

Wear protective gloves/ eye protection/ face protection.

- P264 Wash skin thoroughly after handling.

- P280

Response

- P305 + P351 + P338

- P337 + P313

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

2.3 Other hazards which do not result in classification

None known.

3.1 Substance

Information on Components and Impurities

Chemical Name	Identification number	Classification Regulation (EC) No 1272/2008	Concentration [%]
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	CAS-No. : 100-79-8	Eye irritation, Category 2; H319	>= 99 - <= 100
	EINECS-No. : 202-888-7		
	Registration numbe	 r: 01-2120066005-66-0000	
	self classification		

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

- Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

- Show this safety data sheet to the doctor in attendance.
- First aider needs to protect himself.
- Place affected clothing in a sealed bag for subsequent decontamination.

In case of inhalation

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off with soap and plenty of water.
- If skin irritation occurs, seek medical advice/attention.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician

In case of ingestion

Do NOT induce vomiting.

- Rinse mouth with water.
- Do not give anything to drink.
- Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

Effects

 Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Foam
- Dry powder
- Water mist
- Carbon dioxide (CO2)
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

- Combustible liquid.
- Heating increases the inner pressure of the bottle, risk of explosion.

5.3 Advice for firefighters

Special protective equipment for firefighters

- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- Wear self-contained breathing apparatus for firefighting if necessary.

Further information

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Cool containers/tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Keep away from flames and sparks.
- Store away from heat.
- Evacuate personnel to safe areas.
- Avoid contact with the skin and the eyes.
- Use personal protective equipment.
- For personal protection see section 8.
- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Remove all incompatible materials as quickly as possible
- Mark the contaminated area with signs and prevent access to unauthorized personnel.

6.2 Environmental precautions

Dam up.

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- Prevent product from entering sewage system.
- Try to prevent the material from entering drains or water courses.
- Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Recovery

- Collect spillage.
- Pick up and transfer to properly labelled containers.
- Keep in suitable, closed containers for disposal.

Neutralization

 Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Decontamination/cleaning

- Pick up contaminated soil.
- Clean contaminated floors and objects thoroughly while observing environmental regulations.
- Pick up and transfer to properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Disposal

- Dispose of contents/ container to an approved waste disposal plant.
- The product should not be allowed to enter drains, water courses or the soil.
- Dispose of in accordance with local regulations.

Additional advice

- Remove all incompatible materials as quickly as possible

6.4 Reference to other sections

- no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Provide adequate ventilation.
- Handle in accordance with good industrial hygiene and safety practice.
- Wear personal protective equipment.
- Avoid inhalation, ingestion and contact with skin and eyes.

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Use clean, well-maintained personal protection equipment.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- The floor of the depot should be impermeable and designed to form a water-tight basin.
- Keep only in the original container.
- Keep away from heat and sources of ignition.
- Keep in a dry, cool and well-ventilated place.

Packaging material

Suitable material

Unlined steel

- Plastic container of HDPE

Requirements for storage rooms and vessels

Protect from frost, heat and sunlight.

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Individual protection measures

Respiratory protection

- Use a respirator with an approved filter if a risk assessment indicates this is necessary.

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves
- Gloves must be inspected prior to use.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection

- Tightly fitting safety goggles

Skin and body protection

- Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Remove and wash contaminated clothing.

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Use clean, well-maintained personal protection equipment.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.

Protective measures

 Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and/or risks that may occur during use.

-

- The protective equipment must be selected in accordance with current local standards and in cooperation with the supplier of the protective equipment.

