SAFETY DATA SHEET
Mono Ethylene Glycol

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

APPLICATION
Automotive Industry.

SUPPLIER
Petrochem Carless Limited
Head Office - Cedar Court
Guildford Road, Fetcham
Leatherhead, Surrey
KT22 9RX
+44(0)1372 360000
+44(0)1372 380400

CONTACT PERSON
MSDSTeam@PetrochemCarless.com

EMERGENCY TELEPHONE
Please contact Harwich Refinery on +44(0) 1255 502372

2 HAZARDS IDENTIFICATION

Harmful if swallowed.

CLASSIFICATION
Xn;R22.

3 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>EC No.</th>
<th>CAS-No.</th>
<th>Content</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANEDIOL</td>
<td>203-473-3</td>
<td>107-21-1</td>
<td>&gt;99%</td>
<td>Xn;R22</td>
</tr>
</tbody>
</table>

The Full Text for all R-Phrases are Displayed in Section 16

EC (EINECS) NO. 203-473-3
CAS-NO. 107-21-1

4 FIRST-AID MEASURES

NOTES TO THE PHYSICIAN
Following over exposure by ingestion, treatment may be needed for CNS depression and severe acidosis. Early administration of ethanol may counter the effects of monoethylene glycol. Haemodialysis or peritoneal dialysis may be effective.

INHALATION
Fresh air and rest.
Get medical attention.

INGESTION
Rinse mouth thoroughly.
DO NOT induce vomiting. Get medical attention immediately.

SKIN CONTACT
Remove affected person from source of contamination.
Wash the skin immediately with soap and water.
Get medical attention if any discomfort continues.

EYE CONTACT
Rinse the eye with water immediately.
Continue to rinse for at least 15 minutes.
Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA
Fire can be extinguished using:
Mono Ethylene Glycol

Alcohol resistant foam.
Water spray, fog or mist.
Carbon dioxide (CO2).
Dry chemicals, sand, dolomite etc.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Wear rubber or PVC gloves and goggles

ENVIRONMENTAL PRECAUTIONS
Inform regulatory authorities
Protect drains by covering to avoid any spillage entering the drainage system.

SPILL CLEAN UP METHODS
Stop leak if possible without risk.
Inform Authorities if large amounts are involved.
Absorb with inert, damp, non-combustible material, then flush area with water.
Disposal should be carried out in accordance with the Hazardous Waste Regulations. If any liquid enters the drainage system or watercourse inform the local authorities, Fire Brigade and Environment Agency

7 HANDLING AND STORAGE

USAGE PRECAUTIONS
Avoid inhalation of vapours.

USAGE DESCRIPTION
Avoid static build up by providing suitable earthing arrangements.

STORAGE PRECAUTIONS
Keep away from heat, sparks and open flame.
Store in tightly closed original container in a dry, cool and well-ventilated place.

STORAGE CLASS
Unspecified storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Name</th>
<th>Std</th>
<th>LT - ppm</th>
<th>LT - mg/m3</th>
<th>ST - ppm</th>
<th>ST - mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANEDIOL</td>
<td>WEL</td>
<td>52</td>
<td>52 mg/m3(SK)</td>
<td>104</td>
<td>104 mg/m3</td>
</tr>
<tr>
<td>Mono Ethylene Glycol</td>
<td>WEL</td>
<td>mg/m3</td>
<td>52 mg/m3</td>
<td>mg/m3</td>
<td>104 mg/m3</td>
</tr>
</tbody>
</table>

PROTECTIVE EQUIPMENT

ENGINEERING MEASURES
Well-ventilated area.

HAND PROTECTION
Use protective gloves made of:
Rubber, neoprene or PVC.

EYE PROTECTION
If risk of splashing, wear safety goggles or face shield.

HYGIENE MEASURES
DO NOT SMOKE IN WORK AREA!

