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

Date issued 04.11.2013

1.1. Product identifier

Product name Monopropylene glycol (MPG)
Chemical name 1,2-propylenglykol
REACH Reg No. 01-2119456809-23-0000
CAS no. 57-55-6
EC no. 200-338-0
Article no. 16200000

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation Lösningsmedel (Solvent). Antifreeze liquid.

1.3. Details of the supplier of the safety data sheet

Manufacturer
Company name Fred Holmberg & Co AB
Office address Geijersgatan 8
Postal address Box 60056
Postcode S-216 10
City Limhamn
Country Sweden
Tel +46 (0)40 15 79 20
Fax +46 (0)40 16 22 95
E-mail info@holmberg.se
Website http://www.holmberg.se/en/

1.4. Emergency telephone number

Emergency telephone 112 (Europe)

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification notes Ej farligt ämne eller blandning enligt Direktiv 67/548/EEG.
Not classified/subject to labelling according to 67/548/EEC.

Classification notes CLP Ej farligt ämne eller blandning enligt regelverket (EG) nr 1272/2008.
Not classified/subject to labelling according to (EC) No 1272/2008 [CLP/GHS].

2.2. Label elements

2.3. Other hazards

Other hazards Not known.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Identification</th>
<th>Classification</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monopropylene glycol (MPG)</td>
<td>CAS no.: 57-55-6</td>
<td>Classification notes: Monopropylenglykol</td>
<td>99,5</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Move the exposed person to fresh air at once.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water.

Eye contact
Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart.

Ingestion
Rinse mouth with water. Drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Information for health personnel
Treat Symptomatically.

4.3. Indication of any immediate medical attention and special treatment needed
Specific details on antidotes
No recommendation given.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

5.3. Advice for firefighters

Fire fighting procedures
No specific fire fighting procedure given.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures
Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. Ventilate well. Stop leak if possible without risk. Avoid contact with skin and eyes. Do not breathe vapour.

6.2. Environmental precautions

Environmental precautionary measures
Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Cleaning method
Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

6.4. Reference to other sections

Other instructions
No recommendation given.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Handling
Mechanical ventilation may be required. Observe good industrial hygiene practices.

Protective Safety Measures
Safety Measures To Prevent fire
Take precautionary measures against static discharge. Keep away from heat / sparks / open flames / hot surfaces. — No smoking.

Advice on general occupational hygiene
Provide easy access to water supply and eye wash facilities.

7.2. Conditions for safe storage, including any incompatibilities
Storage
Keep away from heat, sparks and open flame. Store in a cool and well-ventilated place. Protect from sunlight. Do not allow contact with air. Protect from moisture.

Conditions To Avoid
Avoid contact with oxidising agents.

7.3. Specific end use(s)
Specific use(s)
Not entered.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Other Information about threshold limit values
Innehåller inga ämnen med yrkeshygieniska gränsvärden.
Contains no substances with Occupational Exposure limit values.
Norske grenseverdier; FOR-2011-12-06-1358 vedlegg 1.
Produktet har ikke normverdi.

8.2. Exposure controls
Occupational exposure limits
Well-ventilated area. Protective gloves and goggles are recommended. Provide eyewash, quick drench.

Safety signs

Respiratory protection
Respiratory protection
Suitable respiratory protection must be used at high concentrations. If ventilation is insufficient, suitable respiratory protection must be provided. Use respiratory equipment with gas filter, type A2.

Hand protection
Hand protection
Use protective gloves. Chemical resistant gloves required for prolonged or repeated contact. Gloves of nitrile rubber, PVA or Viton are recommended.

Eye / face protection
Eye protection
Use safety goggles or face shield in case of splash risk.

Skin protection
Skin protection (except hands)
Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene / Environmental
Specific hygiene measures
Wash hands after contact.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state
Colourless liquid.
Colour
Colourless.
Odour
Odourless.
pH (as supplied)
Value: 6.4
Test temperature: 20 °C
Monopropylene glycol (MPG)

Comments, pH (as supplied) 500g/kg
Melting point/melting range Value: -59 °C
Method of testing: Literature.
Boiling point / boiling range Value: ~ 184 °C
Flash point Value: ~ 104 °C
Method of testing: Literature
Vapour pressure Value: 0.2 hPa
Test temperature: 25 °C
Specific gravity Value: 1030 kg/m3
Test temperature: 20 °C
Solubility in water Blandbar (miscible).
Partition coefficient: n-octanol/water Value: -1,07
Test temperature: 20,5
Spontaneous combustability Value: > 400 °C
Viscosity Value: 43,428 mPa/s
Test temperature: 25 °C

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stability Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid
Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidisers.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Hazardous decomposition products Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological Information:
Other toxicological data Acute Toxicity (Oral LD50): mg/kg (oral rat) > 22000 (OECD 401)
Acute Toxicity (Dermal LD50): > 2000 mg/kg Rabbit

Potential acute effects
Inhalation icke klassificerad som aspirationstoxisk (Not classified as asp. tox.)
Skin contact Not Irritating.
Eye contact Not Irritating.

Delayed effects / repeated exposure
Sensitisation Not known.
Chronic effects None known.
STOT-single exposure Not known.
STOT-repeated exposure Not known.

Carcinogenic, Mutagenic or Reprotoxic
Carcinogenicity None.
Mutagenicity Not known.
Teratogenic properties Not known.
Reproductive toxicity None.
SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic, fish
Value: 40,613 mg/l
Method of testing: LC50
Fish, species: Oncorhynchus mykiss
Duration: 96h

Acute aquatic, algae
Value: 24200 mg/l
Method of testing: EC50 (OECD 201)
Algae, species: Selenastrum capricornutum
Duration: 72h

Acute aquatic, Daphnia
Value: 18800 mg/l
Method of testing: EC50
Daphnia, species: Mysidopsis bahia
Duration: 48h

Other ecotoxicological information, crustaceans
NOEC (7 d) 13.020 mg/l, Ceriodaphnia sp.

12.2. Persistence and degradability

Persistence and degradability description
Lätt biologiskt nedbrytbar (Readily biodegradable).

12.3. Bioaccumulative potential

Bioaccumulative potential
Data lacking.

12.4. Mobility in soil

Surface tension
Value: 71.6 mN/m
Comments, Surface tension
(21.5 °C; 1.01 g/l)
(Direktiv 92/69/EEG, A.5, OECD-ringmetod)

12.5. Results of PBT and vPvB assessment

PBT assessment results
This substance is not classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects / Remarks
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal
Confirm disposal procedures with environmental engineer and local regulations. Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Liquid components can be disposed of by incineration.

Product classified as hazardous waste
No

Packaging classified as hazardous waste
No

SECTION 14: Transport information

14.1. UN number

Comments
Not dangerous goods in the meaning of ADR/RID, ADNR, IMDG-Code, ICAO/IATA-DGR

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
SECTION 15: Regulatory information

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

<table>
<thead>
<tr>
<th>EC no.</th>
<th>200-338-0</th>
</tr>
</thead>
</table>

15.2. Chemical safety assessment

SECTION 16: Other information

| Responsible for safety data sheet | Fred Holmberg & Co AB |