

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## PERFECT COPPER SPRAY, 315 g

Version 11.3      Revision Date: 11/18/2024      SDS Number: 10783042-00014      Date of last issue: 08/08/2024  
Date of first issue: 07/13/2010

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### SECTION 1. IDENTIFICATION

Product name : PERFECT COPPER SPRAY, 315 g  
Product code : 893.114118  
Other means of identification : No data available

#### Manufacturer or supplier's details

Company name of supplier : Würth Canada Limited/Limitée  
Address : 345 Hanlon Creek Blvd  
GUELPH, ON N1C 0A1  
Telephone : 1-800-263-5002  
Telefax : 1-905-564-3671  
Emergency telephone : Emergencies involving a spill, fire, explosion or exposure:  
CHEMTREC (24/7): 1-800-424-9300  
Urgences impliquant un déversement, incendie, explosion ou  
exposition: CHEMTREC (24/7): 1-800-424-9300  
E-mail address : prodsafe@wurth.ca

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

Recommended use : Coloring agent  
Restrictions on use : Not applicable

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the Hazardous Products Regulations

Aerosols : Category 1  
Skin sensitization : Sub-category 1A  
Reproductive toxicity : Category 2  
Specific target organ toxicity : Category 2 (Auditory system)  
- repeated exposure  
Specific target organ toxicity : Category 3  
- single exposure  
Eye irritation : Category 2A

#### GHS label elements

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Hazard pictograms

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Signal Word

: Danger

Hazard Statements

: H222 Extremely flammable aerosol.  
H229 Pressurised container: May burst if heated.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs (Auditory system) through prolonged or repeated exposure.

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.  
P211 Do not spray on an open flame or other ignition source.  
P251 Do not pierce or burn, even after use.  
P260 Do not breathe spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves, protective clothing, eye protection and face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical attention.  
P333 + P313 If skin irritation or rash occurs: Get medical attention.  
P337 + P313 If eye irritation persists: Get medical attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.  
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C (122 °F).

**Disposal:**

P501 Dispose of contents and container to an approved waste

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disposal plant.

### Other hazards

Repeated exposure may cause skin dryness or cracking.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Dimethyl ether	Methane, 1,1'-oxybis-	115-10-6	$\geq 30 - < 60$ *
Acetone	2-Propanone	67-64-1	$\geq 30 - < 60$ *
Xylene	Benzene, dimethyl-	1330-20-7	$\geq 5 - < 10$ *
Ethanol	Ethyl alcohol	64-17-5	$\geq 1 - < 5$ *
n-Butyl acetate	Acetic acid, butyl ester	123-86-4	$\geq 1 - < 5$ *
2-Methoxy-1-methylethyl acetate	Methoxyisopropyl acetate	108-65-6	$\geq 1 - < 5$ *
Ethylbenzene	Benzene, ethyl-	100-41-4	$\geq 1 - < 5$ *
Butyl glycollate	Acetic acid, 2-hydroxy-, butyl ester	7397-62-8	$\geq 0.1 - < 1$ *
Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides	No data available	222716-38-3	$\geq 0.1 - < 1$ *
Maleic anhydride	2,5-Furandione	108-31-6	$\geq 0.001 - < 0.1$ *

\* Actual concentration or concentration range is withheld as a trade secret

## SECTION 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.  
Remove 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

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- for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Prolonged or repeated contact may dry skin and cause irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
May cause drowsiness or dizziness.  
Suspected of damaging fertility or 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.
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### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Flash back possible over considerable distance.  
Vapors may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.  
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
- Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)
- 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 : In the event of fire, wear self-contained breathing apparatus.
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for fire-fighters

Use personal protective equipment.

### SECTION 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/vapors/mists with a water spray jet.  
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked 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.

### SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.  
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.  
Do not breathe spray.  
Do not swallow.  
Do not get in eyes.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety

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practice, based on the results of the workplace exposure assessment  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Take care to prevent spills, waste and minimize release to the environment.  
Do not spray on an open flame or other ignition source.

