

# Material Safety Data Sheet DOW CHEMICAL INTERNATIONAL PVT. LTD.

Product name: DOWSIL™ 7268 Adhesive Issue Date: 10.05.2022
Print Date: 06.08.2022

DOW CHEMICAL INTERNATIONAL PVT. LTD. 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. PRODUCT AND COMPANY IDENTIFICATION

Product name: DOWSIL™ 7268 Adhesive

Recommended use of the chemical and restrictions on use

Identified uses: Adhesive, binding agents Additives

### **COMPANY IDENTIFICATION**

DOW CHEMICAL INTERNATIONAL PVT. LTD. UNIT NO. 801, 8th FLOOR, BUILDING NO. 9, GIGAPLEX, TTC INDUSTRIAL AREA, MIDC, AIROLI NAVI, MUMBAI 400708 NAVI, MUMBAI INDIA

Customer Information Number: (91) 22-6674-1500 SDSQuestion@dow.com

# **EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** 91-22-6674-1800 **Local Emergency Contact:** 0091-22-6674-1800

# 2. HAZARDS IDENTIFICATION

# **GHS Classification**

Flammable liquids - Category 2
Skin corrosion/irritation - Category 2
Serious eye damage/eye irritation - Category 2A
Reproductive toxicity - Category 2
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2
Short-term (acute) aquatic hazard - Category 2
Long-term (chronic) aquatic hazard - Category 3

GHS label elements Hazard pictograms







Signal word: DANGER!

### **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

Suspected of damaging fertility. Suspected of damaging the unborn child.

May cause damage to organs (Auditory system) through prolonged or repeated exposure.

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

# **Precautionary statements**

# Prevention

Obtain, read and follow all safety instructions before use.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Do not breathe mist or vapours.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

### Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help if you feel unwell.

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.

If skin irritation occurs: Get medical help.

If eye irritation persists: Get medical help.

In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

#### Storage

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

### **Disposal**

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

#### Other hazards

Static-accumulating flammable liquid.

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration	
Xylene	1330-20-7	>= 19.0 - <= 33.0 %	
Ethylbenzene	100-41-4	>= 5.0 - <= 9.0 %	
Hexamethyldisiloxane	107-46-0	<= 2.4 %	
Isopropanol	67-63-0	>= 1.8 - <= 2.2 %	
Octamethyl Cyclotetrasiloxane	556-67-2	>= 0.006 - <= 0.21 %	
Toluene	108-88-3	>= 0.11 - <= 0.18 %	

# 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 and keep comfortable for breathing. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

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

**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

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physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

### Most important symptoms and effects, both acute and delayed:

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.

# Indication of any immediate medical attention and special treatment needed

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. If burn is present, treat as any thermal burn, after decontamination. Alcohol consumed before or after exposure may increase adverse effects. Hemodialysis may be of benefit if substantial amounts have been ingested and the patient is showing signs of intoxication. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

# 5. FIREFIGHTING MEASURES

# **Extinguishing media**

Suitable extinguishing media: Alcohol-resistant foam. Dry chemical. Dry sand.

Unsuitable extinguishing media: High volume water jet. Do not use direct water stream...

### Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides.

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.. Flammable mixtures may exist within the vapor space of containers at room temperature.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Vapours may form explosive mixtures with air..

### Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. 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 water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.. Do not use a solid water stream as it may scatter and spread fire..

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

**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. Ventilate the area. Use personal protective equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. 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:** Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. 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, store recovered material in appropriate container. See sections: 7, 8, 11, 12 and 13.

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Do not get in eyes. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. Ensure all equipment is electrically grounded before beginning transfer operations. This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it isnecessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

**Conditions for safe storage:** Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives. Gases. 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.

Component	Regulation	Type of listing	Value
Xylene	ACGIH	TWA	20 ppm
	Further information: A4: Not classifiable as a human carcinogen; Ototoxicant		
Ethylbenzene	ACGIH	TWA	20 ppm
	Further information: A3: Confirmed animal carcinogen with unknown relevance to humans; Ototoxicant		
Hexamethyldisiloxane	Dow IHG	TWA	50 ppm
Isopropanol	ACGIH	TWA	200 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	ACGIH	STEL	400 ppm
	Further information: A4: Not classifiable as a human carcinogen		
Octamethyl	US WEEL	TWA	10 ppm
Cyclotetrasiloxane			
Toluene	ACGIH	TWA	20 ppm
	Further information: Ototoxicant; A4: Not classifiable as a human carcinogen		
	IN OEL	TWA	375 mg/m3 100 ppm
	IN OEL	STEL	560 mg/m3 150 ppm

