

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 26.08.2016

Version number 1

Revision: 26.08.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: Pentaerythritol technical**
- **CAS Number:**
115-77-5
- **EC number:**
204-104-9
- **Registration number** 01-2119473985-20-0003
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Lubricant
Sealant
Preparation of adhesives
Rubber compounding
Adhesives
Laboratory chemicals
Synthetic resin
Paint
Lubricating oil
For Nitration
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Metadynea Trading GmbH
Hafenstrasse 77
3500 Krems
Österreich/Austria
Tel +43 2732 899-0
Fax +43 2732 899 1181
- **Further information obtainable from:** Product Safety Department: sds@metadynea.com
- **1.4 Emergency telephone number:**
EUROPE: NOTFALLTELEFON/EMERGENCY CONTACT UMCO: +44 1235 239670
USA: FOR CHEMICAL OR MEDICAL EMERGENCY CALL INFOTRAC: +1 800 535 5053
INTERNATIONAL: FOR CHEMICAL OR MEDICAL EMERGENCY CALL INFOTRAC: +1 352 323 3500
Poison emergency call Charité Berlin +49 20 19240 (Day and Night)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified according to the CLP regulation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void

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- **Hazard statements** Void
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**
115-77-5 pentaerythritol
- **Identification number(s)**
- **EC number:** 204-104-9

- **Impurities and stabilising additives:**

CAS: 7732-18-5	water, distilled, conductivity or of similar purity
EINECS: 231-791-2	

CAS: 126-58-9	2,2,2',2'-tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol
EINECS: 204-794-1	

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
No special measures required.
Do not leave affected persons unattended.
Personal protection for the First Aider.
Take the victim as quickly as possible to a safe area. If unconscious place in recovery position and seek medical advice. In the absence or irregular breathing, or respiratory arrest occurs provide artificial respiration by trained personnel or oxygen. Maintain an open airway. Loosen tight clothing (eg. As a collar, tie, belt or waistband) loosen. Leave to rest in a well ventilated area affected persons.
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer an appropriate mask or self-contained breathing apparatus must wear. For the first person providing aid it can be dangerous to perform mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before you take them off or wear gloves.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Remove contact lenses
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* **SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Acrolein
Formaldehyde
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Keep away from ignition sources.
Avoid formation of dust.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
Keep away from heat and direct sunlight.
Use only in well ventilated areas.

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- No special measures required.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
Use explosion-proof apparatus / fittings and spark-proof tools.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Provide good ventilation
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**
USA OSHA :
OEL 8h: 10 mg/m³ total dust / 5 mg/m³ respirable dust

Human exposure:

For workers:

- DNEL (acute systemic effects): 2 mg / kg bw / day (dermal, repeated dose toxicity)
- DNEL (acute systemic effects): 7 mg/m³ (inhalation repeated dose toxicity)
- DNEL (chronic systemic effects): 1 mg / kg bw / day (dermal, repeated dose toxicity)
- DNEL (chronic systemic effects): 3.5 mg/m³ (inhalation repeated dose toxicity)

General public:

- DNEL (acute systemic effects): 1 mg / kg bw / day (dermal, repeated dose toxicity)
- DNEL (acute systemic): 1.75 mg/m³ (inhalation repeated dose toxicity)
- DNEL (acute systemic effects): 1 mg / kg bw / day (oral repeated dose toxicity)
- DNEL (chronic systemic effects): 0.5 mg / kg bw / day (dermal, repeated dose toxicity)
- DNEL (chronic systemic effects): 0.9 mg/m³ (inhalation repeated dose toxicity)
- DNEL (chronic systemic effects): 0.5 mg / kg bw / day (oral repeated dose toxicity)

- **PNECs**

Environment:

- PNEC (freshwater): 1 mg / L (based on the lowest toxicity > 100 mg / l safety factor 100).
- PNEC (seawater): 0.1 mg / L (based on the lowest toxicity > 100 mg / l safety factor 1000).
- PNEC (intermittent emissions): 1 mg / L (based on the lowest toxicity > 100 mg / l safety factor 100).
- PNEC (wastewater treatment plant): 50 mg / L (based on the lowest effect concentration toxic to microorganisms EC10 > 500 mg / L and a safety factor of 10).

