

# Safety Data Sheet

Material Safety Data Sheet according to 91/155 EEC

Printing date 01/19/2010

Revision: 01/19/2010





## 1 Identification of substance

- **Product details**
- **Trade name** PENTOFROST ++
- **Article number:** 8112106
- **Application of the substance / the preparation** Functional Fluid/Automotive Antifreeze
- **Manufacturer/Supplier:**  
 Deutsche Pentosin-Werke GmbH  
 Industriestraße 39-43  
 D-22880 Wedel  
 Germany  
 Phone ++49 4103 9134-0  
 Fax ++49 4103 9134-71
- **Informing department:**  
 Safety / Health / Environment  
 msds-info@pentosin.com
- **Emergency information:** +49 4103 9134-0

## 2 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Mixture consisting of the following components.

### · Dangerous components:

107-21-1	ethane-1,2-diol	 Xn; R 22 Warning:  3.1.O/4	< 75%
149-57-5	2-ethylhexanoic acid	 Xn; R 63 Warning:  3.7/2	< 5%

- **Additional information** For the wording of the listed risk phrases refer to section 16.

## 3 Hazards identification

- **Hazard designation:**



Xn Harmful

- **Information pertaining to particular dangers for man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 22 Harmful if swallowed.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

- **GHS label elements**



Warning

3.7/2 - Suspected of damaging fertility or the unborn child.

(Contd. on page 2)

# Safety Data Sheet

Page 2/5

Material Safety Data Sheet according to 91/155 EEC

Printing date 01/19/2010

Revision: 01/19/2010

**Trade name** PENTOFROST ++

(Contd. of page 1)

- **Prevention:**  
*Use personal protective equipment as required.*  
*Obtain special instructions before use.*  
*Do not handle until all safety precautions have been read and understood.*
- **Response:**  
*IF exposed or concerned: Get medical advice/attention.*
- **Storage:**  
*Store locked up.*
- **Disposal:**  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

## 4 First aid measures

- **General information** *No special measures required.*
- **After inhaling** *Supply fresh air; consult doctor in case of symptoms.*
- **After skin contact** *The product is generally no skin irritant.*
- **After eye contact** *Rinse opened eye for several minutes under running water.*
- **After swallowing** *Seek immediate medical advice.*

## 5 Fire fighting measures

- **Suitable extinguishing agents**  
*CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.*
- **For safety reasons unsuitable extinguishing agents** *Water with a full water jet.*
- **Protective equipment:** *Wear self-contained breathing apparatus.*

## 6 Accidental release measures

- **Person-related safety precautions:** *Not required.*
- **Measures for environmental protection:** *Do not allow to enter drainage system, surface or ground water.*
- **Measures for cleaning/collecting:**  
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*
- **Additional information:** *No dangerous materials are released.*

## 7 Handling and storage

- **Handling**
- **Information for safe handling:** *No special measures required.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **Storage**
- **Requirements to be met by storerooms and containers:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep container tightly sealed.*
- **Storage class** *10 (VCI Germany)*

USA

(Contd. on page 3)

# Safety Data Sheet

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Revision: 01/19/2010

**Trade name PENTOFROST ++**

(Contd. of page 2)

## 8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Components with critical values that require monitoring at the workplace:**

**107-21-1 ethane-1,2-diol (< 75%)**

TLV	Short-term value: C 100 mg/m <sup>3</sup>
	H

**149-57-5 2-ethylhexanoic acid (< 5%)**

TLV	5* mg/m <sup>3</sup>
	*as inhalable fraction and vapor

· **Personal protective equipment**

· **General protective and hygienic measures**

Use skin protection cream for preventive skin protection.

Keep away from foodstuffs, beverages and fodder.

Wash hands during breaks and at the end of the work.

· **Breathing equipment:**

Not necessary if room is well ventilated.

Use breathing protection with high concentrations.

· **Protection of hands:**

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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.

· **Eye protection:** Protective goggles recommended during refilling.

## 9 Physical and chemical properties:

· **General Information**

<b>Form:</b>	Fluid
<b>Colour:</b>	Violet
<b>Smell:</b>	Characteristic

· **Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** Not determined

· **Flash point:** >110°C (>230°F)

· **Self-inflammability:** Product is not self-igniting.

· **Danger of explosion:** Product is not explosive.

(Contd. on page 4)

# Safety Data Sheet

Material Safety Data Sheet according to 91/155 EEC

Printing date 01/19/2010

Revision: 01/19/2010

**Trade name** PENTOFROST ++

(Contd. of page 3)

- **Density at 20°C (68°F)** 1.1 g/cm<sup>3</sup>
- **Solubility in / Miscibility with Water:** Fully miscible
- **Solvent content:**  
  - Organic solvents:** 0.0 %

## 10 Stability and reactivity

- **Conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of composition:** None

## 11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

**107-21-1 ethane-1,2-diol**

Oral	LD50	5840 mg/kg (rat)
Dermal	LD50	9530 mg/kg (rbt)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.

· **Sensitization:** No sensitizing effect known.

· **Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

## 12 Ecological information:

- **Information about elimination (persistence and degradability):**
- **Other information:** The product is easily biodegradable.
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

## 13 Disposal considerations

· **Product:**

· **European waste catalogue**

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01 00	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 14	antifreeze fluids containing dangerous substances

(Contd. on page 5)

# Safety Data Sheet

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(Contd. of page 4)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **Maritime transport IMDG/GGVSea:**
- **Marine pollutant:** No
- **Transport/Additional information:** No dangerous goods in accordance with the above orders

## 15 Regulatory information

- **Designation according to EC guidelines:**
- **Code letter and hazard designation of product:**  
Xn Harmful
- **Hazard-determining components of labelling:**  
ethane-1,2-diol
- **Risk phrases:**  
22 Harmful if swallowed.
- **Safety phrases:**  
2 Keep out of the reach of children.  
13 Keep away from food, drink and animal feedingstuffs.  
23 Do not breathe gas/fumes/vapour/spray.  
36 Wear suitable protective clothing.  
46 If swallowed, seek medical advice immediately and show this container or label.  
52 Not recommended for interior use on large surface areas.
- **National regulations:**
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

## 16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing data specification sheet:** Safety / Health / Environment
- **Contact:** Dr.G.Lukaschek
- **Abbreviations and acronyms:**  
IMDG: International Maritime Code for Dangerous Goods  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
LD50: Lethal dose, 50 percent
- **\* Data compared to the previous version altered.**