charges

which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures.

**Conditions for safe storage including any incompatibilities** : Keep away from heat, sparks and open flame. Keep container closed. Store in original container.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Octamethylcyclotetrasiloxane	TWA	5ppm	

**Appropriate Engineering Controls** Provide eyewash station and safety shower. General (mechanical) room ventilation is expected to be satisfactory if handled at low temperatures or in covered equipment.

### Individual protection measures, such as personal protective equipment

**General information:** General (mechanical) room ventilation is expected to be satisfactory if handled at low temperatures or in covered equipment.

**Eye/face protection:** Safety glasses with side shields

#### Skin Protection

**Hand Protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing and eye/face protection

**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 29CFR 1910.134).

**Hygiene measures:** Do not breathe vapour/aerosol. When using do not eat, drink or smoke. Use only with adequate ventilation. Wash thoroughly after handling.

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## SECTION 9: Physical and chemical properties

### Appearance

<b>Physical state</b>	: Liquid
<b>Form</b>	: Liquid
<b>Color</b>	: Colorless
<b>Odor</b>	: Faint
<b>Odor threshold</b>	: No data available
<b>pH</b>	: Not applicable
<b>Melting point/freezing point</b>	: 17.5°C
<b>Initial boiling point and boiling range</b>	: 175°C (1,013 hPa) (Measured)
<b>Flash point</b>	: 59°C (ASTM D93)
<b>Evaporation rate</b>	: <1
<b>Flammability (solid,gas)</b>	: Yes
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit-upper (%)</b>	: 7.4% (V)
<b>Flammability limit- lower (%)</b>	: 0.75% (V)

<b>Explosive limit-upper (%)</b>	: No data available
<b>Explosive limit-lower (%)</b>	: No data available
<b>Heat of combustion</b>	: No data available
<b>Vapor pressure</b>	: 1.32 hPa (25°C)
<b>Vapor density</b>	: No data available
<b>Density</b>	: ca. 0.95 g/cm <sup>3</sup> (DIN 51757)
<b>Relative Density</b>	: 0.95
<b>Solubility(ies)</b>	
<b>Solubility in water</b>	: 0.00006 g/l (23°C)
<b>Solubility (other)</b>	: Aromatics
<b>Partition coefficient: n- octanol/water Log</b>	: 6.49
<b>Pow</b>	
<b>Auto-ignition temperature</b>	: 384-387°C
<b>Decomposition temperature</b>	: No data available
<b>SADT</b>	: No data available
<b>Viscosity, dynamic</b>	: 2.7 mPa-s (20°C)
<b>Viscosity, kinematic</b>	: 2.2 mm <sup>2</sup> /s (25°C)
<b>Other information</b>	
<b>Minimum ignition temperature</b>	: 400°C (1DIN 51794)
<b>VOC</b>	: No data available.

#### SECTION 10: Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction if used as recommended
<b>Chemical Stability:</b>	Material is stable under normal conditions
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat, sparks, flames
<b>Incompatible Materials:</b>	Oxidizing agents
<b>Hazardous Decomposition Products:</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

#### SECTION 11: Toxicological information

##### Information on likely routes of exposure

<b>Ingestion:</b>	No data available
<b>Inhalation:</b>	No data available
<b>Skin Contact:</b>	No data available
<b>Eye Contact:</b>	No data available

##### Symptoms related to the physical, chemical and toxicological characteristics

<b>Ingestion:</b>	No data available
<b>Inhalation:</b>	No data available
<b>Skin Contact:</b>	No data available
<b>Eye Contact:</b>	No data available

##### Information on toxicological effects

##### Acute toxicity (list all possible routes of exposure)

##### Oral

<b>Product:</b>	LD 50 (Rat): >5,000 mg/kg
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##### Specified substance(s):

Octamethylcyclotetrasiloxane	LD 50 (Ra): 4,800 mg/kg
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**Dermal**

**Product:** Not classified for acute toxicity based on available data

**Specified substance(s):**

Octamethylcyclotetrasiloxane LD50 (Rat): >2,400 mg/kg

**Inhalation**

**Product:** Not classified for acute toxicity based on available data

**Specified substance(s):**

Octamethylcyclotetrasiloxane LC50 (Rat): 36 mg/l

**Repeated dose toxicity**

**Product:** No data available

**Skin Corrosion/Irritation**

**Product:** (Rabbit, 72h): No skin irritation

**Serious Eye Damage/Eye Irritation**

**Product:** (Rabbit, 72h): Non irritating

**Respiratory or Skin Sensitization**

**Product:** No data available

**Carcinogenicity**

**Product:** No data available

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ Cell Mutagenicity****In vivo**

**Product:** No data available

**Specified substance(s):**

Octamethylcyclotetrasiloxane Ames-Test (OECD-Guideline 471 (Genetic Toxicology; Salmonella typhimurium, Revere Mutation Assay)); negative (not mutagenic)  
Mouse Lymphoma Assay (OECD Guideline 476): negative (not mutagenic)

**In vivo**

**Product:** No data available

**Specified substance (s):**

Octamethylcyclotetrasiloxane Chromosomal aberration (OCED-Guideline 474 (Genetic Toxicology: Micronucleus Test)) Inhalation (Rat, male and female): negative