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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· **Respiratory protection:**

Filter P1
Filter AX

· **Protection of hands:**



Protective gloves

PVC gloves
Neoprene gloves
Nitrile rubber gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:** PVC gloves

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Nitrile rubber, NBR
PVC gloves

· **Not suitable are gloves made of the following materials:** Natural rubber, NR

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

· **Risk management measures**

Food, beverages and tobacco products may not be worn, stored or consumed in premises in which this material is used. Wash thoroughly with soap and water before eating, drinking and smoking face and hands.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Powder
Colour: White

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· Odour:	Odourless
· Odour threshold:	Not determined.
· pH-value:	Not applicable.
· Change in condition	
Melting point/Melting range:	262 °C
Boiling point/Boiling range:	276/40 mbar °C
· Flash point:	240 °C
· Flammability (solid, gaseous):	Product is not flammable.
· Ignition temperature:	>400 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	1,5 . E-7 hPa
· Density at 20 °C:	1,37 g/cm ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 20 °C:	62 g/l
· Partition coefficient (n-octanol/water):	1,7
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Organic solvents:	0,0 %
Water:	0,1 %
· Solids content:	99,9 %

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· 9.2 Other information	No further relevant information available.
· Additional information	Organic peroxide: Not classified (based on structure). Self-heating: Not classified. Based on the available data, the classification criteria are not met. In the molecule there are no chemical groups that would indicate explosive or self-reactive properties. Pyrophoric solid: Not classified. The substance is known to be stable at room temperature for prolonged periods of time. Corrosive to metals: Not classified. Based on the available data, the classification criteria are not met. Substance which in contact with water emits flammable gases: Not classified. Based on the available data, the classification criteria are not met.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** avoid dust explosion
- **10.5 Incompatible materials:**
acids
strong oxidizing agents
- **10.6 Hazardous decomposition products:** Carbon monoxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
acute effects (acute toxicity, irritation and corrosivity),:
LD50 oral 5110 mg/kg body weight (rat)
LD50 dermal 10000 mg/kg body weight (rabbit)
LC50 inhalation 11 mg/l (4 h; ; dust/mist)
Skin corrosion /irritation Skin corrosion/irritation: Not classified. Based on the available data, the classification criteria are not met.

- Serious eye damage/irritation Eye damage/irritation: Not classified. Based on the available data, the classification criteria are not met.

- Specific target organ toxicity – single exposure
Non-lethal toxic effects observed after a single-event exposure: they have not been observed in the acute toxicity studies.

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Respiratory tract irritation or narcotic effects: Not classified. Based on the available data, the classification criteria are not met.

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Oral LD50 5110 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Repeated dose toxicity**
oral NOAEL: 100 mg/kg BW
inha: NOAEC: 8000 mg/m³
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** not classified
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
Acute toxicity to fish
LC50 (96 h) 100 mg/l (Oryzias latipes)(Experimental)
Chronic toxicity to fish
NOEC No data available
Acute toxicity to crustaceans
EC50 (48 h) 1000 mg/l (Daphnia magna)(Experimental)
Chronic toxicity to crustaceans
NOEC 1000 mg/l (Daphnia magna)
Acute toxicity to algae and other aquatic plants
EC50 100 mg/l (Scenedesmus subspicatus (Desmodesmus subspicatus))(Experimental)
- **12.2 Persistence and degradability** Easily biodegradable
- **12.3 Bioaccumulative potential** - 1,7
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must be specially treated adhering to official regulations.
Smaller quantities can be disposed of with household waste.

· **European waste catalogue**

07 07 99	wastes not otherwise specified
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· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, ADN, IMDG, IATA** not regulated

· **14.2 UN proper shipping name**

· **ADR, ADN, IMDG, IATA** not regulated

· **14.3 Transport hazard class(es)**

· **ADR, ADN, IMDG, IATA**

· **Class** not regulated

· **14.4 Packing group**

· **ADR, IMDG, IATA** not regulated

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

Not applicable.

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

not regulated

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** Substance is not listed.

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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Department for Product Safety
- **Contact:** Dr. Michael Gann michael.gann@metadynea.com +43 2732 899 1216

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- * **Data compared to the previous version altered.**