

1 Section 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product Name Non-Toxic Heat Transfer Fluid & Antifreeze

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

Identified uses High grade monopropylene glycol - Chemical Intermediate, Antifreeze liquid, Industrial Solvent, Pharmaceuticals, Food industry, Cosmetics.

Uses advised against This product is not recommended for any industrial, professional or consumer use other than the identified uses above.

1.3 Details of the supplier of the Safety Data Sheet

Supplier Fransham Forge
Cranes Corner,
Gt. Fransham,
Derham,
Norfolk,
NR19 2HX.

+44 (0) 1362 687116
sales@forged-ironmongery.co.uk

1.4 Emergency telephone number

Emergency telephone number 01362687116

First aid advice number For emergencies that occur outside of office opening hours that pose a threat to human health, the environment or require immediate first aid advice call:

01362687116

Note This number is for emergencies only.

2 Section 2: Hazards identification**2.1 Classification of the substance or mixture****Classification - Regulation (EC) No. 1272/2008 (CLP)**

Physical and chemical hazards	Not classified as a physical or chemical hazard
Human health	Not classified as a health hazard
Environment	Not classified as an environmental hazard

2.2 Label elements

EC No.

200-338-0

Labelling - Regulation (EC) No. 1272/2008 (CLP)

Not classified as hazardous according to CLP Regulation (EC) No. 1272/2008 - no hazard label elements required.

2.3 Other hazards

This product does not meet the PBT/vPvB criteria of REACH, annex XIII.

3 Section 3: Composition/information on ingredients

3.1 Substances

1	Component - Monopropylene glycol (propane-1, 2-diol)
EC No.	200-338-0
CAS No.	57-55-6
Reach registration No.	01-2119456809-23-XXXX

Classification - Regulation (EC) No. 1272/2008 (CLP)

Not classified as hazardous according to Regulation (EC) No. 1272/2008 (CLP)

4 Section 4: First aid measures

4.1 Description of first aid measures

General Information	When safe to do so remove the victim from the source of exposure giving consideration as to whether this may cause further discomfort to the victim.
Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.
Skin Contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye Contact	Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

General Information	The following symptoms are listed in case of exposure to the 100% neat product.
Inhalation	Inhalation of vapours may cause mild irritation of the upper respiratory tract.
Ingestion	May cause discomfort to the stomach if swallowed.
Skin Contact	Prolonged and repeated contact may cause mild irritation of the skin.
Eye Contact	May cause temporary eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

No specific recommendations given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, get medical attention promptly and present a copy of this Safety Data Sheet.

Notes for the doctor

No specific recommendations. Treat symptomatically.

5 Section 5: Firefighting measures**5.1 Extinguishing media**

Extinguish with alcohol-resistant foam, carbon dioxide (CO₂), dry chemicals, sand and dolomite or water fog.

5.2 Special hazards arising from the substance or mixture

Specific Hazards	When heated and in the case of a fire, harmful vapours/gases (such as carbon monoxide and carbon dioxide) may be formed.
Unusual fire and explosion hazards	Exposure to extreme heat may cause product containers to explode.

5.3 Advice for firefighters

Protective actions during firefighting	Move containers away from fire area if this can be done without risk. Keep people away, isolate the fire and deny unnecessary entry. Use water fog to keep fire-exposed containers cool and disperse vapours. Runoff water should be prevented from entering sewers and watercourses.
Specialist protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and full protective clothing.

6 Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid flames, sparks, heat and smoking.

In the case of inadequate ventilation, use respiratory protection.

Protective Equipment

Wear protective clothing as described in Section 8 of this Safety Data Sheet.

Emergency Procedures

Stop leak/release if possible to do so without risk.

Extinguish all ignition sources if safe to do so.

Warn everybody of potential danger and evacuate if necessary.

6.2 Environmental precautions

Do not discharge into drains, water courses or onto the ground.

Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Absorb spillage with inert, damp, non-combustible material, then flush the contaminated area with water.

Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4 Reference to other sections

Wear protective clothing as described in Section 8 of this Safety Data Sheet. Collect and dispose of spillage as indicated in Section 13.

7 Section 7: Handling and storage

7.1 Precautions for safe handling

Avoid spilling and contact with the skin and the eyes as well as direct inhalation of sprays and mists.

Provide good ventilation.