Environmental exposure controls

- Dam up.
- Prevent product from entering sewage system.
- Try to prevent the material from entering drains or water courses.
- Local authorities should be advised if significant spillages cannot be contained.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	<u>Form</u> : liquid <u>Physical state:</u> liquid <u>Colour</u> : colourless
Odour	slight
Odour Threshold	no data available
рH	Not applicable
Freezing point	-70 °C
Boiling point/boiling range	191 °C (1,013.25 hPa)
Flash point	91 °C closed cup
	100 °C open cup
Evaporation rate (Butylacetate = 1)	0.03
<u>Flammability (solid, gas)</u>	no data available
<u> Flammability (liquids)</u>	no data available
Flammability/Explosive limit	no data available
Auto-ignition temperature	no data available
Vapour pressure	0.05 hPa (20 °C)
Vapour density	2.6
Density	Relative density: 1.069 (20 °C)
<u>Solubility</u>	<u>Water solubility :</u> (20 °C) completely soluble
	Solubility in other solvents: Alcohol : miscible
	Esters : miscible
	Ether : miscible
	Aromatic hydrocarbons : miscible
	petroleum ether. : miscible
	petrol : miscible
Partition coefficient: n-octanol/water	no data available
Thermal decomposition	no data available

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	<u>Viscosity</u>	Viscosity, dynamic :	11 mPa.s (20 °C)
	Explosive properties Oxidizing properties	no data available no data available	
9.2	Other information <u>Surface tension</u> <u>Molecular weight</u>	33.5 mN/m (20 °C) 132.16 g/mol	

SECTION 10: Stability and reactivity

10.1 Reactivity

- Not classified as a reactivity hazard.

10.2 Chemical stability

- Stable at room temperature.
- Stable under normal conditions.

10.3 Possibility of hazardous reactions

- Vapours may form explosive mixture with air.

10.4 Conditions to avoid

- Heat, flames and sparks.

10.5 Incompatible materials

- Strong oxidizing agents
- Strong acids

10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis) releases:
- (Carbon oxides (CO + CO2)).
- Acetic acid
- Ethanol

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity		
Acute oral toxicity		LD50 : 7,000 mg/kg - Rat
Acute inhalation tox	icity	no data available
Acute dermal toxicity 2,2-dimethyl-1,3-dio		LD50:2,000 mg/kg - Rat , male and female Method: OECD Test Guideline 402 Not classified as hazardous for acute dermal toxicity according to GHS. Unpublished internal reports
Acute toxicity (other administration)	routes of	LD50 : 3,000 mg/kg - Rat Intraperitoneal route

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Skin corrosion/irritation	No skin irritation Method: OECD Test Guideline 404 Unpublished internal reports
Serious eye damage/eye irritation	Irritating to eyes. Method: OECD Test Guideline 405 Unpublished internal reports
Respiratory or skin sensitisation	Did not cause sensitization on laboratory animals. Method: OECD Test Guideline 406 Unpublished internal reports
Mutagenicity	
Genotoxicity in vitro	Mutagenicity (Salmonella typhimurium - reverse mutation assay) negative Unpublished internal reports
Genotoxicity in vivo	Mutagenicity (micronucleus test)negative Unpublished internal reports
<u>Carcinogenicity</u>	no data available
Toxicity for reproduction and developme Toxicity to reproduction/Fertility 2,2-dimethyl-1,3-dioxolan-4-ylmethanol	ent Reproduction/developmental toxicity screening test - Rat , male and female Oral NOAEL parent: 1,000 mg/kg Method: OECD Test Guideline 422 The product is not considered to affect fertility. Unpublished internal reports
Developmental Toxicity/Teratogenicity	no data available
STOT	
STOT - single exposure 2,2-dimethyl-1,3-dioxolan-4-ylmethanol	Exposure routes: Ingestion, Skin contact The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. internal evaluation
STOT - repeated exposure 2,2-dimethyl-1,3-dioxolan-4-ylmethanol	Exposure routes: Ingestion The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. internal evaluation
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	Oral - Rat , male and female NOAEL: 1000 mg/kg Method: OECD Test Guideline 422 Not considered to cause serious damage to health on repeated exposure Gavage Unpublished internal reports

