

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Deltamethrin (5%) Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : No. 485 Jing Tai Road  
Pu Tuo District - Shanghai - China 200331

Telephone : 908-740-4000

Emergency telephone number : 86-571-87268110

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

<b>Appearance</b>	: liquid
<b>Colour</b>	: yellow
<b>Odour</b>	: No data available

Flammable liquid and vapour. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

#### GHS Classification

Flammable liquids	: Category 3
Acute toxicity (Oral)	: Category 4
Skin corrosion/irritation	: Category 2
Serious eye damage/eye irritation	: Category 1
Skin sensitisation	: Category 1
Germ cell mutagenicity	: Category 1B
Carcinogenicity	: Category 1B
Reproductive toxicity	: Category 2
Specific target organ toxicity -	: Category 3

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue:
2.8	2020/10/09	2333305-00010	2020/03/23
			Date of first issue: 2017/12/12

single exposure

Specific target organ toxicity - : Category 2  
repeated exposure

Aspiration hazard : Category 1

Short-term (acute) aquatic : Category 1  
hazard

Long-term (chronic) aquatic : Category 1  
hazard

### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H336 May cause drowsiness or dizziness.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe mist or vapours.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

### Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P331 Do NOT induce vomiting.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.

### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Physical and chemical hazards

Flammable liquid and vapour.

### Health hazards

Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

### Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

### Other hazards which do not result in classification

Vapours may form explosive mixture with air.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
---------------	---------	-----------------------

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version 2.8      Revision Date: 2020/10/09      SDS Number: 2333305-00010      Date of last issue: 2020/03/23  
Date of first issue: 2017/12/12

Solvent naphtha (petroleum), light aromatic	64742-95-6	>= 30 -< 50
2-Methoxy-1-methylethyl acetate	108-65-6	>= 20 -< 30
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts	Not Assigned	>= 3 -< 10
2-Methyl-1-propanol	78-83-1	>= 3 -< 10
deltamethrin (ISO)	52918-63-5	>= 3 -< 10

### 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention immediately.
- If swallowed : If swallowed, DO NOT induce vomiting.  
If vomiting occurs have person lean forward.  
Call a physician or poison control centre immediately.  
Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause drowsiness or dizziness.  
May cause genetic defects.  
May cause cancer.  
Suspected of damaging fertility. Suspected of damaging the unborn child.  
May cause damage to organs through prolonged or repeated exposure.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

### 5. FIREFIGHTING MEASURES

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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Unsuitable extinguishing media	:	Dry chemical High volume water jet
Specific hazards during fire-fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx) Bromine compounds Sulphur oxides Metal oxides
Specific extinguishing methods	:	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.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. 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. 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. 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. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

### 7. HANDLING AND STORAGE

#### Handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting equipment.
- Advice on safe handling : Do not get on skin or clothing.  
Do not breathe mist or vapours.  
Do not swallow.  
Do not get in eyes.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Non-sparking tools should be used.  
Keep container tightly closed.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.
- Avoidance of contact : Oxidizing agents

#### Storage

- 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.
- Materials to avoid : Do not store with the following product types:  
Self-reactive substances and mixtures  
Organic peroxides  
Oxidizing agents  
Flammable gases  
Pyrophoric liquids  
Pyrophoric solids  
Self-heating substances and mixtures  
Poisonous gases  
Explosives
- Packaging material : Unsuitable material: None known.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type	Control parame-	Basis
------------	---------	------------	-----------------	-------

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version 2.8      Revision Date: 2020/10/09      SDS Number: 2333305-00010      Date of last issue: 2020/03/23  
Date of first issue: 2017/12/12

		(Form of exposure)	ters / Permissible concentration	
Solvent naphtha (petroleum), light aromatic	64742-95-6	TWA	200 mg/m <sup>3</sup> (total hydrocarbon vapor)	ACGIH
2-Methyl-1-propanol	78-83-1	TWA	50 ppm	ACGIH
deltamethrin (ISO)	52918-63-5	PC-TWA	0.03 mg/m <sup>3</sup>	CN OEL
		TWA	15 µg/m <sup>3</sup> (OEB 3)	Internal
Further information: DSEN, Skin				
		Wipe limit	150 µg/100 cm <sup>2</sup>	Internal

**Engineering measures** : Use explosion-proof electrical, ventilating and lighting equipment.

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).  
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.  
Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).  
Minimize open handling.

### Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Eye/face protection : Wear safety glasses with side shields or goggles.  
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.  
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.  
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
Use appropriate degowning techniques to remove potentially contaminated clothing.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Contaminated work clothing should not be allowed out of the

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

workplace.  
Wash contaminated clothing before re-use.  
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: yellow
Odour	: No data available
Odour Threshold	: No data available
pH	: 3 - 5
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: 45 - 51 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: Not applicable
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.963 - 0.967 g/cm3
Solubility(ies)	
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Decomposition temperature : No data available

Viscosity  
Viscosity, kinematic : No data available

Explosive properties : Not explosive

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

Molecular weight : No data available

Particle size : Not applicable

### 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Flammable liquid and vapour.  
Vapours may form explosive mixture with air.  
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

### 11. TOXICOLOGICAL INFORMATION

Exposure routes : Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 1,269 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 10 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

#### Components:

**Solvent naphtha (petroleum), light aromatic:**

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.61 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

### 2-Methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC0 (Rat): 9.48 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Acute oral toxicity : LD50 (Rat): 4,445 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

### 2-Methyl-1-propanol:

Acute oral toxicity : LD50 (Rat): 3,350 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 24.6 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 2,460 mg/kg  
Method: OECD Test Guideline 402

### deltamethrin (ISO):

Acute oral toxicity : LD50 (Rat): 66.7 mg/kg  
LD50 (Rat): 9 - 139 mg/kg  
LD50 (Mouse): 19 - 34 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.8 mg/l  
Exposure time: 2 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 2,000 mg/kg  
LD50 (Rat): > 800 mg/kg

Acute toxicity (other routes of : LD50 (Rat): 2.5 mg/kg

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

administration)

Application Route: Intravenous

LD50 (Mouse): 10 mg/kg

Application Route: Intraperitoneal

### Skin corrosion/irritation

Causes skin irritation.

#### Components:

##### **Solvent naphtha (petroleum), light aromatic:**

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation

##### **2-Methoxy-1-methylethyl acetate:**

Species	: Rabbit
Result	: No skin irritation

##### **Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation

##### **2-Methyl-1-propanol:**

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Skin irritation

##### **deltamethrin (ISO):**

Species	: Rabbit
Result	: No skin irritation

### Serious eye damage/eye irritation

Causes serious eye damage.

#### Components:

##### **Solvent naphtha (petroleum), light aromatic:**

Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405

##### **2-Methoxy-1-methylethyl acetate:**

Species	: Rabbit
Result	: No eye irritation

##### **Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Species	: Rabbit
---------	----------

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Result : Irreversible effects on the eye  
Method : OECD Test Guideline 405

### 2-Methyl-1-propanol:

Species : Rabbit  
Result : Irreversible effects on the eye  
Method : OECD Test Guideline 405

### deltamethrin (ISO):

Species : Rabbit  
Result : Moderate eye irritation

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

Not classified based on available information.

### Components:

#### Solvent naphtha (petroleum), light aromatic:

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : negative

#### 2-Methoxy-1-methylethyl acetate:

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

#### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Test Type : Magnusson-Kligman-Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Remarks : Based on data from similar materials

#### 2-Methyl-1-propanol:

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : negative  
Remarks : Based on data from similar materials

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

### deltamethrin (ISO):

Test Type	: Maximisation Test
Exposure routes	: Dermal
Species	: Guinea pig
Result	: negative
	: Human repeat insult patch test (HRIPT)
	: Dermal
	: Humans
	: positive

### Germ cell mutagenicity

May cause genetic defects.

