SAFETY DATA SHEET

Solar Antifreeze

This Safety Data Sheet contains information concerning the potential risks to those involved in handling, transporting and working with the material, as well as describing potential risks to the consumer and the environment. This information must be made available to those who may come into contact with the material or are responsible for the use of the material. This Safety Data Sheet is prepared in accordance with formatting described in the REACH Regulation (EC) No 1907/2006, and described in CLP Regulation (EC) No 1272/2008.

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

1.1 Product identifier
Solar Antifreeze

1.2 Relevant identified uses of the substance or mixture and uses advised against
Anitfreeze and corrosion inhibitor for heating and cooling systems

1.3 Details of the supplier of the safety data sheet
Calmag (Yorkshire) Ltd
Riverview Buildings
Bradford Road, Riddlesden
Keighley
West Yorkshire
BD20 5LN
Tel: 01535 210320
Fax: 01535 210321
Email: sales@calmagltd.com
Web: www.calmagltd.com

1.4 Emergency telephone number

Tel: 01535 210320 (9.00am – 5.00pm Mon-Fri except Public Holidays)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Not classified as hazardous

2.2 Label elements

No labelling required

2.3 Other hazards
None known.

SECTION 3: Composition

3.1 Substances
Not applicable

3.2 Mixtures

A mixture of monopropylene glycol, polyether, corrosion inhibitor and biocide

Name	CAS No	Concentration	Classification
Propane-1,2-diol (Monopropylene glycol)	57-55-6	>95%	Not classified as hazardous Substance listed in EH40

See section 16 for full description of any statements.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

EYE CONTACT: Wash thoroughly with water for several minutes, holding the eyelids apart. Seek medical attention if irritation persists.
INHALATION: Remove from exposure. If breathing becomes difficult call a doctor.
SKIN CONTACT: Wash off with soap and water. Seek medical attention if irritation persists..
INGESTION: If swallowed, rinse mouth with water. Do NOT induce vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

EYES: Redness, mild irritation.
INHALATION: Cough, irritation.
SKIN: Redness, mild irritation.
INGESTION: Nausea, dizziness. Ingestion of large doses may result in symptoms of CNS depression.

4.3 Indication of any immediate medical attention and special treatments needed

Symptomatic treatment as required.

SECTION 5: Firefighting Measures

5.1 Extinguishing media

SMALL FIRE: Use dry chemicals, CO2, water spray or alcohol-resistant foam.
LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

Do not use water jets (straight streams of water)

5.2 Special hazards arising from the substance or mixture

If involved in a fire, may release fumes of nitrogen and sulphur oxides.
Prevent entry of product and contaminated fire fighting water into streams and watercourses.

5.3 Advice for fire fighters

Fire fighters should wear protective clothing and breathing apparatus as appropriate.
Heat from fire can generate flammable vapour. Vapours may be heavier than air and may travel along the ground and flash back.
Keep containers cool using water spray to prevent pressure build up and rupture.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all ignition sources. Wear protective clothing including gloves and eye protection. Open doors and windows to ensure good ventilation.

6.2 Environmental precautions

Prevent entry into sewers and watercourses.

6.3 Methods and materials for containment and clearing up

Small spills (<1 litre) may be washed to foul drain with copious quantities of water. Do not wash into storm drains or watercourses.
Large spills (> 1 litre) should be covered with a suitable absorbent, e.g. sand, earth or spill granules and collected for disposal. Wash spill area thoroughly with water and detergent.

6.4 References to other sections

See section 8 and 13 for further advice.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not inhale vapours, mists or sprays. Keep away from ignition sources.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed and in a cool, well ventilated area. Keep only in original container.

7.3 Specific end uses(s)

No special precautions.

SECTION 8. Exposure Controls/Personal Protection

8.1 Control parameters

Substance	8 hour exposure limit	15 minute exposure limit	Source, Type
Propane-1,2-diol total vapour and particulates particulates	150 ppm (474 mg/m^3) 10 mg/m^3	-	EH40, 2011

8.2 Exposure controls

None usually required during normal handling. Normal chemical handling procedures should be observed. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling,

Respiratory protection

Not usually required. Use in well ventilated areas and avoid formation of spray or aerosols.

