

# SAFETY DATA SHEET



## Deltamethrin (3%) Formulation

Version  
7.0

Revision Date:  
2025/04/14

SDS Number:  
7730566-00011

Date of last issue: 2024/09/28  
Date of first issue: 2021/01/13

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Deltamethrin (3%) Formulation

#### Supplier's company name, address and phone number

Company name of supplier : MSD

Address : 1-13-12, Kudan-kita, Chiyoda-ku, Tokyo, Japan

Telephone : 03-6272-1099

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

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### 2. HAZARDS IDENTIFICATION

#### GHS classification of chemical product

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

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 2 (Systemic toxicity)

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic : Category 1

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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.  
H335 May cause respiratory irritation.  
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
H373 May cause damage to organs (Systemic toxicity) 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
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.  
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.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

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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.

### Other hazards which do not result in classification

Important symptoms and outlines of the emergency assumed : Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours). Vapours may form explosive mixture with air.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
Xylene	1330-20-7	82	3-3, 3-60
Calcium dodecylbenzenesulphonate	26264-06-2	9	3-1906, 3-1884, 3-1949
Nonylphenol, ethoxylated	9016-45-9	5	7-172
deltamethrin (ISO)	52918-63-5	>= 3 - < 10	
2,6-Di-tert-butyl-p-cresol	128-37-0	1.8	3-540, 9-1805

## 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.

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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	: This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning. 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 respiratory irritation. 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> ) Dry chemical
Unsuitable extinguishing media	:	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 (NO <sub>x</sub> )

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Bromine compounds  
Metal oxides  
Sulphur compounds

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.

## 7. HANDLING AND STORAGE

### Handling

Technical measures : See Engineering measures under EXPOSURE

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### Local/Total ventilation

CONTROLS/PERSONAL PROTECTION section.  
: 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.  
Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.  
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 Hygiene measures

: Oxidizing agents  
: 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 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.

### 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:  
Oxidizing solids  
Oxidizing liquids

#### Packaging material

: Unsuitable material: None known.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Threshold limit value and permissible exposure limits for each component in the work environment

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Concentra- tion standard / Permissible con- centration	Basis
Xylene	1330-20-7	ACL	50 ppm	JP OEL ISHL
		OEL-M	50 ppm 217 mg/m <sup>3</sup>	JP OEL JSOH
Further information: Group 3: Substances suspected to cause reproductive toxicity in humans				
deltamethrin (ISO)	52918-63-5	TWA	20 ppm 15 µg/m <sup>3</sup> (OEB 3)	ACGIH Internal
Further information: DSEN, Skin				
2,6-Di-tert-butyl-p-cresol	128-37-0	Wipe limit	100 µg/100 cm <sup>2</sup>	Internal
		8h-OEL-M	10 mg/m <sup>3</sup>	JP ISHL OEL 577-2(2)
		TWA (Inhal- able fraction and vapor)	2 mg/m <sup>3</sup>	ACGIH

#### Biological occupational exposure limits

Components	CAS-No.	Target sub- stance	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
Xylene	1330-20-7	total (o-, m-, p-) methylhip- puric acid	Urine	End of shift at end of work- week	800 mg/l	JSOH
		Methylhip- puric acids	Urine	End of shift (As soon as possible after exposure ceases)	0.3 g/g cre- atinine	ACGIH BEI

#### Engineering measures

: 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 con-

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tainment devices).  
Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

### 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
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. Impermeable protective gloves
Eye 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Colour	: yellow
Odour	: No data available
Odour Threshold	: No data available
Melting point/freezing point	: No data available
Boiling point, initial boiling point and boiling range	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Lower explosion limit and upper explosion limit / flammability limit	
Upper explosion limit / Up-	: No data available

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per flammability limit

Lower explosion limit / Lower flammability limit	: No data available
Flash point	: 45 - 51 °C
Decomposition temperature	: No data available
pH	: 4 - 5
Evaporation rate	: No data available
Auto-ignition temperature	: No data available
Viscosity	
Viscosity, kinematic	: No data available
Solubility(ies)	
Water solubility	: soluble
Partition coefficient: n-octanol/water	: Not applicable
Vapour pressure	: No data available
Density and / or relative density	
Relative density	: No data available
Density	: No data available
Relative vapour density	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: No data available
Particle characteristics	
Particle size	: Not applicable

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## 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.

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Conditions to avoid : Heat, flames and sparks.  
Incompatible materials : Oxidizing agents  
Hazardous decomposition products : No hazardous decomposition products are known.

### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 1,291 mg/kg  
Method: Calculation method  
Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

#### Components:

##### Xylene:

Acute oral toxicity : LD50 (Rat): 3,523 mg/kg  
Method: Directive 67/548/EEC, Annex V, B.1.  
Acute inhalation toxicity : LC50 (Rat): 27.571 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Acute dermal toxicity : LD50 (Rabbit): > 4,200 mg/kg

##### Calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat): > 500 - 2,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Based on data from similar materials  
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

##### Nonylphenol, ethoxylated:

Acute oral toxicity : LD50 (Rat): 500 - 2,000 mg/kg

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7730566-00011Date of last issue: 2024/09/28  
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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 administration)	:	LD50 (Rat): 2.5 mg/kg Application Route: Intravenous LD50 (Mouse): 10 mg/kg Application Route: Intraperitoneal

**2,6-Di-tert-butyl-p-cresol:**

Acute oral toxicity	:	LD50 (Rat): > 6,000 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

Causes skin irritation.

**Components:****Xylene:**

Species	:	Rabbit
Result	:	Skin irritation

**Calcium dodecylbenzenesulphonate:**

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation
Remarks	:	Based on data from similar materials

**Nonylphenol, ethoxylated:**

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

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### deltamethrin (ISO):

Species	:	Rabbit
Result	:	No skin irritation

### 2,6-Di-tert-butyl-p-cresol:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

### Serious eye damage/eye irritation

Causes serious eye damage.

### Components:

#### Xylene:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

#### Calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

#### Nonylphenol, ethoxylated:

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

### deltamethrin (ISO):

Species	:	Rabbit
Result	:	Moderate eye irritation

### 2,6-Di-tert-butyl-p-cresol:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

Not classified based on available information.

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### Components:

#### **Xylene:**

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Result	:	negative

#### **Calcium dodecylbenzenesulphonate:**

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

#### **Nonylphenol, ethoxylated:**

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

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

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

#### **2,6-Di-tert-butyl-p-cresol:**

Test Type	:	Human repeat insult patch test (HRIPT)
Exposure routes	:	Skin contact
Species	:	Humans
Result	:	negative

### **Germ cell mutagenicity**

Not classified based on available information.

### Components:

#### **Xylene:**

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

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Test Type: Chromosome aberration test in vitro  
Result: negative

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

Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Skin contact  
Result: negative

### Calcium dodecylbenzenesulphonate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

### Nonylphenol, ethoxylated:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative  
Remarks: Based on data from similar materials

### deltamethrin (ISO):

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

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

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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

### 2,6-Di-tert-butyl-p-cresol:

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

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

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Rat  
Application Route: Ingestion  
Result: negative

### Carcinogenicity

Not classified based on available information.

### Components:

#### **Xylene:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 103 weeks  
Result : negative

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### 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

### 2,6-Di-tert-butyl-p-cresol:

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	22 Months
Result	:	negative

### Reproductive toxicity

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

### Components:

#### Xylene:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Result: negative
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Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative
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#### Calcium dodecylbenzenesulphonate:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative
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		Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
<b>deltamethrin (ISO):</b>		
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 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 - As	:	Some evidence of adverse effects on sexual function and

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Assessment : fertility, and/or on development, based on animal experiments.

### 2,6-Di-tert-butyl-p-cresol:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

### STOT - single exposure

May cause respiratory irritation.

### Components:

#### Xylene:

Assessment	: May cause respiratory irritation.
------------	-------------------------------------

#### deltamethrin (ISO):

Assessment	: May cause respiratory irritation.
------------	-------------------------------------

### STOT - repeated exposure

May cause damage to organs (Systemic toxicity) through prolonged or repeated exposure.

### Components:

#### Xylene:

Exposure routes	: inhalation (vapour)
Target Organs	: Auditory system
Assessment	: Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

#### Calcium dodecylbenzenesulphonate:

Assessment	: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.
------------	--

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

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### 2,6-Di-tert-butyl-p-cresol:

Assessment	:	No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.
------------	---	--

### Repeated dose toxicity

#### Components:

##### Xylene:

Species	:	Rat
LOAEL	:	> 0.2 - 1 mg/l
Application Route	:	inhalation (vapour)
Exposure time	:	13 Weeks
Remarks	:	Based on data from similar materials

  

Species	:	Rat
LOAEL	:	150 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

##### Calcium dodecylbenzenesulphonate:

Species	:	Rat
LOAEL	:	> 200 mg/kg
Application Route	:	Ingestion
Exposure time	:	6 - 7 Weeks
Method	:	OECD Test Guideline 422
Remarks	:	Based on data from similar materials

  

Species	:	Rabbit
NOAEL	:	> 100 mg/kg
Application Route	:	Skin contact
Exposure time	:	28 Days
Method	:	OECD Test Guideline 410
Remarks	:	Based on data from similar materials

##### 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/m <sup>3</sup>
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	2 wk / 5 d/wk / 6 h/d
Symptoms	:	Local irritation, respiratory tract irritation

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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

### 2,6-Di-tert-butyl-p-cresol:

Species	:	Rat
NOAEL	:	25 mg/kg
Application Route	:	Ingestion
Exposure time	:	22 Months

### Aspiration toxicity

May be fatal if swallowed and enters airways.

