SAFETY DATA SHEET

Cyclo-2244 (D4) Cyclomethicone

Data Prepared: June 9, 2015

SECTION 1: Product and company identification

Product name : Cyclo-2244 (D4) Cyclomethicone

Product code : Cyclo-2244 (D4)

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)

SECTION 2: Hazards identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS- Category 3
TOXIC TO REPRODUCTION- Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapor.
H361f Suspected of damaging fertility.

Precautionary statements

General : Not applicable.

Prevention : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wear protective gloves.
Wear eye or face protection.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Use explosion-proof electrical, ventilating, lighting and all material handling equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.

Response : IF exposed or concerned:
Get medical attention.
IF ON SKIN (or hair):
Take off immediately all contaminated clothing.
Rinse skin with water or shower.

Storage : Store locked up.
P403 Store in a well-ventilated palce.
P235 Keep cool.

Disposal : P501 Dispose of contents and containers in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known

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SECTION 3: Composition/information on ingredients

Substance/ Mixture : Substance
Chemical name : Cyclotetrasiloxane

CAS number/other identifiers

CAS number : 556-67-2
EC number : 209-136-7

Hazardous ingredients	% by weight	CAS number
Octamethylcyclotetrasiloxane	70-100	556-67-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minute. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing air to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash contaminated skin with soap and water. Remove contaiminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by

medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first air personnel	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing air to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use dry chemical, CO2, alcohol-resistant foam or water spray (fog).
Unsuitable extinguishing media	: Do not use water jet
Specific hazards arising from the chemical	: Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon monoxide carbon dioxide metal oxide/oxides silicon oxides Measurements at temperatures above 150˚C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged any waterway, sewer or drain.
Special protective equipment for fire-fighters	: Firefighers must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through

spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark proof tools and explosion proof equipment. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see section 8 of SDS). Avoid exposure-obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, Including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that may have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Octamethylcyclotetrasiloxane	() Recommended exposure limit (REL): 5 ppm

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommded or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protections measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standards should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures,

	consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
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 the OSHA regulations (see 29CFR 1910.134). Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9: Physical and chemical properties

Appearance

Physical state	: Liquid
Color	: Colorless
Odor	: Faint odor.
Odor threshold	: Not available
pH	: Not available
Melting point	: 17.5˚C (63.50 ˚F)
Boiling point	: 175˚C (347.00˚F)
Flash point	: 59˚C (138.20˚F) (ASTM D 93)
Burning time	: Not available
Burning rate	: Not available
Evaporation rate	:< 1 (n-Butyl acetate=1)
Flammability (solid,gas)	: Not available
Lower and upper explosive (flammable) limits	: **Lower**: 0.4% (V) : **Upper**: 11.7% (V)
Vapor pressure	: 1.32 hPa @ 25 ˚C (77.0 ˚F)
Vapor density	: Not applicable
Relative density	: Not available
Density	: 0.95 g/cm3 (DIN 51757)
Solubility	: Aromatics
Solubility in water	**:** 0.00006 g/l @23˚C (73.40˚F)

Partition coefficient: n-octanol/water : 6.49 @ 21.7˚C (71.06˚F)

Auto-ignition temperature : 384-387˚C (723.20-728.60˚F)

Decomposition temperature : Not available

SADT : Not available

Viscosity **: Dynamic**: Not available
: Kinematic: 2.4-2.6 mm2/s @ 20˚C (68.00˚F)

Other information

No additional information.

SECTION 10: Stability and reactivity

Reactivity :Stable under normal conditions

Chemical stability : The product is stable

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or exposure containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials: Oxidizing materials

Hazardous decomposition products thermal decomposition : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane				
	LD50 Oral	Rat	4,800 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)	_
	LC50 Inhalation	Rat	>12.1 mg/l	4 h
	LC50 Inhalation	Rat	36 mg/l OECD Test Guideline 403	4 h
	LD50 Dermal	Rat	>2,400 mg/kg OECD Test Guideline 402	_
Cyclo-2244				
	LD50 Oral	Rat	>5,000 mg/kg	_
	LD50 Oral	Rat	>5,000 mg/kg 16CFR 1500.3 (c) (2) (i)	_

Conclusion/Summary : Not determined

Irritation/ Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Cyclo-2244	Eyes	Rabbit			-
Remarks:	Non-irritating to the eyes.				
	Skin	Rabbit			-
Remarks:	Non-irritant to skin.				
Octamethylcyclotetrasiloxane	Skin OECD-Guideline 404 (Acute Dermal irritation/Corrosion)	Rat			-
Remarks:	Non-irritating to the skin.				
	eyes OECD- Guideline 405 (Acute Eye Irritation/Corrosion)	Rabbit			-
Remarks:	Non-irritating to the eyes.				

Conclusion/Summary

Skin : Not determined
Eyes : Not determined
Respiratory : Not determined

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Octamethylcyclotetrasiloxane	-	Guinea pig	Non sensitizing OECD-Guideline 406 (Skin Sensitisation)

Conclusion/Summary

Skin : Not determined
Respiratory : Not determined

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Octamethylcyclotetrasiloxane	OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)	In vitro	Negative
	Mouse Lymphoma Assay (OECD Guideline 476)	In vitro	Negative
	OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)	In vivo	Negative

Conclusion/Summary : Not determined

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	Inhalation- OECD 453	Rat-Female	150 mg/kg	24 months
Remarks:	NOAEC			
	Inhalation-OECD 453	Rat-Male	>700 mg/kg	24 months
Remarks:	NOAEC			

Conclusion/Summary : Not determined

Reproductive toxicity

Product/ingredient name	Maternal Toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	-	-	-	Rat	Inhalation 300kg/kg OECD 416	-
Remarks:	NOAEL parents					
	-	-	-	Rat	Inhalation 300mg/kg OECD 416	-
Remarks:	NOAEL F1					