Hand Protection

Suitable chemical resistant gloves recommended for use with alkali materials. PVC or rubber may be suitable but glove manufacturer recommendations should always be checked. Change gloves in accordance with manufacturer recommendations. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

Eye protection

Safety glasses with side shields or goggles should be worn if there is a risk of splashing eyes.

Skin protection

Coveralls recommended. These should be changed after use or if contaminated. Wash before re-use.

Environmental exposure controls

Precautions should be taken to avoid accidental release to water courses.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Clear, colourless liquid
Odour: Virtually odourless
Odour threshold: No data
pH: No data
Melting point: -59°C (-74.2°F)
Boiling point: 186° -189°C (366.8° – 372.2°F)

Flashpoint:	99°C (closed cup) (210°F)
Evaporation rate:	No data
Flammability (solids/gases):	Not applicable
Upper/lower flammability limits:	Upper 2.6 Lower 12.6%
Vapour pressure:	10 Pa at 20°C
Vapour density	2.5 (air = 1) at 20°C
Density	1.036 g/cm³ @ 20°C (68°F)
Solubility in water:	Miscible in water
Solubility in other solvents:	Soluble in a variety of solvents
Partition coefficient (log Kow)	-1
Autoignition temperature	421°C (789.8°F)
Decomposition temperature	No data
Viscosity	Dynamic; 55mPa/s at 20°C
Explosive properties	Not classified as explosive
Oxidising properties	Not classified as oxidising.

9.2 Other information
None

SECTION 10: Stability and Reactivity

10.1 Reactivity
Not considered to be reactive.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
May react vigorously with acids and oxidising agents.

10.4 Conditions to avoid
Excessive heat.

10.5 Incompatible materials
Acids, oxidising agents

10.6 Hazardous decomposition products
None expected under normal conditions of use.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

(a) acute toxicity Not expected to be acutely toxic. LD_{50} estimated > 2000 mg/kg.
(b) skin corrosion/irritation May be slightly irritating to the skin based on consideration of its components.
(c) serious eye damage/irritation May be slightly irritating to the eye based on consideration of its components.
(d) respiratory/skin sensitisation Contains no components known to be sensitising.
(e) germ cell mutagenicity Contains no components known to be germ cell mutagens.
(f) carcinogenicity Contains no components known to be carcinogens.
(g) reproductive toxicity Contains no components known to be reproductive toxins.
(h) STOT-single exposure Contains no components known to cause specific target organ toxicity.
(i) STOT-repeated exposure Contains no components known to cause specific target organ toxicity.
(j) aspiration hazard The product is not expected to be an aspiration hazard.

SECTION 12: Ecological Information

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

12.1 Toxicity
Not expected to be toxic in the environment.

12.2 Persistence and degradability
The organic components are biodegradable and are not expected to persist in the environment.

12.3 Bioaccumulative potential
None of the components are considered to be bioaccumulative.

12.4 Mobility in soil
All components are readily soluble in water and if released into soil will be mobile in the environment.

12.5 Results of PBT and vPvB assessment
None of the components are known to be PBT or vPvB.

12.6 Other adverse effects
None known.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods
Recover and recycle product if possible. If recovery and recycling are not possible incinerate or dispose of in accordance with local regulations.

Empty containers should be thoroughly rinsed with copious amounts of clean water. The rinse water can be used for makeup water for any necessary dilution of the concentrated product before use.

SECTION 14: Transport Information

Not classified as hazardous for transport.

14.1	UN Number	Not applicable
14.2	UN Proper shipping name	Not applicable
14.3	Transport hazard class(es)	Not applicable
14.4	Packing group	Not applicable
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	None
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not transported in bulk

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
All components are listed as existing substances in Europe

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has not been carried out for this product.

SECTION 16: Other Information

Revision information:
Updated to remove references to DSD and DPD.

List of Abbreviations used in this SDS:

CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging Regulation (EC) no 1272/2008
DSD Dangerous Substances Directive 67/548/EEC
DPD Dangerous Preparations Directive 1999/45/EC
EC European Commnity/Commission
PBT Persistent, Bioaccumulative and Toxic
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) no 1907/2006
vPvB very Persistent, very Bioaccumulative

Statements used in Section 2 and/or 3

None

References:

Suppliers safety data sheet.
ECHA database of disseminated dossiers
EH40, 2011

Method used for classification of mixtures:

Ingredient based approaches and expert judgment

Training requirements for workers

No special training requirements.