



SAFETY DATA SHEET

DOW CHEMICAL CANADA ULC

Product name: XIAMETER™ MEM-1716 Emulsion

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DOW CHEMICAL CANADA ULC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: XIAMETER™ MEM-1716 Emulsion

Recommended use of the chemical and restrictions on use

Identified uses: Lubricants and lubricant additives Additives Anti-set off and adhesive agents

COMPANY IDENTIFICATION

DOW CHEMICAL CANADA ULC
#2400, 215 - 2ND STREET S.W.
CALGARY AB T2P 1M4
CANADA

Customer Information Number:

800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact (transportation emergencies only): 1-800-424-9300

Local Emergency Contact (transportation emergencies only): 1-800-424-9300

24-Hour Emergency Contact: 1-989-636-4400

2. HAZARDS IDENTIFICATION

Hazard classification

This product is hazardous under the criteria of the Hazardous Products Regulation (HPR) as implemented under the Workplace Hazardous Materials Information System (WHMIS 2015).

Skin irritation - Category 2

Eye irritation - Category 2A

Reproductive toxicity - Category 2

Label elements

Hazard pictograms



Signal word: **WARNING!**

Hazards

Causes skin irritation.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

Precautionary statements**Prevention**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing spray.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing, eye protection and/or face protection.

Response

IF ON SKIN: Wash with plenty of water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice and/or attention.

If skin irritation occurs: Get medical advice and/or attention.

If eye irritation persists: Get medical advice and/or attention.

Take off contaminated clothing and wash it before reuse.

Storage

Store locked up.

Disposal

Dispose of contents and/or container to an approved waste disposal plant.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone emulsion

This product is a mixture.

Component	CASRN	Concentration (w/w)
Alcohols, C11-15-secondary, ethoxylated	68131-40-8	>= 4.0 - <= 5.0 %
Hexadecyltrimethyl ammonium chloride	112-02-7	>= 2.1 - <= 2.3 %
Octamethyl Cyclotetrasiloxane	556-67-2	>= 1.8 - <= 2.2 %

Hexadecyldimethylamine

112-69-6

0.073%

4. FIRST AID MEASURES

Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Water spray. Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical.

Unsuitable extinguishing media: None known..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides. Nitrogen oxides (NO_x). Chlorine compounds.

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health.. Fire burns more vigorously than would be expected..

Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.. Use personal protective equipment..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.

See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Avoid inhalation of vapour or mist. Do not swallow. Do not get in eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Consult local authorities for recommended exposure limits.

Component	Regulation	Type of listing	Value
Octamethyl Cyclotetrasiloxane	US WEEL	TWA	10 ppm

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. In misty atmospheres, use an approved particulate respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state

liquid

Color

Colorless to pale yellow

Odor

slight

Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	>= 100 °C
Flash point	closed cup >100.0 °C
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	Not applicable
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.0
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	12 cSt at 25 °C
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

Hazardous decomposition products:

Decomposition products can include and are not limited to: Formaldehyde. Ammonia. hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Information on likely routes of exposure

Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 5,000 mg/kg Estimated.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

LD50, Rat, 2,909 mg/kg

Hexadecyltrimethyl ammonium chloride

LD50, Rat, 699 mg/kg

Octamethyl Cyclotetrasiloxane

LD50, Rat, male, > 4,800 mg/kg No deaths occurred at this concentration.

Hexadecyldimethylamine

For similar material(s): LD50, Rat, male and female, 1,015 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rabbit, > 5,000 mg/kg Estimated.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

LD50, Rabbit, 4,112 mg/kg

Hexadecyltrimethyl ammonium chloride

LD50, Rabbit, 528 mg/kg

Octamethyl Cyclotetrasiloxane

LD50, Rat, male and female, > 2,400 mg/kg No deaths occurred at this concentration.

Hexadecyldimethylamine

The dermal LD50 has not been determined.

Acute inhalation toxicity

Vapors are primarily water; single exposure is not likely to be hazardous. Mist may cause irritation of upper respiratory tract (nose and throat).

As product: The LC50 has not been determined.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

The LC50 has not been determined.

Hexadecyltrimethyl ammonium chloride

The LC50 has not been determined.

Octamethyl Cyclotetrasiloxane

LC50, Rat, male and female, 4 Hour, dust/mist, 36 mg/l OECD Test Guideline 403

Hexadecyldimethylamine

The LC50 has not been determined.