Do not eat, drink or smoke in work areas and wash hands after handling this product.

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store in closed original container at temperatures between 0°C and 40°C.

7.3 Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

8 Section 8: Exposure controls/personal protection
8.1 Control parameters

Name	STD	TWA-8Hrs	STEL-15Min
Monopropylene glycol (propane-1, 2-diol)	WEL	474 mg/m ³	Not available

DNEL

Industry, Inhalation - Long term systemic effects: 50 mg/m³
 Industry, Inhalation - Long term local effects: 10 mg/m³
 Consumer, Inhalation - Long term systemic effects: 168 mg/m³
 Consumer, Inhalation - Long term local effects: 10 mg/m³

PNEC

Fresh water: 260 mg/L
 Marine water: 26 mg/L
 STP: 20000 mg/L
 Sediment fresh water: 572 mg/kg
 Sediment marine water: 57.2 mg/kg
 Soil: 50 mg/kg
 Intermittent release: 183 mg/L

8.2 Exposure controls

Technical procedures

Engineering measures

Methods to prevent or control exposure are preferred. Provide adequate ventilation to minimise the risk of inhalation of sprays and mists.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practices.
 Wash hands after handling this product and at the end of each work shift.
 Routinely wash work clothing and personal protective equipment to remove possible contaminants.

Respiratory equipment

If ventilation is inadequate, suitable respiratory protection must be worn.

Hand protection

Use protective gloves.

Eye protection

The following protection should be worn: Chemical splash goggles.

Skin Protection

Wear rubber apron. Wear rubber footwear.

Other Protection

Wear suitable protective clothing/footwear as protection against splashing or contamination.

Thermal Hazards

No specific measures required.

Environmental Exposure Controls

Product not classified as an environmental hazard - no specific environmental exposure controls required.

9 Section 9: Physical and chemical properties**Section 9: Physical and chemical properties**

Appearance	Clear liquid
Colour	Colourless (unless dyed according to customer specification)
Odour	Odourless
Odour Threshold	Not applicable
pH	7.5 - 9.0
Melting point / Pour point	<-51°C
Initial boiling point	187.4°C
Flash point	104°C (PMCC)
Evaporation Rate	0.01
Flammability	Product is not classified as flammable
Flammability / explosion limits	Upper limit: 13% Lower limit: 3%
Vapour pressure	20 Pa @ 25°C
Vapour density (air = 1)	2.5
Relative density of the mixture	1.03 - 1.05 @ 20°C
Solubility	Soluble in water
Partition coefficient: n-octanol / water	logPow: -1.07
Auto-ignition temperature	>370°C
Decomposition temperature	No test data available
Viscosity	43cSt @ 20°C
Explosive properties	Not applicable - product is not classified as an explosive
Oxidising properties	Not applicable - product is not classified as an oxidising agent

9.2 Other information

Molecular Weight - 76.10g/mol
Distillation Range @ 1 Atms. - 186 – 189°C
Refractive Index @ 20°C - 1.4310 – 1.4330
Specific Heat @ 25°C - 2.51J/gK
Surface Tension @ 25°C - 36mN/m
Thermal Conductivity @ 25°C - 0.2061W/mK
Electrical Conductivity @ 25°C - 10µS/m
Heat of Formation - -422kJ/mol
Heat of Vaporisation @ 25°C - 67kJ/mol

10 Section 10: Stability and reactivity**10.1 Reactivity**

There are no known reactivity hazards associated with this product.

10.2 Chemical stability

Stable at normal ambient temperatures and when used as recommended.
Product is hygroscopic and will absorb water by contact with the moisture in the air.

10.3 Possibility of hazardous reactions

There are no known hazardous reactions associated with this product.

10.4 Conditions to avoid

Avoid temperatures >180°C for prolonged periods of time, flames and sources of ignition.

10.5 Incompatible materials

Strong acids, strong alkalis and strong oxidising agents.

10.6 Hazardous decomposition products

No known hazardous decomposition products. Potentially hazardous products released due to fire are listed in Section 5.2 of this Safety Data Sheet.

11 Section 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Acute toxicity testing has not been carried out on this product. However the following data for the relevant components of this product are available.

