

**1. IDENTIFICATION****Product identifier**

Product Name

**Di-Trimethylolpropane**

Chemical Name

2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol]

CAS No

23235-61-2

**Other means of identification****Recommended use of the chemical and restrictions on use**

Application

Chemical intermediate

Uses advised against

Not identified.

**Details of the supplier of the safety data sheet**

Manufacturer Address

Supplier Address

**Perstorp Specialty Chemicals AB**

SE-284 80 Perstorp, Sweden

Tel. +46 435 380 00

www.perstorp.com

**Perstorp Polyols, Inc.**

600 Matzinger Road

Toledo, Ohio 43612

Tel: 419-729-5448/ 800-537-0280

www.perstorp.com

E-mail address

productinfo@perstorp.com

**Emergency telephone number**

USA

(+1) 866 519 4752 (contract no: 334101)

**2. HAZARDS IDENTIFICATION****Classification of the substance or mixture**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

**Label elements****Symbols/Pictograms**

Not applicable

**Signal word**

None

**Hazard statements**

Not applicable

**Precautionary Statements**

Not applicable

**Supplementary hazard information**

Not applicable

**Hazards not otherwise classified (HNOC)**

The product as such (flakes) does not cause dust explosions but fresh dust may.

**Unknown Acute Toxicity**

Not applicable

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Chemical Name	CAS No	Weight-%
2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol]	23235-61-2	>97

### 4. FIRST AID MEASURES

#### Description of first aid measures

<b>Inhalation</b>	First aid measures not required, but get fresh air for personal comfort.
<b>Skin contact</b>	First aid measures not required, but wash exposed skin with soap and water for hygienic reasons.
<b>Eye contact</b>	First aid measures not required, but rinse opened eye under running water for personal comfort to avoid mechanical irritation.
<b>Ingestion</b>	Clean mouth with water. If a large quantity has been ingested or if you feel unwell, get medical advice/attention.

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

None known.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

All types of extinguishing media are suitable. Use fire extinguishing methods suitable to surrounding conditions.

#### Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

#### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors; Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

#### Protective equipment and precautions for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

##### Personal precautions

Ensure adequate ventilation. If dusty conditions wear respiratory protective device with dust filter, gloves and protective clothing for hygienic reasons. The product is not dust explosive but fresh dust can form an explosive air/dust mixture.

##### Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information.

#### Methods and material for containment and cleaning up

##### Methods for containment

Cover with plastic sheet to prevent spreading.

##### Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal. After cleaning, flush away traces with water.

#### Reference to other sections

See Section 7,8,13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Ensure good ventilation at the work station. The product is not dust explosive but fresh dust can form an explosive air/dust mixture. Any unavoidable deposit of dust must be regularly removed.

### General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry and cool place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

Users are advised to consider national Occupational Exposure Limits or other equivalent values, (if existing).

### Appropriate engineering controls

Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

Eye/face protection	No specific measures identified. Recommendation(s): Wear safety glasses with side shields (or goggles).
Hand Protection	Protective gloves not really required. However, we recommend using protective gloves made of rubber. Chloroprene rubber, CR, Nitrile rubber, NBR.
Skin and body protection	Normal work clothes for the chemical industry.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are likely to be exceeded or if irritation or other symptoms are experienced, NIOSH/MSHA or EN 136 approved respiratory protection should be worn.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### Appearance

Solid  
flakes  
white

Odor	Odorless
Odor threshold	Not applicable

Property	Value	Remarks • Method
pH		No information available
Melting point / freezing point	109 °C	OECD Test No. 102: Melting Point/ Melting Range
Boiling point / boiling range	378 °C	ASTM E 537-02
Flash point		Not applicable
Evaporation rate		No information available
Flammability (solid, gas)		Not flammable (EU Method A.10)
Explosive limits		
Upper explosive limits		No information available
Lower explosive limits		No information available
Vapor pressure	4.7x10 <sup>-7</sup> Pa	Calculation method MPBPWIN (v1.43)
Vapor density		No information available
Relative density	1.13	ISO 1183-1, @20°C
Water solubility	21 g/L	OECD Test No. 105: Water Solubility @ 20 °C
Solubility(ies)		No information available
Partition coefficient	0.88	OECD Test No. 117: Partition Coefficient (n-octanol/water), HPLC Method @ 20 °C
Autoignition temperature		Not applicable

<b>Decomposition temperature</b>		No information available
<b>Kinematic viscosity</b>		Not applicable
<b>Dynamic viscosity</b>		Not applicable
<b>Explosive properties</b>	Not explosive. May form explosive mixtures with air	
<b>Oxidizing properties</b>	Not oxidizing.	
<b>Density</b>		See above.
<b>Bulk density</b>	500 kg/m <sup>3</sup>	ASTM 1895-96 @20°C

**Other Information**

No information available

**10. STABILITY AND REACTIVITY****Reactivity**

There exists no specific test data for this product. For further information, see the subsequent subsections of this chapter.

**Chemical stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

The product as such (flakes) does not cause dust explosions but fresh dust may.

**Conditions to avoid**

Avoid generation of dust.

**Incompatible materials**

None known.

**Hazardous decomposition products**Thermal decomposition can lead to release of irritating and toxic gases and vapors; Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation. Dermal.