**Biological occupational exposure limits** 

Components	CAS-No.	Control	Biological	Sampling	Permissible	Basis
		parameters	specimen	time	concentration	
Xylene	1330-20-7	Methylhippu ric acids	Urine	End of shift (As	1.5 g/g creatinine	ACGIH BEI
				soon as possible		
				after exposure		
				ceases)		
Ethylbenzene	100-41-4	Sum of mandelic acid and	Urine	End of shift (As soon as	0.15 g/g creatinine	ACGIH BEI
		phenyl glyoxylic		possible after		
		acid		exposure ceases)		
Isopropanol	67-63-0	Acetone	Urine	End of shift at end of	40 mg/l	ACGIH BEI
Toluene	108-88-3	Toluene	In blood	workweek Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as	0.03 mg/l	ACGIH BEI

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possible after exposure

ceases)

o-Cresol Urine

End of 0.3 mg/g shift (As Creatinine

ACGIH BEI

soon as possible after exposure ceases)

# **Exposure controls**

**Engineering controls:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

# Individual protection measures

**Eye/face protection:** Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

### Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). 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: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

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

# 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** 

Physical stateviscous liquidColorSlightly hazy

**Odor** aromatic

Odor Threshold No data available

**pH** Not applicable, substance/mixture is non-soluble (in water)

Melting point/rangeNo data availableFreezing pointNo data available

Boiling point (760 mmHg) > 35 °C

Flash point closed cup 7.5 °C Evaporation Rate (Butyl Acetate No data available

= 1)

Flammability (solid, gas)

Lower explosion limit

Upper explosion limit

Vapor Pressure

Relative Vapor Density (air = 1)

Not applicable

No data available

No data available

No data available

Relative Density (water = 1) 0.98
Water solubility insoluble

Partition coefficient: n- No data available

octanol/water

Auto-ignition temperatureNo data availableDecomposition temperatureNo data availableDynamic Viscosity50,000 mPa.sKinematic ViscosityNo data availableExplosive propertiesNot explosive

Oxidizing properties The substance or mixture is not classified as oxidizing.

Molecular weightNo data availableParticle sizeNot 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. Vapours may form explosive mixture with air. Highly flammable liquid and vapour.

Conditions to avoid: Avoid static discharge. Heat, flames and sparks.

**Incompatible materials:** Avoid contact with oxidizing materials.

### Hazardous decomposition products:

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

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# 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 Toxicity Endpoints:**

Not classified based on available information.

# **Acute oral toxicity**

#### Information for the Product:

Very low toxicity if swallowed. Swallowing may result in gastrointestinal irritation. As product: Single dose oral LD50 has not been determined.

# Information for components:

# <u>Xylene</u>

LD50, Rat, 4,300 mg/kg

### Ethylbenzene

LD50, Rat, 3,500 mg/kg

# **Hexamethyldisiloxane**

LD50, Rat, > 5,000 mg/kg

# Isopropanol

May cause central nervous system depression. Signs and symptoms of excessive exposure may include: Facial flushing. Low blood pressure. Irregular heartbeats. May cause nausea and vomiting.

LD50, Rat, 5,840 mg/kg OECD 401 or equivalent

### **Octamethyl Cyclotetrasiloxane**

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

#### Toluene

LD50, Rat, 5,580 mg/kg

### Acute dermal toxicity

### Information for the Product:

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):

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LD50, Rat, > 5,000 mg/kg Estimated.

# Information for components:

#### Xvlene

LD50, Rabbit, > 2,000 mg/kg

# Ethylbenzene

LD50, Rabbit, 15,500 mg/kg

# Hexamethyldisiloxane

LD50, Rat, > 2,000 mg/kg No deaths occurred at this concentration.

