

# Safety Data Sheet

acc. to HCS and GHS

Printing date 01/13/2014

Reviewed on 01/13/2014

## 1 Identification

- **Product identifier**
- **Trade name: Pentofrost NF**
- **Article number: 1301117**
- **Application of the substance / the mixture** Heat transfer fluid
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
CRP Industries  
35 Commerce Dr.  
Cranbury, NJ 08512  
(609) 578-4100
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924, +1 (813)248-0585



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Repr. 1B H360 May damage fertility or the unborn child.

STOT SE 2 H371 May cause damage to organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

ethanediol

- **Hazard statements**

H302 Harmful if swallowed.

H360 May damage fertility or the unborn child.

H371 May cause damage to organs.

- **Precautionary statements**

P281 Use personal protective equipment as required.

P264 Wash thoroughly after handling.

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

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

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

D2A - Very toxic material causing other toxic effects



- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**

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

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

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

- **Dangerous components:**

107-21-1	ethanediol ⚠ Acute Tox. 4, H302	50-100%
12179-04-3	disodium tetraborate pentahydrate ⚠ Repr. 1B, H360	< 10%

- **SVHC**

12179-04-3	disodium tetraborate pentahydrate
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## 4 First-aid measures

- **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 rinse with water.

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; immediately call for medical help.

- **Most important symptoms and effects, both acute and delayed**

Headache

Nausea

Cramp

Acidosis

Dizziness

Disorientation

- **Danger**

Danger of circulatory collapse.

No further relevant information available.

- **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.

## 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **For safety reasons unsuitable extinguishing agents:** None.

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Additional information** No further relevant information available.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Use respiratory protective device against the effects of fumes/dust/aerosol.

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Particular danger of slipping on leaked/spilled product.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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.
- **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

- **Precautions for safe handling**  
Prevent formation of aerosols.  
Use only in well ventilated areas.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Do not store together with oxidizing and acidic materials.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Protect from contamination.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

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

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

#### 107-21-1 ethanediol

TLV (USA)	Ceiling limit value: 100 mg/m <sup>3</sup> H
EL (Canada)	Short-term value: C 100* 20** mg/m <sup>3</sup> , C 50*** ppm Long-term value: 10** mg/m <sup>3</sup> *Aerosol; **Particulate; ***Vapour
LMPE (Mexico)	Short-term value: 100 mg/m <sup>3</sup> P, A4

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**12179-04-3 disodium tetraborate pentahydrate**

REL (USA)	Long-term value: 1 mg/m <sup>3</sup>
TLV (USA)	Short-term value: 6* mg/m <sup>3</sup> Long-term value: 2* mg/m <sup>3</sup> *as inhalable fraction
EL (Canada)	Short-term value: 6 mg/m <sup>3</sup> Long-term value: 2 mg/m <sup>3</sup>
EV (Canada)	Short-term value: 6 mg/m <sup>3</sup> Long-term value: 2 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
  - **Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.  
Use skin protection cream for skin protection.
  - **Breathing equipment:**  
Not necessary if room is well-ventilated.  
Use suitable respiratory protective device when high concentrations are present.
  - **Protection of hands:**  
Not required under normal conditions of use.  
Wear protective gloves to handle contents of damaged or leaking units.  
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.
  - **Eye protection:**
-  Safety glasses
- **Body protection:**  
Not required under normal conditions of use.  
Protection may be required for spills.

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- **Limitation and supervision of exposure into the environment**  
No further relevant information available.

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Color:	Blue
· Odor:	Sweetish
· Odor threshold:	Not determined.

- pH-value: Slightly alkaline

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	387 °F / 197 °C (729 °F / 387 °F)

- Flash point: 232 °F / 111 °C (450 °F / 232 °F)

- Flammability (solid, gaseous): Not applicable.

- Ignition temperature: Not determined.

- Decomposition temperature: Not determined.

- Auto 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 %

- Vapor pressure at 20 °C (68 °F): 0.08 hPa

- Density at 20 °C (68 °F): 1.1 g/cm<sup>3</sup> (9.18 lbs/gal)

- 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 at 20 °C (68 °F):	20 mm <sup>2</sup> /s (DIN EN ISO 3104)

- Other information: No further relevant information available.

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## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.  
Toxic fumes may be released if heated above the decomposition point.  
Reacts with strong acids and oxidizing agents.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Danger of toxic pyrolysis products.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

### 107-21-1 ethanediol

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

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Slight irritant effect on eyes.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Toxic and/or corrosive effects may be delayed up to 48 hours.
- **Carcinogenic categories**
- **NTP (National Toxicology Program)**  
None of the ingredients is listed.
- **Repeated Dose Toxicity:** May cause damage to organs through prolonged or repeated exposure.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.

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- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Contact waste processors for recycling information.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Not Regulated   |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Not Regulated   |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>   | Not Regulated   |
| · <b>Packing group</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Not Regulated   |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | -               |

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## 15 Regulatory information

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

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

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

107-21-1 | ethanediol

### · 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:

None of the ingredients is listed.

#### · 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

12179-04-3 | disodium tetraborate pentahydrate

A4

#### · 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.

#### · State Right to Know Listings

None of the ingredients is listed.

#### · Canada

#### · Canadian substance listings:

#### · Canadian Domestic Substances List (DSL)

All ingredients are listed.

#### · Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

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<b>· Canadian Ingredient Disclosure list (limit 1%)</b>
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107-21-1   ethanediol
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<b>· Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.
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### 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.

· **Date of preparation / last revision** 01/13/2014 / -

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

WHMIS: Workplace Hazardous Materials Information System (Canada)

· **Sources**

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