Acute toxicity values for monopropylene glycol:

LD50, oral, rat: >20,000 mg/kg bw
LD50, dermal, rabbit: >2000 mg/kg bw
LC50, inhalation, rabbit: >310,000 mg/l

Skin corrosion/ irritation
Serious eye damage/ irritation
Respiratory/ skin sensitisation
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity

Evaluation of CMR properties
STOT-single exposure
STOT-repeated exposure
Aspiration hazard

Skin irritation is not expected when this product is used/handled correctly.
Eye irritation is not expected when this product is used/handled correctly.
Product not classified as a skin/respiratory sensitiser.
Product is not expected to be mutagenic.
Product is not expected to be carcinogenic.
Product is not expected to damage the reproductive system or harm a developing fetus.
No test data available.
No test data available.
No test data available.
No test data available.

General information

See Section 4.2 of this Safety Data Sheet.

Inhalation
Ingestion
Skin contact
Eye contact

Inhalation of vapours may cause mild irritation of the upper respiratory tract.
May cause discomfort to the stomach if swallowed.
Prolonged and repeated contact may cause mild irritation of the skin.
Direct eye contact may cause slight reddening of the eyes.

12 Section 12: Ecological information

Ecotoxicity

The product is not classified as hazardous to the environment.

12.1 Toxicity

Acute toxicity - fish - LC50, 96 hours, 96 hours: 40613 mg/l, *Onchorhynchus mykiss* (Rainbow trout)

Acute toxicity - aquatic invertebrates - EC??, 48 hours, 48 hours: > 4000 mg/l, *Daphnia magna*

Acute toxicity - aquatic plants - EC??, 96 hours, 96 hours: 19000 mg/l, *Scenedesmus subspicatus*

12.2 Persistence and degradability

- Degradation (%) 81: > 28 days

OECD 301F

- Degradation (%) 96: 64 days

12.3 Bioaccumulative potential

The product is not bioaccumulating: BCF: < 100

12.4 Mobility in soil

Product is mobile in soil as it is water soluble.

12.5 Results of PBT and vPvB assessment

This product does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects

Not determined.

13 Section 13: Disposal considerations

Section 13: Disposal considerations

General information

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with Local Waste Disposal Authority.

Disposal methods

Dispose of waste and residues in accordance with local authority and/or local sewage treatment plant requirements.

14 Section 14: Transport information

14.1 UN number

Product not hazardous for transport - no information required.

14.2 UN proper shipping name

Product not hazardous for transport - no information required.

14.3 Transport hazard class(es)

Product not hazardous for transport - no information required.

Transport labels

Product not hazardous for transport - no information required.

14.4 Packing group

Product not hazardous for transport - no information required.

14.5 Environmental hazards

Product not classed as an environmentally hazardous substance or marine pollutant.

14.6 Special precautions for user

Product not hazardous for transport - no information required.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Product not hazardous for transport - no information required.

15 Section 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Legislation**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as amended, incorporating all amendments up to, and including, Regulation (EC) No 588/2018 and Regulation (EC) No 589/2018.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures as amended, incorporating all amendments up to, and including, Regulation (EC) No 776/2017.

Guidance notes

CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131. Safety Data Sheets for substances and preparations.

15.2 Chemical safety assessment

No chemical safety assessment for this mixture has been carried out.

16 Section 16: Other information

Revision Comments

Review in line with CLP regulation

Hazard statements in full

N/A

Further classification and composition comments

No further classification or composition comments required.

(i) Indication of changes

Safety Data Sheet updated to comply with the new requirements as set out in Regulation (EC) No. 1272/2008 (CLP).

(ii) Abbreviations and acronyms

bw: bodyweight

CAS No: Chemical Abstracts Service number

CLP: Classification Labelling and Packaging Regulation

DNEL: Derived No-Effect Level

EC: European Commission

EC No: European Chemical number: EINECS, ELINCS or NLP

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

LC50: Lethal Concentration, 50%

LD50: Median Lethal Dose

PBT: Persistent, Bioaccumulative & Toxic

PNEC: Predicted No Effect Concentration

REACH: Registration, Evaluation, Authorisation & restrictions of Chemicals

SDS: Safety Data Sheet

vPvB: Very Persistent and Very Bioaccumulative

WEL: Workplace Exposure Limit

(iii) Training advice

Product should only be handled by trained operators.

(iv) Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give advice about the safe handling of the product named in this Safety Data Sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with products or in the case of processing, the information on this Safety Data Sheet is not necessarily valid for the new made-up material.