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Aspiration toxicity	no data available
ECTION 12: Ecological information	
.1 Toxicity	
Aquatic Compartment	
Acute toxicity to fish	LC50 - 96 h : 16,700 mg/l - Pimephales promelas (fathead minnow)
Acute toxicity to daphnia and other aquatic invertebrates.	LC50 - 24 h : > 1,000 mg/l - Daphnia similis (water flea)
	LC50 - 48 h : > 1,000 mg/l - Daphnia similis (water flea)
Toxicity to aquatic plants	
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	ErC50 - 72 h : > 92 mg/l - Pseudokirchneriella subcapitata (green algae) static test
	Analytical monitoring: yes Method: OECD Test Guideline 201
	Not harmful to algae (EC50 > 100 mg/L)
	Unpublished internal reports
	NOEC - 72 h : 92 mg/l - Pseudokirchneriella subcapitata (green algae)
	static test Analytical monitoring: yes
	Method: OECD Test Guideline 201
	No adverse chronic effect observed up to and including the threshold of 1 mg/L. Unpublished internal reports
Toxicity to microorganisms	
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	EC50 - 3 h : > 1,000 mg/l - activated sludge static test
	Analytical monitoring: no
	Method: OECD Test Guideline 209 Unpublished internal reports
.2 Persistence and degradability	
Abiotic degradation	
Stability in water	
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	pH: 4.0 Temperature of hydrolysis: 25 °C
	Degree of hydrolysis: 50 %
	Hydrolysis time: 0.959 Days Method: OECD Test Guideline 111
II	Unpublished internal reports,
Biodegradation	
Biodegradability	Zahn-Wellens Test Inherently biodegradable.
Degradability assessment 2 2-dimethyl-1 3-dioxolan-4-ylmethanol	The product is not considered to be rapidly degradable in the environment

2,2-dimethyl-1,3-dioxolan-4-ylmethanol The product is not considered to be rapidly degradable in the environment

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12.3 Bioaccumulative potential	
Partition coefficient: n-octanol/water	Not potentially bioaccumulable
Bioconcentration factor (BCF)	Bioconcentration factor (BCF): 1.3
12.4 Mobility in soil	
Adsorption potential (Koc) 2,2-dimethyl-1,3-dioxolan-4-ylmethanol	Adsorption/Soil Log Koc: < 1.25 Method: OECD Test Guideline 121 Unpublished internal reports
12.5 Results of PBT and vPvB assessment	
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
12.6 Other adverse effects	no data available
Ecotoxicity assessment	
Acute aquatic toxicity 2,2-dimethyl-1,3-dioxolan-4-ylmethanol	Not harmful to aquatic life (LC/EC50 > 100 mg/L)

Chronic aquatic toxicity

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Does

Does not have any known long-term adverse effects on the aquatic organisms tested

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Do not dispose of with domestic refuse.
- Dispose of in accordance with local regulations.
- The product should not be allowed to enter drains, water courses or the soil.
- Dispose of contents/ container to an approved waste disposal plant.
- Send to a licensed waste management company.

Advice on cleaning and disposal of packaging

- Do not re-use empty containers.
- Clean container with water.
- Dispose of contents/ container to an approved incineration plant.
- Dispose of in accordance with local regulations.

SECTION 14: Transport information

<u>ADR</u>

not regulated

<u>rid</u>

no data available

IMDG

not regulated

<u>IATA</u>

not regulated

ADN/NADNR

no data available

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Notification status

Inventory Information	Status
United States TSCA Inventory	- On TSCA Inventory
Canadian Domestic Substances List (DSL)	- All components of this product are on the Canadian DSL
Australia Inventory of Chemical Substances (AICS)	- On the inventory, or in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- On the inventory, or in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- On the inventory, or in compliance with the inventory

15.2 Chemical Safety Assessment

no data available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

- H319 Causes serious eye irritation.

Further information

- This sheet was updated (refer to the date at the top of this page). Subheadings and text which have been modified since the previous version are indicated with two vertical bars.

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. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any

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other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.