Skin corrosion/irritation

Based on information for component(s):

Brief contact may cause moderate skin irritation with local redness.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

Prolonged contact may cause slight skin irritation with local redness.

Repeated contact may cause moderate skin irritation with local redness.

May cause drying and flaking of the skin.

Hexadecyltrimethyl ammonium chloride

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Solid.

Octamethyl Cyclotetrasiloxane

Brief contact is essentially nonirritating to skin.

Hexadecyldimethylamine

Brief contact may cause severe skin irritation with pain and local redness.

Serious eye damage/eye irritation

Based on information for component(s):

May cause moderate eye irritation.

May cause moderate corneal injury.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

May cause severe eye irritation.

May cause severe corneal injury.

Hexadecyltrimethyl ammonium chloride

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Octamethyl Cyclotetrasiloxane

Essentially nonirritating to eyes.

Hexadecyldimethylamine

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization

Based on information for component(s):

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Hexadecyltrimethyl ammonium chloride

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Octamethyl Cyclotetrasiloxane

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Hexadecyldimethylamine

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Octamethyl Cyclotetrasiloxane

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Hexadecyldimethylamine

Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

Based on physical properties, not likely to be an aspiration hazard.

Octamethyl Cyclotetrasiloxane

May be harmful if swallowed and enters airways.

Hexadecyldimethylamine

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on information for component(s):

In animals, effects have been reported on the following organs:

Kidney.

Liver.

Respiratory tract.

Female reproductive organs.

Information for components:

Alcohols, C11-15-secondary, ethoxylated

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Octamethyl Cyclotetrasiloxane

In animals, effects have been reported on the following organs:

Kidney.

Liver.

Respiratory tract.

Female reproductive organs.

Hexadecyldimethylamine

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity

Results from a 2 year repeated vapour inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female

animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

Information for components:**Alcohols, C11-15-secondary, ethoxylated**

No relevant data found.

Octamethyl Cyclotetrasiloxane

Results from a 2 year repeated vapour inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

Hexadecyldimethylamine

For similar material(s): Did not cause cancer in laboratory animals.

Teratogenicity

No relevant data found.

Information for components:**Alcohols, C11-15-secondary, ethoxylated**

No relevant data found.

Octamethyl Cyclotetrasiloxane

Did not cause birth defects or any other fetal effects in laboratory animals.

Hexadecyldimethylamine

For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

Contains component(s) which have been shown to interfere with reproduction in animal studies.

Contains component(s) which have interfered with fertility in animal studies.

Information for components:**Alcohols, C11-15-secondary, ethoxylated**

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Octamethyl Cyclotetrasiloxane

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. In animal studies, has been shown to interfere with fertility.

Hexadecyldimethylamine

For similar material(s): In animal studies, did not interfere with reproduction.

Mutagenicity

No relevant data found.

Information for components:**Alcohols, C11-15-secondary, ethoxylated**

For this family of materials: In vitro genetic toxicity studies were negative.

Octamethyl Cyclotetrasiloxane

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Hexadecyldimethylamine

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity**Alcohols, C11-15-secondary, ethoxylated****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 6.9 - 10.9 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), static test, 48 Hour, 8.7 mg/l, OECD Test Guideline 202 or Equivalent

Toxicity to bacteria

IC50, 16 Hour, > 1,000 mg/l

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, > 0.1 - 1 mg/l

Hexadecyltrimethyl ammonium chloride**Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Danio rerio (zebra fish), 96 Hour, 0.19 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna, 48 Hour, 0.01 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0.05 mg/l

Toxicity to bacteria

EC50, *Pseudomonas putida*, 16 Hour, 0.96 mg/l, DIN 38 412 Part 8

Chronic toxicity to fish

Based on data from similar materials

NOEC, *Pimephales promelas* (fathead minnow), 28 d, 32.2 µg/l

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, *Daphnia magna* (Water flea), 21 d, 6.8 µg/l

Octamethyl Cyclotetrasiloxane

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility

LC50, *Oncorhynchus mykiss* (rainbow trout), flow-through, 96 Hour, > 0.022 mg/l

No toxicity at the limit of solubility

LC50, *Cyprinodon variegatus* (sheepshead minnow), flow-through, 14 d, > 0.0063 mg/l