### Components:

#### Solvent naphtha (petroleum), light aromatic:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: In vitro mammalian cell gene mutation test Result: positive
Genotoxicity in vivo	: Test Type: Sister chromatid exchange analysis in spermatogonia Species: Mouse Application Route: Intraperitoneal injection Result: positive
Germ cell mutagenicity - Assessment	: Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

#### 2-Methoxy-1-methylethyl acetate:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative
	Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials

#### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: Directive 67/548/EEC, Annex, B.13/14 Result: negative Remarks: Based on data from similar materials
-----------------------	---

#### 2-Methyl-1-propanol:

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative

### **deltamethrin (ISO):**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: DNA Repair  
Test system: Escherichia coli  
Result: negative

Test Type: Chromosomal aberration  
Test system: Chinese hamster ovary cells  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster lung cells  
Concentration: LOAEL: 20 mg/kg  
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Result: negative

Test Type: dominant lethal test  
Species: Mouse  
Application Route: Oral  
Result: negative

Test Type: sister chromatid exchange assay  
Species: Mouse  
Cell type: Bone marrow  
Application Route: Oral  
Result: negative

### **Carcinogenicity**

May cause cancer.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

### Components:

#### **Solvent naphtha (petroleum), light aromatic:**

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	2 Years
Result	:	positive

Carcinogenicity - Assessment	:	Sufficient evidence of carcinogenicity in animal experiments
------------------------------	---	--

#### **2-Methoxy-1-methylethyl acetate:**

Species	:	Rat
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
Result	:	negative
Remarks	:	Based on data from similar materials

#### **deltamethrin (ISO):**

Species	:	Mouse, male and female
Application Route	:	oral (feed)
Exposure time	:	104 weeks
NOAEL	:	8 mg/kg body weight
LOAEL	:	4 mg/kg body weight
Result	:	positive
Target Organs	:	Lymph nodes

Species	:	Rat, male and female
Application Route	:	oral (feed)
Exposure time	:	2 Years
Result	:	negative

Species	:	Dog, male and female
Application Route	:	oral (feed)
Exposure time	:	2 Years
NOAEL	:	1 mg/kg body weight
Result	:	negative

### **Reproductive toxicity**

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

### Components:

#### **Solvent naphtha (petroleum), light aromatic:**

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test
		Species: Rat
		Application Route: inhalation (vapour)
		Result: negative

Effects on foetal development	:	Test Type: Embryo-foetal development
		Species: Rat
		Application Route: inhalation (vapour)

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Result: negative

### 2-Methoxy-1-methylethyl acetate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapour)  
Method: OECD Test Guideline 416  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (vapour)  
Result: negative

### 2-Methyl-1-propanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapour)  
Method: OPPTS 870.3800  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (vapour)  
Method: OECD Test Guideline 414  
Result: negative

### deltamethrin (ISO):

Effects on fertility : Test Type: Three-generation reproduction toxicity study  
Species: Rat  
Application Route: oral (feed)  
Early Embryonic Development: NOAEL: 50 mg/kg body weight  
Symptoms: No effects on fertility, Embryo-foetal toxicity  
Remarks: Significant toxicity observed in testing

Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
Early Embryonic Development: LOAEL: 84 - 149 mg/kg body weight  
Symptoms: No effects on fertility, Embryo-foetal toxicity

Test Type: Fertility  
Species: Rat, male  
Application Route: Oral  
Fertility: LOAEL: 1 mg/kg body weight  
Symptoms: Effects on fertility  
Target Organs: Testes

Effects on foetal development : Test Type: Development

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

ment

Species: Mouse  
Application Route: oral (gavage)  
Developmental Toxicity: LOAEL: 1 mg/kg body weight  
Result: Skeletal malformations  
Remarks: Maternal toxicity observed.

Test Type: Development  
Species: Rat, female  
Developmental Toxicity: NOAEL: 10 mg/kg body weight  
Symptoms: No effects on foetal development

Test Type: Development  
Species: Rabbit, female  
Application Route: oral (gavage)  
Developmental Toxicity: NOAEL: 16 mg/kg body weight  
Symptoms: No effects on foetal development

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

### STOT - single exposure

May cause drowsiness or dizziness.

#### Components:

##### **Solvent naphtha (petroleum), light aromatic:**

Assessment : May cause drowsiness or dizziness.