Promptly remove any clothing that becomes contaminated.
Wash at the end of each work shift and before eating, smoking and using the toilet.
# Mono Ethylene Glycol

## 9 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Colourless</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Odourless</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Miscible with water. Miscible with Acetone Alcohol</td>
</tr>
<tr>
<td><strong>Boiling Point (°C)</strong></td>
<td>196 - 199 760 mm Hg</td>
</tr>
<tr>
<td><strong>Relative Density</strong></td>
<td>1.115 @ 20 ºc</td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td>0.007 kPa @ 20 ºc</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>21 mPas @ 20 ºc</td>
</tr>
<tr>
<td><strong>Auto Ignition</strong></td>
<td>410</td>
</tr>
<tr>
<td><strong>Temperature (°C)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limit - Lower(%)</strong></td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Flammability Limit - Upper(%)</strong></td>
<td>15.3</td>
</tr>
<tr>
<td><strong>Solubility Value (g/100g H2O@20°C)</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Flash Point (°C)</strong></td>
<td>111 CC (Closed cup).</td>
</tr>
<tr>
<td><strong>Flammability Limit - Upper(%)</strong></td>
<td>111 CC (Closed cup).</td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td></td>
</tr>
<tr>
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## 10 STABILITY AND REACTIVITY

### Stability
No particular stability concerns.

### Materials to Avoid
Strong oxidising substances.

## 11 TOXICOLOGICAL INFORMATION

### Inhalation
May cause irritation to the respiratory system.

### Ingestion
Harmful or fatal if swallowed. May cause nausea, vomiting and diarrhoea.

### Skin Contact
Slightly irritating.

### Eye Contact
Irritating to eyes.

## 12 ECOLOGICAL INFORMATION

### Ecotoxicity
Not regarded as dangerous for the environment.

### LC 50, 96 Hrs, Fish mg/l
51000

### Mobility
Liquid with low volatility.

### Bioaccumulation
None

### Degradability
BOD28/COD = 56-64%; COD= 1.29 g O2/g

## 13 DISPOSAL CONSIDERATIONS

### Disposal Methods
Dispose of waste and residues in accordance with local authority requirements.

This material must be disposed of via an Authorised Waste/Disposal Company in accordance with Local and or National Waste Disposal Regulations.

### Waste Class
This material and container must be disposed of as a HAZARDOUS WASTE.

## 14 TRANSPORT INFORMATION

### General
Low hazard material not considered dangerous for carriage.

### Sea Transport Notes
Marpol 73/78 IBC Code Chapter 17: proper shipping name - ethylene glycol
Mono Ethylene Glycol

15 REGULATORY INFORMATION

LABELLING

Harmful

CONTAINS

ETHANEDIOL

RISK PHRASES

R22 Harmful if swallowed.

SAFETY PHRASES

S60 This material and its container must be disposed of as hazardous waste.

UK REGULATORY REFERENCES

The Control of Substances Hazardous to Health Regulations 1988.


CDG Road, The Classification, Packaging and Labelling Regulations 1996.

EU DIRECTIVES

 Dangerous Substance Directive 67/548/EEC.

Dangerous Preparations Directive 1999/45/EC.

STATUTORY INSTRUMENTS

Chemicals (Hazard Information and Packaging) Regulations.

Control of Substances Hazardous to Health.

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply.

GUIDANCE NOTES

CHIP for everyone HSG(108).

16 OTHER INFORMATION

INFORMATION SOURCES


REVISION COMMENTS

Issued in new format for REACH compliance

ISSUED BY

PCL Technical Team

REVISION DATE

24/01/2008

REV. NO./REPL. SDS GENERATED

3

SDS NO.

10675

SAFETY DATA SHEET STATUS

Approved.

DATE

14/09/06

RISK PHRASES IN FULL

R22 Harmful if swallowed.

DISCLAIMER

The information in this document has been compiled on the basis of the best available knowledge in accordance with the requirements of the Chemical Hazards, Information and Packaging regulations 1994 (as amended 1999). It does not imply that the information is complete or accurate in all cases. It is the user's responsibility to satisfy themselves as to the application of the information and/or the recommendations given for their own use.