

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

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

- 1.1 Product identifier
- Trade name: **Pentofront E**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
- Application of the substance / the preparation Coolant / Anti-freeze.



2 Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008
The following classifications are applicable only to the general GHS regulations and not the specific CLP regulation: H361.
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H361d.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R22: Harmful if swallowed.

- Information concerning particular hazards for human 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.
- Classification system:
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

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· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the Globally Harmonized System within the United States (GHS).

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS07 GHS08

· Signal word Warning

· Hazard-determining components of labelling:

ethanediol

2-ethylhexanoic acid

· Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H361d.

The following Hazard Statements are applicable only to the general GHS regulations and not the specific CLP regulation: H361.

H361: Suspected of damaging fertility or the unborn child. (General GHS and USA only)

H302 Harmful if swallowed.

H361d Suspected of damaging the unborn child.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P281 Use personal protective equipment as required.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Hazard description:

· WHMIS-symbols:

D1B - Toxic material causing immediate and serious toxic effects



· NFPA ratings (scale 0 - 4)



Health = 2

Fire = 1

Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = *2
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

* - Indicates a long term health hazard from repeated or prolonged exposures.

· **HMIS Long Term Health Hazard Substances**

149-57-5	2-ethylhexanoic acid
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· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.





· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 107-21-1 EINECS: 203-473-3 Index number: 603-027-00-1	ethanediol  Xn R22  Acute Tox. 4, H302	<75%
CAS: 149-57-5 EINECS: 205-743-6 Index number: 607-230-00-6	2-ethylhexanoic acid  Xn R63 Repr. Cat. 3  Repr. 2, H361d	<10%

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

4 First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

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- **4.2 Most important symptoms and effects, both acute and delayed**
 - Thirst
 - Cramp
 - Nausea
 - Disorientation
- **Hazards** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
 - Contains ethylene glycol. Consult literature for specific antidotes.
 - Medical supervision for at least 48 hours.
 - May produce a nephrotoxic effect.

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**
 - Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information**
 - Use large quantities of foam as it is partially destroyed by the product.
 - Cool endangered receptacles with water fog or haze.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - Ensure adequate ventilation
 - Product forms slippery surface when combined with water.
 - 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:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Dispose contaminated material as waste according to item 13.
- **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.

7 Handling and storage

- **7.1 Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.

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- Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**
 Store away from foodstuffs.
 Do not store together with acids.
 Store away from oxidizing agents.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

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:**

107-21-1 ethanediol

IOELV (EU)	Short-term value: 104 mg/m ³ , 40 ppm Long-term value: 52 mg/m ³ , 20 ppm Skin
TLV (USA)	Short-term value: C 100 mg/m ³ H
EL (Canada)	Short-term value: C 100* 20** mg/m ³ , C 50*** ppm Long-term value: 10** mg/m ³ *Aerosol; **Particulate; ***Vapour

149-57-5 2-ethylhexanoic acid

TLV (USA)	Long-term value: 5* mg/m ³ *as inhalable fraction and vapor
EL (Canada)	Long-term value: 5 mg/m ³ vapour and aerosol; R
EV (Canada)	Long-term value: 5 mg/m ³ inhalable, aerosol and vapour

- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.
- **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.
 Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.

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· **Respiratory protection:**

Not required under normal conditions of use.

For spills, respiratory protection may be advisable.

Use suitable respiratory protective device when aerosol or mist is formed.

NIOSH approved organic vapor respirator equipped with a dust/mist prefilter should be used.

· **Protection of hands:**

Gloves not required under normal conditions of use.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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:** Rubber gloves

· **Eye protection:**



Safety glasses

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**

No further relevant information available.

· **Risk management measures**

See Section 7 for additional information.

No further relevant information available.

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Violet

· **Odour:** Sweetish

· **Odour threshold:** Not determined.

· **pH-value at 20 °C:** 8,1

· **Change in condition**

Melting point/Melting range: Undetermined.

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Boiling point/Boiling range:	Boiling Point Range: > 266 ° F / > 130 °C.
· Flash point:	Flash Point Range: > 230 ° F / > 110 °C.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	Ignition Temperature Range: > 500 ° F / > 260 °C. Not determined.
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	3,2 Vol %
Upper:	53,0 Vol %
· Vapour pressure at 20 °C:	0,1 hPa
· Density at 20 °C:	1,138 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	2,5 %
· 9.2 Other information	No further relevant information available.

10 Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with strong acids and alkali.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.

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- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity:**

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

107-21-1 ethanediol

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

149-57-5 2-ethylhexanoic acid

Oral	LD50	3000 mg/kg (rat)
Dermal	LD50	1260 mg/kg (rabbit)

- **Primary irritant effect:**

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

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful

- **Repeated dose toxicity:** May cause damage to organs through prolonged or repeated exposure .

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

Repr. 2

12 Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:** The product contains materials that are harmful to the environment.

- **12.2 Persistence and degradability** No further relevant information available.

- **12.3 Bioaccumulative potential** No further relevant information available.

- **12.4 Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): 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.

13 Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Can be reused without reprocessing.
Contact waste processors for recycling information.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

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|---------------------------------------------------------------------------------------|-----------------|
| · 14.1 UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | N/A |
| · 14.2 UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | N/A |
| · 14.3 Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | N/A |
| · 14.4 Packing group | |
| · DOT, ADR, IMDG, IATA | N/A |
| · 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 MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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· Section 313 (Specific toxic chemical listings):

107-21-1	ethanediol
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· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65 (California):

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

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· Carcinogenic Categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

107-21-1	ethanediol	A4
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· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Canada

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

107-21-1	ethanediol
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149-57-5	2-ethylhexanoic acid
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· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.