

# SAFETY DATA SHEET

**Product name: Amino Silicone Oil TL-C1105**

**Issue Date: 19.07.2018**

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COMPANY LIMITED 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.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name: Amino Silicone Oil TL-C1105**

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Softeners Impregnation agents Cosmetics

**Company name : Tech-link Silicones., Co. Ltd**

**Company address : Unit 2901, 29/F., West Tower, Shun Tak Centre, 168-200 Connaught Road Central, Sheung Wan, HK**

**Contact No. : (852) 2321 3233**

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## 2. HAZARDS IDENTIFICATION

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### Emergency Overview

<b>Appearance</b>	liquid
<b>Color</b>	Clear to slightly hazy, colourless
<b>Odor</b>	Fishy
Causes skin irritation. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.	

### GHS Classification

Classified as hazardous according to regulatory criteria.

Skin corrosion/irritation - Category 2

Serious eye damage/eye irritation - Category 2A

Chronic aquatic toxicity - Category 3

**GHS label elements**

**Hazard pictograms**



Signal word: **WARNING!**

**Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention**

Wash skin thoroughly after handling.

Avoid release to the environment.

Wear protective gloves/ eye protection/ 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 skin irritation occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice/ attention.

Take off contaminated clothing and wash it before reuse.

**Disposal**

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

**Physical and chemical hazards**

Not classified based on available information.

**Health hazards**

Causes skin irritation.

Causes serious eye irritation.

**Environmental hazards**

Harmful to aquatic life with long lasting effects.

**Other hazards**

No data available

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### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

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This product is a mixture.

Component	CASRN	Concentration
Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxy- and dimethylalkoxy-terminated	188627-10-3	>= 86.0 - <= 100.0 %
Alcohols, C14-16	68333-80-2	>= 1.7 - <= 2.3 %
Octamethyl Cyclotetrasiloxane	556-67-2	>= 0.27 - <= 0.37 %
Oligomers of amino functional alkoxysilanes	Not available	>= 0.19 - <= 0.25 %

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### Protection of first-aiders:

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:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

**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:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## 5. FIREFIGHTING MEASURES

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### Extinguishing media

**Suitable extinguishing media:** Water spray Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>) Dry chemical

**Unsuitable extinguishing media:** None known.

### Special hazards arising from the substance or mixture

**Hazardous combustion products:** Silicon oxides Nitrogen oxides (NO<sub>x</sub>) Formaldehyde Carbon oxides

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health.

### 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. 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.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** 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. 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, Clean up remaining materials from spill with suitable absorbent. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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

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## 7. HANDLING AND STORAGE

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**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.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

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

Component	Regulation	Type of listing	Value/Notation
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 alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). 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.

The following should be effective types of air-purifying respirators: Organic vapor cartridge.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance</b>	
Physical state	liquid
Color	Clear to slightly hazy, colourless
Odor	Fishy
Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	> 150 °C
Flash point	<b>closed cup</b> > 100 °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	1 hPa
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	0.98
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	> 350 °C
Decomposition temperature	No data available
Kinematic Viscosity	2000 mm <sup>2</sup> /s 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.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Can react with strong oxidizing agents. When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours. Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.

**Conditions to avoid:** None known.

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products:** Formaldehyde.

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## 11. TOXICOLOGICAL INFORMATION

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

### Acute toxicity

#### 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.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.  
As product: The dermal LD50 has not been determined.

#### Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous.  
As product: The LC50 has not been determined.

### Skin corrosion/irritation

Brief contact may cause skin irritation with local redness.

### Serious eye damage/eye irritation

May cause eye irritation.  
May cause slight corneal injury.

### Sensitization

A component in this mixture has caused allergic skin reactions in humans.

For respiratory sensitization:

No specific, relevant data available for assessment.

### Specific Target Organ Systemic Toxicity (Single Exposure)

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

### Specific Target Organ Systemic Toxicity (Repeated Exposure)

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

### Carcinogenicity

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

For the minor component(s): In animal studies, has been shown to interfere with fertility.

**Mutagenicity**

No relevant data found.

**Aspiration Hazard**

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

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

**Acute oral toxicity**

Single dose oral LD50 has not been determined.

**Acute dermal toxicity**

The dermal LD50 has not been determined.

**Acute inhalation toxicity**

The LC50 has not been determined.