**Symptoms related to the physical, chemical and toxicological characteristics**

See Section 4 for more information.

**Numerical measures of toxicity****Acute toxicity**

Product does not present an acute toxicity hazard based on known or supplied information.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 401: Acute Oral Toxicity	Mouse	Oral	14500	LD50 (lethal dose) mg/kg
OECD Test No. 403: Acute Inhalation Toxicity	Rat	Inhalation	> 5.15	LC0 4h mg/l Maximum attainable concentration

**Skin corrosion/irritation**

Non-irritating to the skin.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>			
Method	Species	Exposure route	Results:
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal	Non-irritating to the skin

**Serious eye damage/eye irritation**

Non-irritant.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>			
Method	Species	Exposure route	Results:
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	The substance was non-irritant

**Respiratory or skin sensitization**

Not a skin sensitizer.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>			
Method	Species	Exposure route	Results:
OECD Test No. 429: Skin Sensitization: Local Lymph Node Assay	Mouse	Skin	Not a skin sensitizer

**Germ cell mutagenicity**

Not mutagenic.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>		
Method	Species	Results:
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro	Negative
OECD 490	in vitro	Negative

**Carcinogenicity**

No information available.

**Reproductive toxicity**

Not expected.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 414: Prenatal Development Toxicity Study	Rat	Oral	1000	NOAEL mg/kg bw/day no maternal toxicity
OECD Test No. 414: Prenatal Development Toxicity Study	Rat	Oral	<100	NOAEL mg/kg bw/day developmental toxicity
OECD Test No. 414: Prenatal Development Toxicity Study	Rat	Oral	100	LOAEL mg/kg bw/day developmental toxicity

**STOT - single exposure** None known.**STOT - repeated exposure**

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 407: Repeated Dose 28-day Oral Toxicity Study in Rodents	Rat	Oral	1000	NOAEL mg/kg bw/day

**Aspiration hazard**

No hazard identified.

**12. ECOLOGICAL INFORMATION**

**Toxicity**

Low toxicity to aquatic organisms.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 203: Fish, Acute Toxicity Test	Brachydanio rerio	Freshwater	>1000	96h	LC50 (lethal concentration) mg/l
OECD Test No. 202: Daphnia sp. Acute Immobilization Test	Daphnia magna	Freshwater	3560	48h	EC50 (effective concentration) mg/l
OECD Test No. 201: Freshwater Alga and Cyanobacteria, Growth Inhibition Test	Selenastrum capricornutum	Freshwater	>1000	72h	EC50 (effective concentration) mg/l
OECD Test No. 209: Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)	Bacteria toxicity	Freshwater	>1000	3h	EC50 (effective concentration) mg/l

**Persistence and degradability**

According to OECD guidelines for testing chemicals, a test compound is regarded as easily biodegradable if the loss of DOC within 28 days is greater than 70%. The pass value has to be reached in a 10-day window within the 28-day period of the test. The 10-day window begins when the degree of biodegradation has reached 10% DOC and must end before day 28 of the test. This criterion was not reached for the test article and so the product cannot be regarded as readily biodegradable. After 35 days over 90% of the DOC had been removed from the test system which indicates that, though not readily biodegradable, the product does possess a degree of biodegradability and can be considered inherently biodegradable.

<b>2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol] (23235-61-2)</b>			
Method	Value	Exposure time	Results:
OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A)	<70%	28d	Not readily biodegradable
OECD Test No. 302B: Inherent Biodegradability: Zahn-Wellens/ EVPA Test	90%	28d	Inherently biodegradable.
OECD Test No. 111: Hydrolysis as a Function of pH	-	5d	Stable @ 50°C, ph 4,7,9

**Bioaccumulative potential**

No bioaccumulation potential.

Chemical Name	Partition coefficient	Bioconcentration factor (BCF)
2,2'-[Oxybis(methylene)]bis[2-ethylpropane-1,3-diol]	0.88	

**Mobility in soil**

The substance is not expected to adsorb to a high degree to suspended solids and sediment based upon the log Pow.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**

Thoroughly emptied and clean packaging may be recycled.

**14. TRANSPORT INFORMATION**

<b>DOT Road transport</b>	Not regulated
<b>RID Rail transport</b>	Not regulated
<b>IMDG Sea transport</b>	Not regulated
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available
<b>IATA Air transport</b>	Not regulated

## 15. REGULATORY INFORMATION

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

#### International Regulations

Not applicable.

#### US Federal Regulations

##### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

##### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

##### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### US State Regulations

##### California Proposition 65

This product does not contain any Proposition 65 chemicals.

##### U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations.

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<b>NFPA</b>	<b>Health hazards</b> 1	<b>Flammability</b> 2	<b>Instability</b> 0	<b>Physical and Chemical Properties</b> Not available
<b>HMIS</b>	<b>Health hazards</b> 1	<b>Flammability</b> 2	<b>Physical hazards</b> 0	<b>Personal protection</b> X

#### Key or legend to abbreviations and acronyms used in the safety data sheet

Not applicable

<b>Issue Date</b>	22-Dec-2016
<b>Revision Date</b>	21-Dec-2016
<b>Revision Note</b>	No information available

**This safety data sheet complies with the requirements of:** OSHA Hazard Communication Standard (29 CFR 1910.1200).

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**