### Isopropanol

LD50, Rabbit, > 12,800 mg/kg

# Octamethyl Cyclotetrasiloxane

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

### Toluene

LD50, Rabbit, 12,267 mg/kg

# Acute inhalation toxicity

#### Information for the Product:

Vapor concentrations are attainable which could be hazardous on single exposure. May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Vapor concentrations of volatile silicones are likely to become uncomfortable to humans before they result in toxicologically significant effects. In humans, symptoms may include: Alcohol consumed before or after exposure may increase adverse effects. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. However, the relevance of this to humans is unknown Excessive exposure (400 ppm) to isopropanol may cause eye, nose and throat irritation. Incoordination, confusion, hypotension, hypothermia, circulatory collapse, respiratory arrest and death may follow a longer duration or higher levels.

As product: The LC50 has not been determined.

# Information for components:

### Xylene

Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. LC50, Rat, 4 Hour, vapour, 27.5 mg/l

# Ethylbenzene

LC50, Rat, 4 Hour, vapour, 17.2 mg/l

#### Hexamethyldisiloxane

LC50, Rat, male and female, 4 Hour, vapour, 106 mg/l OECD Test Guideline 403

# Isopropanol

LC50, Rat, male and female, 6 Hour, vapour, > 10000 ppm

# **Octamethyl Cyclotetrasiloxane**

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

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### Toluene

LC50, Rat, male, 4 Hour, vapour, 25.7 mg/l

LC50, Rat, female, 4 Hour, vapour, 30 mg/l

#### Skin corrosion/irritation

Causes skin irritation.

### Information for the Product:

Based on information for component(s):

Brief contact may cause moderate skin irritation with local redness.

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

Vapor may cause skin irritation.

May cause more severe response on covered skin (under clothing, gloves).

May cause drying and flaking of the skin.

### Information for components:

### **Xylene**

Prolonged contact may cause skin irritation with local redness.

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

Vapor may cause skin irritation.

May cause drying and flaking of the skin.

#### Ethylbenzene

Brief contact may cause moderate skin irritation with local redness.

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

May cause drying and flaking of the skin.

### Hexamethyldisiloxane

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause skin irritation with local redness.

May cause more severe response on covered skin (under clothing, gloves).

### Isopropanol

Prolonged exposure not likely to cause significant skin irritation.

May cause drying and flaking of the skin.

# Octamethyl Cyclotetrasiloxane

Brief contact is essentially nonirritating to skin.

#### Toluene

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

May cause drying and flaking of the skin.

# Serious eye damage/eye irritation

Causes serious eye irritation.

# Information for the Product:

Based on information for component(s):

May cause moderate eye irritation.

May cause slight temporary corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Vapor may cause lacrimation (tears).

# Information for components:

# <u>Xylene</u>

May cause moderate eye irritation.

May cause slight temporary corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

### Ethylbenzene

May cause moderate eye irritation.

Vapor may cause lacrimation (tears).

# Hexamethyldisiloxane

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Vapor or mist may cause eye irritation.

#### Isopropanol

May cause pain disproportionate to the level of irritation to eye tissues.

May cause moderate eye irritation.

May cause moderate corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Vapor may cause lacrimation (tears).

# Octamethyl Cyclotetrasiloxane

Essentially nonirritating to eyes.

### Toluene

May cause slight eye irritation.

May cause slight temporary corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Vapor may cause lacrimation (tears).

# Sensitization

### For skin sensitization:

Not classified based on available information.

### For respiratory sensitization:

Not classified based on available information.

# Information for the Product:

For skin sensitization:

Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No relevant data found.

### Information for components:

# Xylene

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

### Ethylbenzene

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

# Hexamethyldisiloxane

For skin sensitization:

Did not cause allergic skin reactions when tested in humans.

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

For respiratory sensitization:

No relevant data found.

# Isopropanol

Did not demonstrate the potential for contact allergy in mice.

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

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.

#### **Toluene**

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

For respiratory sensitization:

No relevant data found.

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

May cause respiratory irritation.

#### Information for the Product:

Product test data not available.

# Information for components:

# **Xylene**

May cause respiratory irritation. Route of Exposure: Inhalation Target Organs: Respiratory system

### Ethylbenzene

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

# Hexamethyldisiloxane

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

# Isopropanol

May cause drowsiness or dizziness. Route of Exposure: Ingestion

Target Organs: Central nervous system

# Octamethyl Cyclotetrasiloxane

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

#### Toluene

May cause drowsiness or dizziness. Route of Exposure: Inhalation

Target Organs: Central nervous system

# **Aspiration Hazard**

Not classified based on available information.

#### Information for the Product:

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

### Information for components:

#### Xvlene

May be fatal if swallowed and enters airways.