Conditions for safe storage : Store locked up.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.  
Do not pierce or burn, even after use.  
Keep cool. Protect from sunlight.

Materials to avoid : Do not store with the following product types:  
Self-reactive substances and mixtures  
Organic peroxides  
Oxidizing agents  
Flammable solids  
Pyrophoric liquids  
Pyrophoric solids  
Self-heating substances and mixtures  
Substances and mixtures which in contact with water emit flammable gases  
Explosives  
Gases

Recommended storage temperature : < 50 °C

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Dimethyl ether	115-10-6	TWA	1,000 ppm	CA BC OEL
Acetone	67-64-1	TWA	500 ppm 1,200 mg/m <sup>3</sup>	CA AB OEL
		STEL	750 ppm 1,800 mg/m <sup>3</sup>	CA AB OEL
		TWA	250 ppm	CA BC OEL
		STEL	500 ppm	CA BC OEL
		TWAEV	250 ppm	CA QC OEL
		STEV	500 ppm	CA QC OEL
		TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
Xylene	1330-20-7	TWA	100 ppm 434 mg/m <sup>3</sup>	CA AB OEL
		STEL	150 ppm	CA AB OEL

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			651 mg/m <sup>3</sup>	
		TWAEV	100 ppm 434 mg/m <sup>3</sup>	CA QC OEL
		STEV	150 ppm 651 mg/m <sup>3</sup>	CA QC OEL
		TWA	100 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	20 ppm	ACGIH
Ethanol	64-17-5	TWA	1,000 ppm 1,880 mg/m <sup>3</sup>	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		STEV	1,000 ppm	CA QC OEL
		STEL	1,000 ppm	ACGIH
n-Butyl acetate	123-86-4	STEL	200 ppm 950 mg/m <sup>3</sup>	CA AB OEL
		TWA	150 ppm 713 mg/m <sup>3</sup>	CA AB OEL
		TWAEV	50 ppm	CA QC OEL
		STEV	150 ppm	CA QC OEL
		TWA	50 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	50 ppm	ACGIH
		STEL	150 ppm	ACGIH
2-Methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm	CA BC OEL
		STEL	75 ppm	CA BC OEL
		TWA	50 ppm 270 mg/m <sup>3</sup>	CA ON OEL
Ethylbenzene	100-41-4	STEL	125 ppm 543 mg/m <sup>3</sup>	CA AB OEL
		TWA	100 ppm 434 mg/m <sup>3</sup>	CA AB OEL
		TWA	20 ppm	CA BC OEL
		TWAEV	20 ppm	CA QC OEL
		TWA	20 ppm	ACGIH
Maleic anhydride	108-31-6	TWA	0.1 ppm 0.4 mg/m <sup>3</sup>	CA AB OEL
		TWA	0.1 ppm	CA BC OEL
		TWAEV (inhalable fraction and vapour)	0.01 mg/m <sup>3</sup>	CA QC OEL
		TWA (Inhalable fraction and vapor)	0.01 mg/m <sup>3</sup>	ACGIH

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene	1330-20-7	Methyl-	Urine	End of	0.3 g/g cre-	ACGIH

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		hippuric acids		shift (As soon as possible after exposure ceases)	atinine	BEI
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	150 mg/g creatinine	ACGIH BEI
Acetone	67-64-1	Acetone	Urine	End of shift (As soon as possible after exposure ceases)	25 mg/l	ACGIH BEI

**Engineering measures** : Minimize workplace exposure concentrations.  
If sufficient ventilation is unavailable, use with local exhaust ventilation.  
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

### 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** : Self-contained breathing apparatus

### Hand protection

**Material** : butyl-rubber  
**Break through time** : 15 min  
**Glove thickness** : 0.7 mm

**Remarks** : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

**Eye protection** : Wear the following personal protective equipment:  
Safety goggles

**Skin and body protection** : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure



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potential.

Wear the following personal protective equipment:

If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.

Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

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 workplace.  
Wash contaminated clothing before re-use.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Aerosol containing a liquefied gas
Propellant	:	Dimethyl ether
Color	:	colored
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	substance/mixture is non-soluble (in water)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	18.6 %(V)
Lower explosion limit / Lower flammability limit	:	2.6 %(V)

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Vapor pressure	:	3,400 hPa (20 °C)
Relative vapor density	:	Not applicable
Density	:	0.75 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	:	
Water solubility	:	partly miscible
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	235 °C
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle characteristics	:	
Particle size	:	Not applicable

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Extremely flammable aerosol. Vapors may form explosive mixture with air. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. 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.

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation  
Skin contact

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Ingestion  
Eye contact

### Acute toxicity

Not classified based on available information.

### Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

### Components:

#### **Dimethyl ether:**

Acute inhalation toxicity : LC50 (Rat): 164000 ppm  
Exposure time: 4 h  
Test atmosphere: gas

#### **Acetone:**

Acute oral toxicity : LD50 (Rat): 5,800 mg/kg

Acute inhalation toxicity : LC50 (Rat): 76 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): 7,426 mg/kg

#### **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: vapor

Acute dermal toxicity : LD50 (Rabbit): > 4,200 mg/kg

#### **Ethanol:**

Acute oral toxicity : LD50 (Rat): 10,470 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male): 116.9 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

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Acute dermal toxicity : LD50 (Rabbit): > 15,800 mg/kg

### **n-Butyl acetate:**

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

Acute inhalation toxicity : LC50 (Rat): > 21.1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: OECD Test Guideline 403

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

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

Acute oral toxicity : LD50 (Rat, female): 5,155 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 9.34 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### **Ethylbenzene:**

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 17.8 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

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

### **Butyl glycolate:**

Acute oral toxicity : LD50 (Rat): 4,595 mg/kg

Acute inhalation toxicity : LC0 (Rat):  $\geq$  6.2 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor

### **Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:**

Acute oral toxicity : Acute toxicity estimate (Rat): 500 mg/kg  
Method: Expert judgment

### **Maleic anhydride:**

Acute oral toxicity : LD50 (Rat): 1,090 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 4.35 mg/l

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Exposure time: 1 h  
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): 2,620 mg/kg

### **Skin corrosion/irritation**

Not classified based on available information.

### **Components:**

#### **Acetone:**

Assessment : Repeated exposure may cause skin dryness or cracking.

#### **Xylene:**

Species : Rabbit  
Result : Skin irritation

#### **Ethanol:**

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

#### **n-Butyl acetate:**

Species : Rabbit  
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

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

Species : Rabbit  
Result : No skin irritation

#### **Butyl glycollate:**

Species : Rabbit  
Result : No skin irritation

#### **Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:**

Result : Skin irritation

#### **Maleic anhydride:**

Species : in vitro membrane barrier  
Method : OECD Test Guideline 435  
Remarks : Based on data from similar materials

Result : Corrosive after 3 minutes to 1 hour of exposure

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### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Components:

##### Acetone:

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days  
Method : OECD Test Guideline 405

##### Xylene:

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

##### Ethanol:

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days  
Method : OECD Test Guideline 405

##### n-Butyl acetate:

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

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

Species : Rabbit  
Result : No eye irritation

##### Butyl glycollate:

Species : Rabbit  
Result : Irreversible effects on the eye

##### Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:

Result : Irritation to eyes, reversing within 21 days

##### Maleic anhydride:

Species : Rabbit  
Result : Irreversible effects on the eye

### Respiratory or skin sensitization

#### Skin sensitization

May cause an allergic skin reaction.

#### Respiratory sensitization

Not classified based on available information.

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### Components:

#### **Acetone:**

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : negative

#### **Xylene:**

Test Type : Local lymph node assay (LLNA)  
Routes of exposure : Skin contact  
Species : Mouse  
Result : negative

#### **Ethanol:**

Test Type : Mouse ear swelling test (MEST)  
Routes of exposure : Skin contact  
Species : Mouse  
Result : negative

#### **n-Butyl acetate:**

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : negative

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

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

#### **Butyl glycollate:**

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

#### **Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:**

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : positive  
Remarks : Based on data from similar materials

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Assessment : Probability or evidence of skin sensitization in humans  
Remarks : Based on data from similar materials