##### **2-Methoxy-1-methylethyl acetate:**

Assessment : May cause drowsiness or dizziness.

##### **2-Methyl-1-propanol:**

Assessment : May cause respiratory irritation.  
May cause drowsiness or dizziness.

##### **deltamethrin (ISO):**

Assessment : May cause respiratory irritation.

### STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### Components:

##### **deltamethrin (ISO):**

Exposure routes : Ingestion  
Target Organs : Central nervous system, Immune system  
Assessment : Causes damage to organs through prolonged or repeated exposure.

Exposure routes : inhalation (dust/mist/fume)  
Target Organs : Central nervous system

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Assessment : Causes damage to organs through prolonged or repeated exposure.

### Repeated dose toxicity

#### Components:

##### **Solvent naphtha (petroleum), light aromatic:**

Species	: Rat
LOAEL	: 500 mg/kg
Application Route	: Ingestion
Exposure time	: 28 Days

##### **2-Methoxy-1-methylethyl acetate:**

Species	: Rat
NOAEL	: > 1,000 mg/kg
Application Route	: Ingestion
Exposure time	: 41 - 45 Days
Method	: OECD Test Guideline 422

Species	: Mouse
NOAEL	: 1.62 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 2 yr
Remarks	: Based on data from similar materials

Species	: Rabbit
NOAEL	: > 1,838 mg/kg
Application Route	: Skin contact
Exposure time	: 90 Days
Remarks	: Based on data from similar materials

##### **2-Methyl-1-propanol:**

Species	: Rat
NOAEL	: > 1,450 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OECD Test Guideline 408

##### **deltamethrin (ISO):**

Species	: Rat, male and female
NOAEL	: 1 mg/kg
LOAEL	: 2.5 mg/kg
Application Route	: Oral
Exposure time	: 13 Weeks
Target Organs	: Nervous system
Symptoms	: hyperexcitability

Species	: Rat
LOAEL	: 3 mg/m3
Application Route	: inhalation (dust/mist/fume)

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Exposure time	: 2 wk / 5 d/wk / 6 h/d
Symptoms	: Local irritation, respiratory tract irritation
Species	: Dog
NOAEL	: 0.1 mg/kg
LOAEL	: 1 mg/kg
Application Route	: Oral
Exposure time	: 13 Weeks
Target Organs	: Nervous system
Symptoms	: Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation
Species	: Rat
NOAEL	: 14 mg/kg
LOAEL	: 54 mg/kg
Application Route	: Oral
Exposure time	: 91 d
Target Organs	: Nervous system
Species	: Mouse
LOAEL	: 6 mg/kg
Application Route	: Oral
Exposure time	: 12 Weeks
Target Organs	: Immune system
Symptoms	: immune system effects

### Aspiration toxicity

May be fatal if swallowed and enters airways.

#### Product:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

#### Components:

##### **Solvent naphtha (petroleum), light aromatic:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

##### **2-Methyl-1-propanol:**

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

### Experience with human exposure

#### Components:

##### **deltamethrin (ISO):**

Inhalation	: Symptoms: respiratory tract irritation, Dizziness, Sweating, Headache, Nausea, Vomiting, anorexia, Fatigue, tingling, Palpitation, Blurred vision, muscle twitching
Skin contact	: Symptoms: Skin irritation, Erythema, pruritis, Headache, Nau-

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue:
2.8	2020/10/09	2333305-00010	2020/03/23
			Date of first issue: 2017/12/12

Ingestion : sea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions  
Symptoms: muscle pain, Small pupils

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **Solvent naphtha (petroleum), light aromatic:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l  
Exposure time: 96 h  
Test substance: Water Accommodated Fraction

Toxicity to daphnia and other : EL50 (Daphnia magna (Water flea)): 4.5 mg/l  
aquatic invertebrates : Exposure time: 48 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l  
plants : Exposure time: 96 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l  
Exposure time: 96 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201

Toxicity to daphnia and other : NOELR (Daphnia magna (Water flea)): 2.6 mg/l  
aquatic invertebrates (Chron- : Exposure time: 21 d  
ic toxicity) : Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 211