Conclusion/Summary : Reproductive toxicant-female

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	-Inhalation OECD Test Guideline 414	Rabbit	500 mg/kg	18 days
Remarks:	NOAEL			
	-Inhalation OECD Test Guideline 414	Rabbit	300 mg/kg	18 days
Remarks:	NOAEL maternity			

Conclusion/Summary : Not determined

Specific target organ toxicity (single exposure)
Not available
Specific target organ toxicity (repeated exposure)
Not available

Aspiration hazard
Not available

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	**:** No specific data
Inhalation	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

Delayed and immediate efforts and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	: Not available
Potential delayed effects	: Not available

Long term exposure

Potential immediate effects	: Not available
Potential delayed effects	: Not available

Potential chronic health effects

Conclusion/Summary	: Not determined

General

Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available

Other information

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/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 rats, 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 (5-10 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 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. Therefore, this observed effect does not indicate a potential health hazard 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.

Decamethylcyclopentasiloxane (D5) Ingestion or Inhalation: Rodents repeatedly exposed to 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). This response in rats, 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 liminate a material from the body. the increased liver weight reverses even while the D5 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 exposures that are typical in industrial use (5-10 ppm) showed no toxic effects in rodents. In a two-year, combined chronic/carcinogenicity study, rats were exposed by inhalation up to the highest possible vapor concentrations of D5. There were no findings in male rats. Data showed a statistically significant trend for a certain type of tumor (uterine endometrial adenocarcinoma) in female rats exposed at the highest level--a level much higher than the low levels that consumers or workers might encounter. Based on the finding in female rates, silicone manufacturers conducted extensive follow-up research to determine the cause of the finding. Results of this research indicate 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. D5, which acts on the pituitary gland like dopamine, stimulated a change in balance between two hormones in the rat, estrogen and progesterone. This change is a biological response unique to rats. the same affect does not occur in humans following exposure to chemicals and drugs mimicking dopamine agonists such as D5. Scientific studies have shown that although exposure to chemicals and drugs mimicking dopamine might result in uterine tumors in female rats, they would not do so in humans. Therefore, this observed effect does not indicate a potential health hazard to humans. This conclusion is supported by an expert panel of independent scientists who have reviewed the research results and have come to the same conclusion. Based on our present knowledge, it is unlikely that industrial, commercial, or consumer uses of product containing D5 would result in a significant risk to humans. Clearco's recommended Exposure Guideline for D5 is 10 ppm.

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/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 rats, 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 (5-10 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 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. Therefore, this observed effect does not indicate a potential health hazard 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.

SECTION 12: Ecological information

Ecotoxicity

Conclusion/Summary : Not available

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Octamethylcyclotetrasiloxane	310 Ready Biodegradability- CO_2 in Sealed Vessels (Headspace Test)	3.7%-29 d		Activated slude
Remarks:	Not readily biodegradable			

Conclusion/Summary : Not available

Bioaccumulative potential

Product/ingredient name	Species	Exposure	LogPow	BCF	Potential
Octamethylcyclotetrasiloxane	Fathead minnow	28 d		12.40	Low
Cyclo-2244			6.49	-	high

Mobility in soil

Soil/water partition coefficient (KOC) : Not available

Other adverse effects : No known significant effects or critical hazards.

Other information

Octamethylcyclotetrasiloxane (D4) meets the current REACh Annex XIII criteria for PBT and vPvB. However, D4 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

SECTION 13: Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdictions. Waste packaging should be

recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used container unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. See Section 8 for information on appropriate personal protective equipment.

SECTION 14: Transport information

DOT SHIPPING NAME:	Flammable liquids, n.o.s. (octamethylcyclotetrasiloxane)
DOT HAZARD CLASS:	3
DOT LABEL (S):	3
UN/NA NUMBER:	UN1993
PACKING GROUP:	III
IMDG SHIPPING NAME:	Flammable liquids, n.o.s. (octamethylcyclotetrasiloxane)
CLASS:	3
IMDG-LABEL (S):	3
UN NUMBER:	UN1993
PACKING GROUP:	III
EmS No.:	F-E, S-E
IATA:	Flammable liquids, n.o.s. (octamethylcyclotetrasiloxane)
CLASS:	3
ICAO- LABEL (S):	3
UN NUMBER:	UN1993
PACKING GROUP:	III
Special precaustions for user	: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

United States

U.S. Federal regulations

: United States-TSCA 12 (b)-Chemical export notification: None required.
: United States-TSCA 15 (a)2-Final significant new use rules: Not listed
United States-TSCA 5 (a)2-Proposed significant new use rules: Not listed.
United States-TSCA 5 (e)- Substance consent order: Not listed

SARA 311/312

Classification : Fire hazard
Delayed (chronic) health hazard

California Prop 65 : None required

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8˚C (100˚F) and 93.3˚C (200˚F).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

International regulations

International lists:
Australia inventory (AICS): All components are listed or exempted
Japan inventory : All components are listed or exempted
China inventory (IECSC) All components are listed or exempted
Korea inventory: All components are listed or exempted
Canada inventory: All components are listed or exempted
New Zealand Inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Taiwan inventory (CSNN): At least one component is not listed.

SECTION 16: Other information

Label requirements **:** Contains octamethylcyclotetrasiloxane which may cause reproductive effects based on animal data.

Hazardous Material Information System III (U.S.A.):

Health	1
Flammability	2
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Notice to reader
Unless otherwise specified in section 1, Clearco Products are intended for industrial application only. They are not intended for specific medical applications, neither for long-lasting (> 30 days) implantation into the human body, injected or directly ingested, nor for the manufacture of multiple usable contraceptives
Keep out of the reach of children.

Further Information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.