# Ethylbenzene

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. May be fatal if swallowed and enters airways.

# Hexamethyldisiloxane

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

# Isopropanol

Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

# Octamethyl Cyclotetrasiloxane

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May be harmful if swallowed and enters airways.

May be fatal if swallowed and enters airways.

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)

May cause damage to organs (Auditory system) through prolonged or repeated exposure.

#### Information for the Product:

Product test data not available.

# Information for components:

# Xylene

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

kidney

Blood

Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations; such effects have not been reported in humans.

# Ethylbenzene

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

May cause hearing loss based on animal data.

Kidnev.

Liver.

Luna.

Although one early inhalation study on ethylbenzene reported an adverse effect on the testes, recent, more comprehensive studies have not shown this effect.

# Hexamethyldisiloxane

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

Liver.

Testes.

Kidney.

However, the effects are species specific and are not relevant to humans.

This material contains hexamethyldisiloxane (HMDS). Repeated inhalation exposure in rats to HMDS 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.

### Isopropanol

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

Kidney.

Liver.

Kidney effects have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Observations in animals include:

Lethargy.

### Octamethyl Cyclotetrasiloxane

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

Kidney.

Liver.

Respiratory tract.

Female reproductive organs.

# **Toluene**

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

Central nervous system.

Excessive exposure may cause neurologic signs and symptoms.

Toluene has caused hearing loss in laboratory animals upon exposure to high concentrations.

Intentional misuse by deliberately inhaling toluene may cause nervous system damage, hearing loss, liver and kidney effects and death.

# Carcinogenicity

Not classified based on available information.

#### Information for the Product:

Product test data not available.

# Information for components:

# <u>Xylene</u>

Xylene was not found to be carcinogenic in a National Toxicology Program bioassay in rats and mice

# **Ethylbenzene**

Ethylbenzene has been shown to cause cancer in laboratory animals. There is no evidence that these findings are relevant to humans.

# Hexamethyldisiloxane

Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Early onset of testicular cell tumors has been observed that are spontaneous and common in rats. These effects are believed to be species specific and unlikely to occur in humans.

### Isopropanol

Did not cause cancer in laboratory animals.

# 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.

### **Toluene**

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Did not cause cancer in laboratory animals.

# **Teratogenicity**

Suspected of damaging fertility. Suspected of damaging the unborn child.

#### Information for the Product:

Product test data not available.

# Information for components:

#### <u>Xylene</u>

Exaggerated doses of xylene given orally to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. In animal inhalation studies, xylene caused toxicity to the fetus but did not cause birth defects. Available data are inadequate for evaluation of maternal toxicity.

# **Ethylbenzene**

Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

### Hexamethyldisiloxane

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

### <u>Isopropanol</u>

Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

# Octamethyl Cyclotetrasiloxane

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

# **Toluene**

In laboratory animals, toluene has been toxic to the fetus at doses toxic to the mother; it has caused birth defects in mice when administered orally, but not by inhalation.

# Reproductive toxicity

Suspected of damaging fertility. Suspected of damaging the unborn child.

# Information for the Product:

Product test data not available.

# Information for components:

#### Xylene

In animal studies, did not interfere with reproduction.

#### Ethylbenzene

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

### Hexamethyldisiloxane

In animal studies, did not interfere with reproduction.

# <u>Isopropanol</u>

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.

#### **Toluene**

In animal studies, did not interfere with reproduction.

# Mutagenicity

Not classified based on available information.

### Information for the Product:

Product test data not available.

### Information for components:

### **Xylene**

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

### Ethylbenzene

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

#### Hexamethyldisiloxane

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

### Isopropanol

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

# Octamethyl Cyclotetrasiloxane

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

# **Toluene**

The majority and most reliable of the many genetic toxicity studies on toluene, both in vitro and in animals, indicate that it is not genetically toxic.