### Components:

#### Xylene:

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.

### 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, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions

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||| Ingestion : Symptoms: muscle pain, Small pupils

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **Xylene:**

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 13.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 24 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: EC50 (Skeletonema costatum (marine diatom)): 10 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	: NOEC (Danio rerio (zebra fish)): > 0.1 - < 1 mg/l Exposure time: 35 d Method: OECD Test Guideline 210 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: EL10 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: Based on data from similar materials
Toxicity to microorganisms	: NOEC: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

##### **Calcium dodecylbenzenesulphonate:**

Toxicity to fish	: LC50 (Leuciscus idus (Golden orfe)): > 1 - 10 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials

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	<p>NOEC (<i>Pseudokirchneriella subcapitata</i> (green algae)): &gt; 0.1 - 1 mg/l  Exposure time: 72 h  Remarks: Based on data from similar materials</p>
Toxicity to fish (Chronic toxicity)	<p>NOEC (<i>Pimephales promelas</i> (fathead minnow)): &gt; 0.1 - 1 mg/l  Exposure time: 28 d  Remarks: Based on data from similar materials</p>
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	<p>NOEC (<i>Daphnia magna</i> (Water flea)): &gt; 1 mg/l  Exposure time: 21 d  Remarks: Based on data from similar materials</p>
Toxicity to microorganisms	<p>EC50 (activated sludge): &gt; 100 mg/l  Exposure time: 3 h  Method: OECD Test Guideline 209  Remarks: Based on data from similar materials</p>

## Nonylphenol, ethoxylated:

Toxicity to fish	: <p>LC50 (Pimephales promelas (fathead minnow)): &gt; 0.1 - 1 mg/l</p> <p>Exposure time: 96 h</p> <p>Remarks: Based on data from similar materials</p>
Toxicity to daphnia and other aquatic invertebrates	: <p>EC50 (Ceriodaphnia dubia (water flea)): &gt; 0.1 - 1 mg/l</p> <p>Exposure time: 48 h</p> <p>Remarks: Based on data from similar materials</p>
Toxicity to algae/aquatic plants	: <p>ErC50 (Selenastrum capricornutum (green algae)): &gt; 1 - 10 mg/l</p> <p>Exposure time: 72 h</p> <p>Method: OECD Test Guideline 201</p> <p>Remarks: Based on data from similar materials</p>
	: <p>EC10 (Selenastrum capricornutum (green algae)): &gt; 1 mg/l</p> <p>Exposure time: 72 h</p> <p>Method: OECD Test Guideline 201</p> <p>Remarks: Based on data from similar materials</p>
M-Factor (Acute aquatic toxicity)	: <p>1</p>
Toxicity to fish (Chronic toxicity)	: <p>NOEC (Oryzias latipes (Japanese medaka)): &gt; 0.1 - 1 mg/l</p> <p>Exposure time: 100 d</p> <p>Remarks: Based on data from similar materials</p>
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: <p>NOEC (Mysidopsis bahia (opossum shrimp)): &gt; 0.001 - 0.01 mg/l</p> <p>Exposure time: 28 d</p> <p>Remarks: Based on data from similar materials</p>
M-Factor (Chronic aquatic toxicity)	: <p>10</p>

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### 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

### 2,6-Di-tert-butyl-p-cresol:

Toxicity to fish	: LC50 (Danio rerio (zebra fish)): > 0.57 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0.48 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.24 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

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		NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC (Oryzias latipes (Japanese medaka)): 0.053 mg/l Exposure time: 30 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.316 mg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50: > 10,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

### Persistence and degradability

#### Components:

##### **Xylene:**

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 70 % Exposure time: 28 d Method: OECD Test Guideline 301F Remarks: Based on data from similar materials
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##### **Calcium dodecylbenzenesulphonate:**

Biodegradability	:	Result: Readily biodegradable. Remarks: Based on data from similar materials
------------------	---	---

##### **Nonylphenol, ethoxylated:**

Biodegradability	:	Result: Not readily biodegradable. Remarks: Based on data from similar materials
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##### **deltamethrin (ISO):**

Stability in water	:	Hydrolysis: 0 %(30 d)
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##### **2,6-Di-tert-butyl-p-cresol:**

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 4.5 % Exposure time: 28 d Method: OECD Test Guideline 301C
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### Bioaccumulative potential