Acute toxicity to aquatic invertebrates

No toxicity at the limit of solubility

EC50, *Mysidopsis bahia* (opossum shrimp), flow-through test, 96 Hour, > 0.0091 mg/l

No toxicity at the limit of solubility

EC50, *Daphnia magna* (Water flea), flow-through test, 48 Hour, > 0.015 mg/l

Acute toxicity to algae/aquatic plants

No toxicity at the limit of solubility

ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, Growth rate, > 0.022 mg/l

Chronic toxicity to fish

No toxicity at the limit of solubility

NOEC, *Oncorhynchus mykiss* (rainbow trout), 93 d, >= 0.0044 mg/l

Chronic toxicity to aquatic invertebrates

No toxicity at the limit of solubility

NOEC, *Daphnia magna* (Water flea), 21 d, >= 0.0079 mg/l

Hexadecyldimethylamine

Acute toxicity to fish

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

For similar material(s):

LC50, Rainbow trout (*Oncorhynchus mykiss*), 96 Hour, 0.18 mg/l

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EC50, *Daphnia magna* (Water flea), 48 Hour, 66.5 µg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

For similar material(s):

ErC50, *Desmodesmus subspicatus* (green algae), 72 Hour, Growth rate, 9.9 µg/l, OECD Test Guideline 201

For similar material(s):

NOEC, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate, 0.5 µg/l, OECD Test Guideline 201

Toxicity to bacteria

For similar material(s):

EC50, activated sludge, 3 Hour, Respiration rates., 13 mg/l, Activated Sludge, Respiration Inhibition

Chronic toxicity to aquatic invertebrates

For similar material(s):

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.036 mg/l

Persistence and degradability**Alcohols, C11-15-secondary, ethoxylated**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Theoretical Oxygen Demand: 2.18 mg/mg

Chemical Oxygen Demand: 2.15 mg/mg

Hexadecyltrimethyl ammonium chloride

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 93.5 %

Exposure time: 28 d

Method: OECD Test Guideline 301A or Equivalent

10-day Window: Not applicable

Biodegradation: 75 %

Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Octamethyl Cyclotetrasiloxane

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 3.7 %

Exposure time: 28 d

Method: OECD Test Guideline 310

Stability in Water (1/2-life)

Hydrolysis, DT50, 69.3 - 144 Hour, pH 7, Half-life Temperature 24.6 °C, OECD Test Guideline 111

Photodegradation

Atmospheric half-life: 16 d

Method: Estimated.

Hexadecyldimethylamine

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

For similar material(s): 10-day Window: Fail

Biodegradation: > 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

Bioaccumulative potential**Alcohols, C11-15-secondary, ethoxylated**

Partition coefficient: n-octanol/water(log Pow): 2.39 Estimated.
Bioconcentration factor (BCF): 17 Fish Estimated.

Hexadecyltrimethyl ammonium chloride

Bioaccumulation: Based on data from similar materials No relevant data found.
Bioconcentration factor (BCF): 33 - 160 Lepomis macrochirus (Bluegill sunfish)

Octamethyl Cyclotetrasiloxane

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 6.49 Measured
Bioconcentration factor (BCF): 12,400 Pimephales promelas (fathead minnow) Measured

Hexadecyldimethylamine

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). For similar material(s):
Partition coefficient: n-octanol/water(log Pow): 4.6 Estimated.

Mobility in soil**Alcohols, C11-15-secondary, ethoxylated**

No relevant data found.

Hexadecyltrimethyl ammonium chloride

No relevant data found.

Octamethyl Cyclotetrasiloxane

Expected to be relatively immobile in soil (Koc > 5000).

Hexadecyldimethylamine

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to:

Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10
Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

TDG

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Hexadecyltrimethyl ammonium chloride, Hexadecyldimethylamine)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Hexadecyltrimethyl ammonium chloride, Hexadecyldimethylamine

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Hexadecyltrimethyl ammonium chloride, Hexadecyldimethylamine)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Hexadecyltrimethyl ammonium chloride, Hexadecyldimethylamine
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Hexadecyltrimethyl ammonium chloride, Hexadecyldimethylamine)
UN number	UN 3082
Class	9
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Canadian Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Flammability	Instability
3	1	0

Revision

Identification Number: 4107345 / A208 / Issue Date: 10/14/2019 / Version: 7.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA -

Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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