# 12. ECOLOGICAL INFORMATION

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

# **Ecotoxicity**

### **Xylene**

# 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, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 2.6 mg/l, OECD Test Guideline 203 or Equivalent

# Acute toxicity to aquatic invertebrates

IC50, Daphnia magna (Water flea), 24 Hour, 1 - 4.7 mg/l, OECD Test Guideline 202 or Equivalent

# Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (algae), Static, 73 Hour, Growth rate, 4.36 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (green algae), 73 Hour, Growth rate, 0.44 mg/l, OECD Test Guideline 201 or Equivalent

# Chronic toxicity to fish

NOEC, Oncorhynchus mykiss (rainbow trout), flow-through, 56 d, mortality, > 1.3 mg/l

### Ethylbenzene

### 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, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 4.2 mg/l, OECD Test Guideline 203 or Equivalent

### Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), Static, 48 Hour, 1.8 - 2.4 mg/l

# Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition (cell density reduction), 3.6 - 4.6 mg/l, OECD Test Guideline 201 or Equivalent

# Toxicity to bacteria

EC50, Bacteria, 16 Hour, > 12 mg/l

### Chronic toxicity to aquatic invertebrates

NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, 0.96 mg/l

### Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 2 d, survival, 0.047 mg/cm2

### **Hexamethyldisiloxane**

# 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, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0.46 mg/l

# Acute toxicity to algae/aquatic plants

No toxicity at the limit of solubility

ErC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, > 0.55 mg/l, OECD Test Guideline 201

#### Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 0.08 mg/l

### **Isopropanol**

### 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).

LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 9,640 mg/l, OECD Test Guideline 203 or Equivalent

# Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), static test, 24 Hour, > 10,000 mg/l, OECD Test Guideline 202 or Equivalent

# Acute toxicity to algae/aquatic plants

NOEC, alga Scenedesmus sp., static test, 7 d, Growth inhibition (cell density reduction), 1,800 mg/l

ErC50, alga Scenedesmus sp., static test, 72 Hour, Growth rate inhibition, > 1,000 mg/l

# Toxicity to bacteria

EC50, activated sludge, > 1,000 mg/l

# Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, 30 mg/l

# Octamethyl Cyclotetrasiloxane

# Acute toxicity to fish

Based on testing of comparable products: The estimated maximum aqueous concentration of Octamethyl Cyclotetrasiloxane (D4) from migration to water from the product as supplied is below the D4 established no-effect threshold (< 0.0079 mg/L) for aquatic organisms.

### Chronic toxicity to aquatic invertebrates

Based on testing for product(s) in this family of materials:

Not classified due to data which are conclusive although insufficient for classification.

# <u>Toluene</u>

#### 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, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 5.8 mg/l

### Acute toxicity to aquatic invertebrates

LC50, water flea Ceriodaphnia dubia, semi-static test, 48 Hour, 3.78 mg/l

# Acute toxicity to algae/aquatic plants

EbC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Biomass, 12.5 mg/l, OECD Test Guideline 201

# Toxicity to bacteria

IC50, Bacteria, 16 Hour, 29 mg/l

### Chronic toxicity to fish

NOEC, Fish, flow-through test, 40 d, growth, 1.4 mg/l

### Chronic toxicity to aquatic invertebrates

NOEC, Ceriodaphnia dubia (water flea), 7 d, number of offspring, 0.74 mg/l

# Toxicity to soil-dwelling organisms

Issue Date: 10.05.2022

LC50, Eisenia fetida (earthworms), 150 - 280 mg/kg

# Persistence and degradability

# **Xylene**

**Biodegradability:** Material is expected to be readily biodegradable.

10-day Window: Pass **Biodegradation:** > 60 % **Exposure time:** 10 d

Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 3.17 mg/mg

# Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	37.000 %
10 d	58.000 %
20 d	72.000 %

Photodegradation

Test Type: Half-life (indirect photolysis)

**Sensitization:** OH radicals **Atmospheric half-life:** 19.7 Hour

Method: Estimated.

### Ethylbenzene

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

biodegradability. 10-day Window: Pass **Biodegradation:** 100 % **Exposure time:** 6 d

Method: OECD Test Guideline 301E or Equivalent

Theoretical Oxygen Demand: 3.17 mg/mg Estimated.

Chemical Oxygen Demand: 2.62 mg/mg Dichromate

# **Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	31.5 %
10 d	38.5 %
20 d	45.4 %

**Photodegradation** 

Sensitization: OH radicals
Atmospheric half-life: 55 Hour

**Method:** Estimated.

### Hexamethyldisiloxane

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. This material rapidly hydrolyzes to products that are either readily or ultimately biodegradable.

products that are either readily or ultimately biodegradable.

10-day Window: Not applicable

**Biodegradation:** 2 % **Exposure time:** 28 d

Method: OECD Test Guideline 301C

# Stability in Water (1/2-life)

Hydrolyses on contact with water.

