SAFETY DATA SHEET

Cyclo-2345 (D5/D6) Cyclomethicone

Data Prepared: October 1st, 2022

SECTION 1: Product and company identification

Product name : Cyclo-2345 (D5/D6) Cyclomethicone

Product code : Cyclo-2345 (D5/D6)

Manufacturer or supplier details

Company name of supplier : Clearco Products Co Inc.

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

Telephone : 001 215-366-7860

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

SECTION 2: Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS- Category 4
TOXIC TO REPRODUCTION (Fertility)- Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H227- Combustible liquid
H361- Suspected of damaging fertility

Precautionary statements

Prevention : P201-Obtain special instructions before use.
P202- Do not handle until all safety precautions have been read and understood.
P281- Use personal protective equipment as required.
P280- Wear protective gloves. Wear eye or face protection.
P210- Keep away from flames and hot surfaces.- No smoking.

Response : P308 + P313- IF exposed or concerned: Get medical attention.

Storage : P405- Store locked up.
P403- Store in a well-ventilated place.
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

See toxicological information (Section 11)

SECTION 3: Composition/information on ingredients

Substance/ Mixture : Mixture

Hazardous ingredients	% by weight	CAS number
Octamethylcyclotetrasiloxane	0.09-0.99	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.

Most important symptoms/effects, acute and delayed

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.

Over-exposure signs/symptoms

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

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	: Combustible liquid. In a fire or if heater, 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

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	: Fire-fighers should wear appropriate protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Flash point	: Closed cup: 82°C (179.6°F)

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. Do not reuse container.

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

None.

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 : Use a properly fitted, air-purifying or supplier-air respirator complying with an approved standard if a risk assessment indicates this is necessary. 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 : Odorless

Odor threshold : Not available

pH : Not available

Melting point : Not available

Boiling point : Lowest known value: 210°C (410°F) (decamethylcyclopentailsoane). Weighted average: 221.1°C (430°F)

Flash point : Closed cup: 82°C (179.6°F)

Evaporation rate	: Not available
Flammability (solid,gas)	: Not available
Lower and upper explosive (flammable) limits	: Greatest known range: Lower: 0.52% Upper: 7% : (decamethylcyclopentailosane)
Vapor pressure	: Highest known value: 0.03 kPa (0.3mm Hg) (at 20°C) (decamethylcyclopentasiloxane)
Vapor density	: Highest known value: >1 (Air=1) (decamethylcyclopentasiloxane)
Specific gravity	: 0.957
Solubility	: Insoluble in the following materials: cold water, hot water.
Solubility in water	**:** 0 g/l
Partition coefficient: n-octanol/water	: Not available
Auto-ignition temperature	: Lowest known value: 368 to 371°C (694.4 to 699.8°F) (dodecamethylcyclohexasiloxane).
Decomposition temperature	: >150°C (>302°F)
Viscosity	: Kinematic (room temperature): 0.045cm^2/s (4.5 cSt)
Refractive Index	: 1.397

Other information

No additional information.

SECTION 10: Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
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 Slightly 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	Test	Species	Result	Dose
Octamethylcyclotetrasiloxane				
	-	Rat	LC50 Inhalation Vapor	36 g/m^3
	-	Rat	LD50 Dermal	1770 mg/kg
	-	Rat	LD50 Oral	1540 mg/kg

Potential chronic health effects

Not available

Irritation/ Corrosion

Product/ingredient name	Test	Species	Result
Octamethylcyclotetrasiloxane	-	Rabbit	Eyes-Mild irritant
	-	Rabbit	Skin- Mild irritant

Sensitization

Not available

Mutagenicity

Not available

Carcinogenicity

Not available

Reproductive toxicity

Not available

Teratogenicity

Product/ingredient name			Result	Dose
Octamethylcyclotetrasiloxane	-	Rat	-	700 ppm
	-	Rabbit	-	500 ppm

Conclusion/Summary : Not determined

Specific target organ toxicity (single exposure)

Not available

Specific target organ toxicity (repeated exposure)

Not available

Aspiration hazard

Not available

SECTION 12: Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Octamethylcyclotetrasiloxane	Chronic NOEC 1.7 to 15µg/l Fresh water Chronic NOEC 4.4 µg/l Fresh Water	Daphnia-Daphnia magna Fish-Oncorhynchus mykiss- Egg	21 days

Persistence and biodegradability

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Octamethylcyclotetrasiloxane	6.488	-	high

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 Classification	IMDG	IATA
UN number	NA1193	Not regulated	Not regulated
UN proper shipping name	Combustible liquid, n.o.s. (decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane)	-	-
Transport hazard class(es)	Combustible liquid. 	-	-
Packing group	III	-	-
Environmental hazards	No.	No.	No.
Additional information	Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.		

	Limited quantity Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 60 L **Cargo Aircraft** Quantity limitation: 220 L **Special provisions** IB3, T3, TP1		

Special precautions 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 **: TSCA 8(d) H and S data reporting:** decamethylcyclopentasiloxane; Dodecamethylcyclohexasiloxane

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudder release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Octamethylcyclotetrasiloxane	0.09-0.99	Yes	No.	No.	No.	Yes.

State regulations

Massachusetts : None of the components are listed.
New York : None of the components are listed.
New Jersey : None of the components are listed.
Pennsylvania : None of the components are listed.
California Prop. 65 : CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California State Drinking water and Toxic Enforcement Act of 1986. This product is not known to the State of California to cause cancer, birth defects or other reproductive harm.

International lists

National inventory

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)	: All components are listed or exempted.
Europe inventory	: All components are listed or exempted.

SECTION 16: Other information

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.

National Fire Protection Association (U.S.A.)

Classification according to Directive 67/548/EEC (DSD) or Classification according to Directive 1999/45/EC (DPD)

Risk phrases	: This product is not classified according to EU legislation.
Safety phrases	: Not applicable

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.