**Alcohols, C14-16**

**Acute oral toxicity**

LD50, Rat, > 5,000 mg/kg OECD Test Guideline 401

**Acute dermal toxicity**

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

For similar material(s): LD50, Rabbit, 6,180 mg/kg

**Acute inhalation toxicity**

The LC50 has not been determined.

**Octamethyl Cyclotetrasiloxane**

**Acute oral toxicity**

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

**Acute dermal toxicity**

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

**Acute inhalation toxicity**

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

**Oligomers of amino functional alkoxysilanes**

**Acute dermal toxicity**

Based on data from similar materials LD50, Rabbit, > 2,000 mg/kg



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## **12. ECOLOGICAL INFORMATION**

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

### **Ecotoxicity**

#### **Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

##### **Acute toxicity to aquatic invertebrates**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
EL50, Daphnia magna (Water flea), 48 Hour, 132 mg/l, OPPTS 850.1500

#### **Alcohols, C14-16**

##### **Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Based on data from similar materials

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 500 mg/l

##### **Acute toxicity to aquatic invertebrates**

Based on data from similar materials

EC50, Daphnia magna (Water flea), static test, 48 Hour, 1,666 mg/l

##### **Acute toxicity to algae/aquatic plants**

Based on data from similar materials

No toxicity at the limit of solubility

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 22 - 46 mg/l, OECD Test Guideline 201, Test substance: Water Accommodated Fraction

Based on data from similar materials

No toxicity at the limit of solubility

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, 4.6 mg/l, OECD Test Guideline 201, Test substance: Water Accommodated Fraction

##### **Chronic toxicity to aquatic invertebrates**

Based on data from similar materials

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 0.0016 mg/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

**Persistence and Degradability**

**Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

**Biodegradability:** No relevant data found.

**Alcohols, C14-16**

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

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

**Biodegradation:** 82 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

**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.

**Bioaccumulative Potential**

**Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

**Bioaccumulation:** No relevant data found.

**Alcohols, C14-16**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water(log Pow):** 5.4

**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

#### **Mobility in Soil**

##### **Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

No relevant data found.

##### **Alcohols, C14-16**

No relevant data found.

##### **Octamethyl Cyclotetrasiloxane**

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

#### **Results of PBT and vPvB assessment**

##### **Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

##### **Alcohols, C14-16**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

##### **Octamethyl Cyclotetrasiloxane**

Octamethylcyclotetrasiloxane (D4) meets the current REACH Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT criteria. However, D4 does not behave similarly to known PBT/vPvB substances. 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.

##### **Oligomers of amino functional alkoxy-silanes**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

#### **Other adverse effects**

##### **Dimethyl siloxane, (aminoalkyl)methoxymethylsiloxyl- and dimethylalkoxy-terminated**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

##### **Alcohols, C14-16**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

##### **Octamethyl Cyclotetrasiloxane**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

##### **Oligomers of amino functional alkoxy-silanes**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### 13. DISPOSAL CONSIDERATIONS

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**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: Recycler. Reclaimer. 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.

This product when disposed of in its unused and uncontaminated state should be treated as a hazardous waste.

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### 14. TRANSPORT INFORMATION

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**Classification for ROAD and Rail transport:**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

**Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**

Not regulated for transport

Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

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.

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## 15. REGULATORY INFORMATION

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The following statutes, regulations and standards have the related prescribes on chemicals in terms of safe use, storage, transportation, loading and unloading, classification and symbol etc.

Provisions on the Environmental Administration of New Chemical Substances.

The Regulation on Chemicals Safe Use at Working Site

Law on Prevention and Control of Environmental Pollution Caused by Solid Waste.

Regulation on the Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals: Not applicable

General rule of classification and hazard communication of chemicals (GB 13690)

Occupational Exposure Limits for Hazardous Agent in The workshop Chemical Hazardous Agents(GBZ 2.1).

### **China. Inventory of Existing Chemical Substances in China (IECSC) (IECSC)**

All intentional components are listed on the inventory, are exempt, or are supplier certified.

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## 16. OTHER INFORMATION

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### **Revision**

Identification Number: 4100092 / A160 / Issue Date: 19.07.2018 / Version: 3.0

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

**Date of first issue:** 02.04.2015

### **Legend**

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

### **Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

#### **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.

COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product.

The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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