# **Photodegradation**

Test Type: Half-life (indirect photolysis)

**Sensitization:** OH radicals **Atmospheric half-life:** 11.9 d

**Method:** Estimated.

### Isopropanol

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

biodegradability. 10-day Window: Pass **Biodegradation:** 95 % **Exposure time:** 21 d

Method: OECD Test Guideline 301E or Equivalent

10-day Window: Not applicable

Biodegradation: 53 % Exposure time: 5 d Method: Other guidelines

Theoretical Oxygen Demand: 2.40 mg/mg Estimated.

Chemical Oxygen Demand: 2.09 mg/mg Estimated.

# Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	20 - 72 %
20 d	78 - 86 %

# **Photodegradation**

Test Type: Half-life (indirect photolysis)

**Sensitization:** OH radicals **Atmospheric half-life:** 1.472 d

Method: Estimated.

# **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, 3.9 d, pH 7, Half-life Temperature 25 °C, OECD Test Guideline 111

### **Toluene**

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

biodegradability.

10-day Window: Not applicable **Biodegradation:** 100 % **Exposure time:** 14 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 3.13 mg/mg Calculated.

**Photodegradation** 

Test Type: Half-life (indirect photolysis)

**Sensitization:** OH radicals **Atmospheric half-life:** 2 d

Method: Estimated.

# **Bioaccumulative potential**

### **Xylene**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 3.12 Measured

Bioconcentration factor (BCF): 25.9 Rainbow trout (Salmo gairdneri) Measured

### Ethylbenzene

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 3.15 Measured

Bioconcentration factor (BCF): 15 Fish Measured

### **Hexamethyldisiloxane**

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or

Log Pow between 3 and 5). Reacts with water.

Partition coefficient: n-octanol/water(log Pow): 5.06 Measured

Bioconcentration factor (BCF): 1,971 Carp (Cyprinus carpio) OECD Test Guideline 305C

### **Isopropanol**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.05 Measured

#### **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

# **Toluene**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.73 Measured Bioconcentration factor (BCF): 13.2 - 90 Fish Measured

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# **Mobility in Soil**

### **Xylene**

Partition coefficient (Koc): 443 Estimated.

### **Ethylbenzene**

Partition coefficient (Koc): 518 Estimated.

# Hexamethyldisiloxane

Partition coefficient (Koc): 390 - 4600 Estimated.

### Isopropanol

Partition coefficient (Koc): 1.1 Estimated.

# **Octamethyl Cyclotetrasiloxane**

Partition coefficient (Koc): 16596 OECD Test Guideline 106

### **Toluene**

Partition coefficient (Koc): 37 - 178 Estimated.

# Results of PBT and vPvB assessment

### **Xylene**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

# **Ethylbenzene**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

# **Hexamethyldisiloxane**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

# Isopropanol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

### **Octamethyl Cyclotetrasiloxane**

Octamethylcyclotetrasiloxane (D4) meets the current criteria for PBT and vPvB under REACh Annex XIII or other regionally specific 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.

### **Toluene**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

# Other adverse effects

### **Xylene**

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

### Ethylbenzene

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

### Hexamethyldisiloxane

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

### <u>Isopropanol</u>

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.

### **Toluene**

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

# 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

Classification for ROAD and Rail transport:

Proper shipping name ADHESIVES UN number UN 1133

Class 3 Packing group II

Classification for SEA transport (IMO-IMDG):

Proper shipping name ADHESIVES

UN number UN 1133

Class 3
Packing group II
Marine pollutant No

Transport in bulk Consult IMO regulations before transporting ocean bulk

according to Annex I or II of MARPOL 73/78 and the

**IBC or IGC Code** 

# Classification for AIR transport (IATA/ICAO):

Proper shipping name
UN number
UN 1133
Class

Adhesives
UN 1133

Packing group

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

This product has been classified in accordance with the criteria of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), rev. 8.

# 16. OTHER INFORMATION

### Revision

Identification Number: 4089130 / A146 / Issue Date: 10.05.2022 / Version: 6.0

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

# Legend

- 3	
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
Dow IHG	Dow Industrial Hygiene Guideline
IN OEL	India. Permissible levels of certain chemical substances in work environment.
STEL	Short-term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

#### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; 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; 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; TECI - Thailand Existing Chemicals 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; WHMIS -Workplace Hazardous Materials Information System

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