##### **2-Methoxy-1-methylethyl acetate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
aquatic invertebrates : Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l  
plants : Exposure time: 96 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): > 1,000 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue:
2.8	2020/10/09	2333305-00010	2020/03/23
			Date of first issue: 2017/12/12

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)):  $\geq 100$  mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC10:  $> 1,000$  mg/l  
Exposure time: 0.5 h

### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Toxicity to fish : LC50:  $> 1 - < 10$  mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)):  $> 1 - 10$  mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)):  $> 10 - 100$  mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials  
  
NOEC (Pseudokirchneriella subcapitata (green algae)):  $> 0.1 - 1$  mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)):  $> 0.1 - 1$  mg/l  
Exposure time: 72 d  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)):  $> 1$  mg/l  
Exposure time: 21 d  
Remarks: Based on data from similar materials

### 2-Methyl-1-propanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 1,100 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,799 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
  
NOEC (Pseudokirchneriella subcapitata (green algae)): 117 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 20 mg/l  
Exposure time: 21 d

### **deltamethrin (ISO):**

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 0.00048 mg/l  
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00039 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Mysidopsis bahia (opossum shrimp)): 0.0037 µg/l  
Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): 0.0035 mg/l  
Exposure time: 48 h

LC50 (Gammarus fasciatus (freshwater shrimp)): 0.0003 µg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 9.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility

M-Factor (Acute aquatic toxicity) : 1,000,000

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.000022 mg/l  
Exposure time: 36 d

NOEC (Pimephales promelas (fathead minnow)): 0.000017 mg/l  
Exposure time: 260 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0041 µg/l  
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 1,000,000

### **Persistence and degradability**

#### **Components:**

#### **Solvent naphtha (petroleum), light aromatic:**

Biodegradability : Result: Inherently biodegradable.  
Biodegradation: 94 %  
Exposure time: 25 d

#### **2-Methoxy-1-methylethyl acetate:**

Biodegradability : Result: Readily biodegradable.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

Biodegradation: 90 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

### **Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 100 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

### **2-Methyl-1-propanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 70 - 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

### **deltamethrin (ISO):**

Stability in water : Hydrolysis: 0 %(30 d)

## **Bioaccumulative potential**

### **Components:**

#### **2-Methoxy-1-methylethyl acetate:**

Partition coefficient: n-octanol/water : log Pow: 1.2

#### **Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

Partition coefficient: n-octanol/water : log Pow: 2.89

#### **2-Methyl-1-propanol:**

Partition coefficient: n-octanol/water : log Pow: 1

#### **deltamethrin (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 1,800

Partition coefficient: n-octanol/water : log Pow: 4.6

## **Mobility in soil**

### **Components:**

#### **deltamethrin (ISO):**

Distribution among environmental compartments : log Koc: 7.2

## **Other adverse effects**

No data available

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

### 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

Waste from residues : Dispose of in accordance with local regulations.  
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.  
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.  
If not otherwise specified: Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : UN 1993  
Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)  
Class : 3  
Packing group : III  
Labels : 3

##### IATA-DGR

UN/ID No. : UN 1993  
Proper shipping name : Flammable liquid, n.o.s.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)  
Class : 3  
Packing group : III  
Labels : Flammable Liquids  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

##### IMDG-Code

UN number : UN 1993  
Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate, deltamethrin (ISO))  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E  
Marine pollutant : yes

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### National Regulations

GB 6944/12268

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)
Class	:	3
Packing group	:	III
Labels	:	3

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## 15. REGULATORY INFORMATION

### National regulatory information

#### Law on the Prevention and Control of Occupational Diseases

#### Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code	Chemical name / Category	Threshold quantity
W5.4	Flammable liquids	5,000 t

### The components of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

## 16. OTHER INFORMATION

### Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CN OEL	:	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA	:	8-hour, time-weighted average
CN OEL / PC-TWA	:	Permissible concentration - time weighted average

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2020/03/23
2.8	2020/10/09	2333305-00010	Date of first issue: 2017/12/12

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; 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

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

CN / EN