**Reproductive toxicity**

**Product:** No data available

**Specific Target Organ Toxicity-Single Exposure**

**Product:** Classification not possible

**Specific Target Organ Toxicity-Repeated Exposure**

**Product:** Classification not possible

**Aspiration Hazard**

**Product:** Not classified

**Other effects:**

Octamethylcyclotetrasiloxane (D4) 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 appear 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. This response in rates, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10ppm) 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 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. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level—a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

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**SECTION 12: Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** No data available**Aquatic Invertebrates****Product:** No data available**Chronic hazards to the aquatic environment:****Fish****Product:** No data available**Aquatic Invertebrates****Product:** No data available**Toxicity to Aquatic Plants****Product:** No data available**Persistence and Degradability****Biodegradation****Product:** No data available**BOD/COD Ratio****Product:** No data available**Bioaccumulative potential****Bioconcentration Factor (BCF)****Product:** No data available**Specified substance(s):**

Octamethylcyclotetrasiloxane Fathead Minnow, Bioconcentration Factor (BCF): 12.40

**Partition Coefficient n-octanol/water (log Kow)****Product:** Log Kow: 6.49 21.7°C**Mobility in soil:**

No data available

**Known or predicted distribution to environmental compartments**

Octamethylcyclotetrasiloxane No data available

**Other adverse effects:**

No data available

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**SECTION 13: Disposal considerations****General information:**

The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground. See Section 8 for information on appropriate personal protective equipment.



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

**Contaminated Packaging:** Dispose of as unused product.

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**SECTION 14: Transport information**

**DOT**

UN Number:	UN 1993
UN Proper Shipping Name:	Flammable liquids, n.o.s. (Octamethylcyclotetrasiloxane)
Transport Hazard Class(es)	
Class:	3
Label(s):	3
Packing Group:	III
Marine Pollutant:	No

**IMDG**

UN Number:	UN 1993
UN Proper Shipping Name:	FLAMMABLE LIQUID, N.O.S. (Octamethylcyclotetrasiloxane)
Transport Hazard Class(es)	
Class:	3
Label(s):	3
Packing Group:	III
Marine Pollutant:	No
Limited quantity	5.00L
Expected quantity	E1

**IATA**

UN Number:	UN 1993
Proper Shipping Name:	Flammable liquid, n.o.s. (Octamethylcyclotetrasiloxane)
Transport Hazard Class(es):	
Class:	3
Label(s):	3
Packing Group:	III
Cargo aircraft only Packing	366
Instructions:	
Passenger and cargo aircraft	366
Packing Instructions:	
Limited quantity:	10.00L
Packing instructions:	Y344
Expected quantity	E1
Environmental Hazards	Not regulated
Marine Pollutant	No

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**SECTION 15: Regulatory information**

**US Federal Regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

**Chemical Identity**  
Octamethylcyclotetrasiloxane

**Reportable quantity**  
De minimis concentration: TSCA Section 4: 1.0%  
One-Time Export Notification only.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

None present or none present in regulated quantities.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Fire Hazard

Delayed (Chronic) Health Hazard

**SARA 302 Extremely Hazardous Substance**

None present or none present in regulated quantities.

**SARA 304 Emergency Release Notification**

None present or none present in regulated quantities

**SARA 311/312 Hazardous Chemical**

**Chemical Identity**

**Threshold Planning Quantity**

Octamethylcyclotetrasiloxane

10000 lbs

**SARA 313 (TRI Reporting)**

None present or none present in regulated quantities

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities

**Clean Air Act (CAA) Section 112<sup>®</sup> Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US State Regulations**

**US California Proposition 65**

No ingredient requiring a warning under CA Prop 65.

**US New Jersey Worker and Community Right-to-Know Act**

**Chemical Identity**

Decamethylcyclopentasiloxane

Octamethylcyclotetrasiloxane

**US Massachusetts RTK-Substance List**

No ingredient regulated by MA Right-to-Know Law present.

**US Pennsylvania RTK-Hazardous Substances**

No ingredient regulated by PA Right-to-Know Law present.

**US Rhode Island RTK**

No ingredient regulated by RI Right-to-Know Law present.

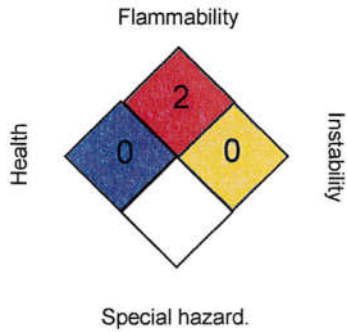
**Inventory Status:**

Australia AICS:	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	On or in compliance with the inventory	Remarks: None.
EINECS, ELINCS or NLP:	On or in compliance with the inventory	Remarks: None.
Japan (ENCS) List:	On or in compliance with the inventory	Remarks: None.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory	Remarks: None.
Canada NDSL Inventory:	On or in compliance with the inventory	Remarks: None.
Philippines PICCS:	On or in compliance with the inventory	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: None.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory	Remarks: None.

**SECTION 16: Other information**

**Further information**

**NFPA:**



**HMIS® IV:**

<b>HEALTH</b>	/	<b>0</b>
<b>FLAMMABILITY</b>		<b>2</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.