#### Components:

##### **Xylene:**

Partition coefficient: n-octanol/water : log Pow: 3.16  
Remarks: Calculation

##### **Calcium dodecylbenzenesulphonate:**

Bioaccumulation : Bioconcentration factor (BCF): < 500  
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 4.77  
Remarks: Calculation

##### **Nonylphenol, ethoxylated:**

Partition coefficient: n-octanol/water : log Pow: 4.48

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

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

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

##### **2,6-Di-tert-butyl-p-cresol:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 330 - 1,800

Partition coefficient: n-octanol/water : log Pow: 5.1

### **Mobility in soil**

#### Components:

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

Distribution among environmental compartments : log Koc: 7.2

### **Hazardous to the ozone layer**

Not applicable

### **Other adverse effects**

No data available

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## 13. DISPOSAL CONSIDERATIONS

#### **Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.  
Do not dispose of waste into sewer.

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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.  
(Xylene)  
Class : 3  
Packing group : III  
Labels : 3  
Environmentally hazardous : no

#### IATA-DGR

UN/ID No. : UN 1993  
Proper shipping name : Flammable liquid, n.o.s.  
(Xylene)  
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.  
(Xylene, deltamethrin (ISO), 2,6-Di-tert-butyl-p-cresol)  
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

Refer to section 15 for specific national regulation.

### 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.

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### 15. REGULATORY INFORMATION

#### Related Regulations

##### Fire Service Law

Group 4, Type 2 petroleums, Water soluble liquid, (2000 litre), Hazardous rank III

##### Chemical Substance Control Law

###### Class II Specified Chemical Substance

Chemical name	Number
alpha-(Nonylphenyl)-omega-hydroxypoly(oxyethylene)	86
NPE	24

###### Priority Assessment Chemical Substance

Chemical name	Number
Xylene	125
alpha-(Nonylphenyl)-omega-hydroxypoly(oxyethylene)	86
NPE	24
2,6-Di-tert-butyl-4-methylphenol	64

##### Industrial Safety and Health Law

###### Harmful Substances Prohibited from Manufacture

Not applicable

###### Harmful Substances Required Permission for Manufacture

Not applicable

###### Substances Prevented From Impairment of Health

Not applicable

###### Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

###### Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

###### Substances Subject to be Notified Names

###### Law Article 57-2 (Ministerial Order Article 34-2 Appended Table 2)

Chemical name	Concentration (%)	Remarks
Xylene	81.7	-
Nonylphenol, ethoxylated	>=1 - <10	From April 1st, 2026
2,6-Di-tert-butyl-4-cresol	>=1 - <10	-

###### Substances Subject to be Indicated Names

###### Law Article 57 (Ministerial Order Article 30 Appended Table 2)

Chemical name	Remarks
Xylene	-
Nonylphenol, ethoxylated	From April 1st, 2026

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### Skin and Eye Damage Substances (ISHL MO Art. 594-2)

Chemical name

Xylene

### Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

### Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

### Ordinance on Prevention of Lead Poisoning

Not applicable

### Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

### Ordinance on Prevention of Organic Solvent Poisoning

Organic Solvents Class 2

### Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Inflammable Substance

### Poisonous and Deleterious Substances Control Law

Not applicable

### Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

### Class I Designated Chemical Substances

Chemical name	Administration number	Concentration (%)
Xylene	80	82
n-Alkylbenzenesulfonic acid and its salts (limited to those the alkyl group is C=10-14 and mixture thereof)	30	9.0
Poly(oxyethylene) alkylphenyl ether (limited to those the alkyl group is C=9)	410	5.0
2,6-Di-tert-butyl-4-cresol	207	1.8

### High Pressure Gas Safety Act

Not applicable

### Explosive Control Law

Not applicable

### Vessel Safety Law

Flammable liquids (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

### Aviation Law

Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

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### Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Noxious liquid substance(Category Y)  
Pack transportation : Classified as marine pollutant

### Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)  
Not applicable  
Specific Narcotic or Psychotropic Raw Material (Export / Import permission)  
Not applicable

### Waste Disposal and Public Cleansing Law

Specially Controlled Industrial Waste

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

AICS : not determined  
DSL : not determined  
IECSC : not determined

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## 16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

### Further information

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

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)  
JP ISHL OEL 577-2(2) : Concentration standard (Value set by the Minister of Health, Labour and Welfare stipulated under the Ministerial Ordinance Article 577-2(2))  
JP OEL ISHL : Japan. Administrative Control Levels  
JP OEL JSOH : Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits  
JSOH : Occupational exposure limits based on biological monitoring (JSOH).  
ACGIH / TWA : 8-hour, time-weighted average  
JP ISHL OEL 577-2(2) / 8h-OEL-M : 8-hour Occupational Exposure Limit-Mean

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JP OEL ISHL / ACL : Administrative Control level  
JP OEL JSOH / OEL-M : Occupational Exposure Limit-Mean

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

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.

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