### Maleic anhydride:

Test Type : Local lymph node assay (LLNA)  
Routes of exposure : Skin contact  
Species : Mouse  
Result : positive

Assessment : Probability or evidence of high skin sensitization rate in humans

Routes of exposure : inhalation (dust/mist/fume)  
Species : Rat  
Result : positive

Assessment : Probability of respiratory sensitization in humans based on animal testing

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### Dimethyl ether:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Test Type: Sex-linked recessive lethal test in *Drosophila melanogaster* (in vivo)  
Application Route: inhalation (gas)  
Result: negative

#### Acetone:

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

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

Test Type: Chromosome aberration test in vitro  
Result: negative



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

### **Xylene:**

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

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

### **Ethanol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Ingestion  
Result: negative

### **n-Butyl acetate:**

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

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

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: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: negative

### Ethylbenzene:

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

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo  
Species: Mouse  
Application Route: Inhalation  
Method: OECD Test Guideline 486  
Result: negative

### Butyl glycollate:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Mouse Lymphoma  
Method: OECD Test Guideline 476  
Result: negative

### Maleic anhydride:

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

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials

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

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### **Carcinogenicity**

Not classified based on available information.

### **Components:**

#### **Dimethyl ether:**

Species : Rat  
Application Route : inhalation (vapor)  
Exposure time : 2 Years  
Result : negative

#### **Acetone:**

Species : Mouse  
Application Route : Skin contact  
Exposure time : 424 days  
Result : negative

#### **Xylene:**

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

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

Species : Rat  
Application Route : inhalation (vapor)  
Exposure time : 2 Years  
Method : OECD Test Guideline 453  
Result : negative  
Remarks : Based on data from similar materials

#### **Ethylbenzene:**

Species : Rat  
Application Route : inhalation (vapor)  
Exposure time : 104 weeks  
Result : positive  
Remarks : The mechanism or mode of action may not be relevant in humans.

#### **Maleic anhydride:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 2 Years  
Result : negative

### **Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

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### **Components:**

#### **Dimethyl ether:**

- Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: inhalation (vapor)  
Result: negative
- Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: inhalation (vapor)  
Result: negative

#### **Acetone:**

- Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative
- Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: inhalation (vapor)  
Result: negative

#### **Xylene:**

- Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapor)  
Result: negative
- Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: inhalation (vapor)  
Result: negative

#### **Ethanol:**

- Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Result: negative

#### **n-Butyl acetate:**

- Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapor)  
Method: OECD Test Guideline 416  
Result: negative
- Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat

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Application Route: inhalation (vapor)  
Result: negative

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

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

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

### **Ethylbenzene:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapor)  
Method: OECD Test Guideline 416  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Inhalation  
Method: OECD Test Guideline 414  
Result: negative

### **Butyl glycollate:**

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: positive

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

### **Maleic anhydride:**

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

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

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### STOT-single exposure

May cause drowsiness or dizziness.

#### Components:

##### **Dimethyl ether:**

Assessment : May cause drowsiness or dizziness.

##### **Acetone:**

Assessment : May cause drowsiness or dizziness.

##### **Xylene:**

Assessment : May cause respiratory irritation.

##### **n-Butyl acetate:**

Assessment : May cause drowsiness or dizziness.

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

Assessment : May cause drowsiness or dizziness.

### STOT-repeated exposure

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

#### Components:

##### **Xylene:**

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

##### **Ethylbenzene:**

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

##### **Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:**

Routes of exposure : Ingestion  
Assessment : Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

##### **Maleic anhydride:**

Routes of exposure : inhalation (vapor)  
Target Organs : Respiratory Tract  
Assessment : Shown to produce significant health effects in animals at concentrations of 0.2 mg/l/6h/d or less.

