



SAFETY DATA SHEET BLUE STAR ANTIFREEZE

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME BLUE STAR ANTIFREEZE
 PRODUCT NO. BSA001, BSA002, BSA005, BSA025, NBS001, NBS002, SFD127, BSA199
 INTERNAL ID C
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2 HAZARDS IDENTIFICATION

Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed.
 CLASSIFICATION (1999/45) Xn;R22, R48/22.

ENVIRONMENT

The product contains a substance which may cause long term adverse effects in the aquatic environment.

HUMAN HEALTH

See section 11 for additional information on health hazards.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content %	Classification (67/548/EEC)
DISODIUM TETRABORATE PENTAHYDRATE	215-540-4	12179-04-3	1-5%	Repr. Cat. 1;R60,R61.
MONO ETHYLENE GLYCOL	203-473-3	107-21-1	60-100%	Xn;R22,R48/22.

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

COMPOSITION COMMENTS

The data shown are in accordance with the latest EC Directives.

4 FIRST-AID MEASURES

GENERAL INFORMATION

Remove affected person from source of contamination. Get medical attention if any discomfort continues.

INHALATION

Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and bring these instructions.

INGESTION

Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions.

SKIN CONTACT

Remove affected person from source of contamination. Remove contaminated clothing and flush with plenty of water until pain disappears. If discomfort persists transport to hospital and bring these instructions.

BLUE STAR ANTIFREEZE**EYE CONTACT**

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES**EXTINGUISHING MEDIA**

Use fire-extinguishing media appropriate for surrounding materials.

SPECIAL FIRE FIGHTING PROCEDURES

No specific fire fighting procedure given.

SPECIFIC HAZARDS

In case of fire, toxic and corrosive gases may be formed.

PROTECTIVE MEASURES IN FIRE

Leave danger zone immediately.

6 ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS**

For personal protection, see section 8. In case of spills, beware of slippery floors and surfaces.

ENVIRONMENTAL PRECAUTIONS

The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

SPILL CLEAN UP METHODS

For waste disposal, see section 13. When dealing with a spillage, please consult the section relating to suitable protective measures. Provide ventilation and confine spill. Do not allow runoff to sewer. Absorb spillage with non-combustible, absorbent material. Contact Health and Safety department on 6147 or 6695 for further assistance.

7 HANDLING AND STORAGE**USAGE PRECAUTIONS**

Read and follow manufacturer's recommendations. Always remove grease with soap and water or skin cleaning agent, never use organic solvents. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product.

STORAGE PRECAUTIONS

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

8 EXPOSURE CONTROLS/PERSONAL PROTECTION**PROTECTIVE EQUIPMENT****PROCESS CONDITIONS**

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

ENGINEERING MEASURES

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

RESPIRATORY EQUIPMENT

Wear suitable respiratory protection.

HAND PROTECTION

Protective gloves and goggles must be used if there is a risk of direct contact or splash.

BLUE STAR ANTIFREEZE**EYE PROTECTION**

Wear tight-fitting goggles or face shield.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash at the end of each work shift and before eating, smoking and using the toilet.

SKIN PROTECTION

Wear apron or protective clothing in case of contact.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Liquid
COLOUR	Blue
ODOUR	Odourless
SOLUBILITY	Miscible with: Acetone Alcohol Miscible with water
BOILING POINT (°C)	165°C 760 mm Hg
MELTING POINT (°C)	-12°C
RELATIVE DENSITY	1.13 20°C
VAPOUR DENSITY (air=1)	2.14
VAPOUR PRESSURE	0.05 kPa 20°C
pH-VALUE, DILUTED SOLUTION	6-7.5 100g/l
VISCOSITY	21 cps 20°C
FLASH POINT (°C)	111 CC (Closed cup).
AUTO IGNITION	400°C
TEMPERATURE (°C)	
FLAMMABILITY LIMIT - LOWER(%)	3.2
SOLUBILITY VALUE (g/100g H ₂ O@20°C)	100

10 STABILITY AND REACTIVITY**STABILITY**

No particular stability concerns.

CONDITIONS TO AVOID

Avoid excessive heat for prolonged periods of time. Avoid heat, flames and other sources of ignition.

MATERIALS TO AVOID

Acids, oxidising.

HAZARDOUS DECOMPOSITION PRODUCTS

In case of fire, toxic gases (CO, CO₂, NO_x) may be formed.

11 TOXICOLOGICAL INFORMATION

TOXIC DOSE 1 - LD 50 5890 - 13400 mg/kg (oral rat)

TOXIC DOSE 2 - LD 50 5010 mg/kg (ipr-rat)

HEALTH WARNINGS

This chemical can be hazardous when inhaled and/or touched.

ROUTE OF ENTRY

Inhalation. Ingestion. Skin and/or eye contact. Skin absorption.

12 ECOLOGICAL INFORMATION

BLUE STAR ANTIFREEZE**ECOTOXICITY**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

LC 50, 96 Hrs, FISH mg/l 22810 mg/l

EC 50, 48 Hrs, DAPHNIA, 41000 mg/l
mg/l

MOBILITY

The product is soluble in water.

BIOACCUMULATION

The product is not bioaccumulating.

DEGRADABILITY

The product is expected to be biodegradable.

13 DISPOSAL CONSIDERATIONS**GENERAL INFORMATION**

When handling waste, consideration should be made to the safety precautions applying to handling of the product.

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements. Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point.

14 TRANSPORT INFORMATION**GENERAL**

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

15 REGULATORY INFORMATION**LABELLING**

Harmful

CONTAINS

MONO ETHYLENE GLYCOL

RISK PHRASES

R22	Harmful if swallowed.
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.

SAFETY PHRASES

S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feeding stuffs.
S36	Wear suitable protective clothing.
S46	If swallowed, seek medical advice immediately and show this container or label.
S56	Dispose of this material and its container to hazardous or special waste collection point.

UK REGULATORY REFERENCES

The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.
Chemicals (Hazard Information & Packaging) Regulations.

BLUE STAR ANTIFREEZE

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC. System of specific information relating to Dangerous Preparations. 2001/58/EC.

16 OTHER INFORMATION

GENERAL INFORMATION

Only trained personnel should use this material.

REVISION COMMENTS

NOTE: Lines within the margin indicate significant changes from the previous revision.

ISSUED BY

HS&E Manager.

REVISION DATE 02/07/2008

REV. NO./REPL. SDS 2

GENERATED

RISK PHRASES IN FULL

R22 Harmful if swallowed.

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R61 May cause harm to the unborn child.

R60 May impair fertility.

DISCLAIMER

The information provided in this document has been compiled on the basis of our current knowledge and is believed to be in accordance with the requirements of the Dangerous Substances Directive, Dangerous Preparations Directive and Safety Data Sheets Directive. The information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any particular conditions or process. The conditions and extent of storage and use of material are outside of our control and within the control of the possessor or user. Consequently it is the responsibility of the possessor or user to satisfy themselves as to the completeness of such information and the suitability of the material for their own particular circumstances, conditions or use.