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### Repeated dose toxicity

#### Components:

##### **Dimethyl ether:**

Species : Rat  
NOAEL : 47.11 mg/l  
Application Route : inhalation (vapor)  
Exposure time : 2 y

##### **Acetone:**

Species : Rat  
NOAEL : 900 mg/kg  
LOAEL : 1,700 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

Species : Rat  
NOAEL : 45 mg/l  
Application Route : inhalation (vapor)  
Exposure time : 8 Weeks

##### **Xylene:**

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

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

##### **Ethanol:**

Species : Rat  
NOAEL : 1,730 mg/kg  
LOAEL : 3,200 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

##### **n-Butyl acetate:**

Species : Rat  
NOAEL : 2.4 mg/l  
Application Route : inhalation (vapor)  
Exposure time : 90 Days

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

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

Species : Rat  
NOAEL :  $> 1$  mg/l  
Application Route : inhalation (vapor)  
Exposure time : 2 y  
Method : OECD Test Guideline 453  
Remarks : Based on data from similar materials

Species : Rabbit  
NOAEL :  $> 200$  mg/kg  
Application Route : Skin contact  
Exposure time : 90 Days  
Remarks : Based on data from similar materials

### Ethylbenzene:

Species : Rat  
LOAEL : 0.868 mg/l  
Application Route : inhalation (vapor)  
Exposure time : 13 Weeks

Species : Rat  
NOAEL : 75 mg/kg  
LOAEL : 250 mg/kg  
Application Route : Ingestion  
Method : OECD Test Guideline 408

### Butyl glycollate:

Species : Rat  
NOAEL : 1,000 mg/kg  
Application Route : Ingestion  
Exposure time : 29 Days  
Method : OECD Test Guideline 407

### Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:

Species : Rat  
NOAEL : 7 mg/kg  
LOAEL : 22 mg/kg  
Application Route : Ingestion  
Exposure time : 40 - 50 Days  
Method : OECD Test Guideline 422  
Remarks : Based on data from similar materials

### Maleic anhydride:

Species : Rat



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LOAEL	:	100 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Species	:	Rat
LOAEL	:	0.01 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	28 Days

### Aspiration toxicity

Not classified based on available information.

### Components:

#### Acetone:

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

#### 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.

#### Ethylbenzene:

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.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### Dimethyl ether:

Toxicity to fish	:	LC50 (Poecilia reticulata (guppy)): > 4,100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 4,400 mg/l Exposure time: 48 h
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): > 1,600 mg/l

##### Acetone:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 5,540 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia pulex (Water flea)): 8,800 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 7,000 mg/l

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Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)):  $\geq 79$  mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: 61,150 mg/l  
Exposure time: 30 min  
Method: ISO 8192

### 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

### Ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 14,200 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l  
Exposure time: 72 h

EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l  
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Japanese medaka)):  $\geq 79$  mg/l  
Exposure time: 100 d

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 9.6 mg/l  
Exposure time: 9 d

Toxicity to microorganisms : EC50 (Protozoa): 5,800 mg/l  
Exposure time: 4 h

### **n-Butyl acetate:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 18 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp. (Water flea)): 44 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 397 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 196 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 23.2 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

Toxicity to microorganisms : IC50 (Tetrahymena pyriformis): 356 mg/l  
Exposure time: 40 h

### **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 aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
Exposure time: 48 h  
Method: Directive 67/548/EEC, Annex V, C.2.

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

NOEC (Raphidocelis subcapitata (freshwater green alga)): >= 1,000 mg/l

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Exposure time: 96 h  
Method: OECD Test Guideline 201

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 (activated sludge):  $>$  1,000 mg/l  
Exposure time: 30 min

### Ethylbenzene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6 mg/l  
Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 3.4 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l  
Exposure time: 7 d

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 96 mg/l  
Exposure time: 24 h

### Butyl glycollate:

Toxicity to fish : LC0 (Leuciscus idus (Golden orfe)):  $\geq$  50 mg/l  
Exposure time: 48 h  
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 280 mg/l  
Exposure time: 24 h  
Method: DIN 38412

Toxicity to algae/aquatic plants : EC10 (Lemna gibba (gibbous duckweed)):  $>$  87.4 mg/l  
Exposure time: 7 d

Toxicity to microorganisms : EC50 (Pseudomonas putida): 2,320 mg/l  
Exposure time: 18 h

### Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:

Toxicity to fish : LL50 (Danio rerio (zebra fish)):  $>$  1 - 10 mg/l  
Exposure time: 96 h

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Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l  
Exposure time: 48 h  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 0.1 - 1 mg/l  
Exposure time: 72 h  
Remarks: Based on data from similar materials

EC10 (Desmodesmus subspicatus (green algae)): > 0.1 - 1 mg/l  
Exposure time: 72 h  
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50: 211 mg/l  
Exposure time: 3 h  
Remarks: Based on data from similar materials

### Maleic anhydride:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 115 mg/l  
Exposure time: 48 h  
Test substance: Neutralized product  
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l  
Exposure time: 48 h  
Test substance: Neutralized product  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (microalgae)): 150 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

ErC50 (Pseudokirchneriella subcapitata (microalgae)): > 150 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
Exposure time: 21 d

Toxicity to microorganisms : EC10 (Pseudomonas putida): 44.6 mg/l  
Exposure time: 18 h  
Test substance: Neutralized product  
Method: DIN 38 412 Part 8

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### Persistence and degradability

#### Components:

##### **Dimethyl ether:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

##### **Acetone:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 91 %  
Exposure time: 28 d

##### **Xylene:**

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

##### **Ethanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 84 %  
Exposure time: 20 d

##### **n-Butyl acetate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 83 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

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

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 83 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

##### **Ethylbenzene:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 70 - 80 %  
Exposure time: 28 d

##### **Butyl glycollate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 81 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

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### **Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides:**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

### **Maleic anhydride:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 93.2 %  
Exposure time: 11 d  
Method: OECD Test Guideline 301B

### **Bioaccumulative potential**

#### **Components:**

##### **Dimethyl ether:**

Partition coefficient: n-octanol/water : log Pow: 0.2

##### **Acetone:**

Partition coefficient: n-octanol/water : log Pow: -0.27 - -0.23

##### **Xylene:**

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

##### **Ethanol:**

Partition coefficient: n-octanol/water : log Pow: -0.35

##### **n-Butyl acetate:**

Partition coefficient: n-octanol/water : log Pow: 2.3

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

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

##### **Ethylbenzene:**

Partition coefficient: n-octanol/water : log Pow: 3.6

##### **Maleic anhydride:**

Partition coefficient: n-octanol/water : log Pow: -2.61

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### Mobility in soil

No data available

### Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

- Waste from residues : Do not dispose of waste into sewer.  
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.  
Please ensure aerosol cans are sprayed completely empty (including propellant)
- 

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

- UN number : UN 1950  
Proper shipping name : AEROSOLS  
Class : 2.1  
Packing group : Not assigned by regulation  
Labels : 2.1  
Environmentally hazardous : no

#### IATA-DGR

- UN/ID No. : UN 1950  
Proper shipping name : Aerosols, flammable  
Class : 2.1  
Packing group : Not assigned by regulation  
Labels : Flammable Gas  
Packing instruction (cargo aircraft) : 203  
Packing instruction (passenger aircraft) : 203

#### IMDG-Code

- UN number : UN 1950  
Proper shipping name : AEROSOLS  
Class : 2.1  
Packing group : Not assigned by regulation
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Labels : 2.1  
EmS Code : F-D, S-U  
Marine pollutant : no

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

Not applicable for product as supplied.

### Domestic regulation

#### TDG

UN number : UN 1950  
Proper shipping name : AEROSOLS

Class : 2.1  
Packing group : Not assigned by regulation  
Labels : 2.1  
ERG Code : 126  
Marine pollutant : no

### 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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## SECTION 15. REGULATORY INFORMATION

**Volatile organic compounds (VOC) content** : CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999 - Guidelines for VOC in Consumer Products  
VOC content: 54.75 % / 410.6 g/l

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

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

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## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)  
CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)  
CA BC OEL : Canada. British Columbia OEL  
CA ON OEL : Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.  
CA QC OEL : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants  
ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
CA AB OEL / TWA : 8-hour Occupational exposure limit

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CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWA EV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

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; TECl - 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

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

Revision Date : 11/18/2024  
Date format : mm/dd/yyyy

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.

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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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