



SAFETY DATA SHEET BLUE STAR R/MIXED A/FREEZ

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

1.1. Product identifier

Product name BLUE STAR R/MIXED A/FREEZ

Product number BSR001, BSR005

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

Identified uses Antifreeze liquid.

1.3. Details of the supplier of the safety data sheet

Supplier TETROSYL LIMITED
Bury
Lancashire
England
BL9 7NY

0161 764 5981
0161 797 5899
info@tetrosyl.com

Manufacturer TETROSYL LIMITED
Bury
Lancashire
England
BL9 7NY

0161 764 5981
0161 797 5899
info@tetrosyl.com

1.4. Emergency telephone number

Emergency telephone 0161 764 5981

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 STOT RE 2 - H373

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xn;R22.

2.2. Label elements

BLUE STAR R/MIXED A/FREEZ**Pictogram****Signal word**

Warning

Hazard statements

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P264 Wash contaminated skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P501 Dispose of contents/ container in accordance with local regulations.

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

Contains

MONO ETHYLENE GLYCOL

2.3. Other hazards**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

MONO ETHYLENE GLYCOL	30-60%
-----------------------------	---------------

CAS number: 107-21-1

EC number: 203-473-3

REACH registration number: 01-2119456816-28-0000

Classification

Acute Tox. 4 - H302

STOT RE 2 - H373

DISODIUM TETRABORATE PENTAHYDRATE	1-5%
--	-------------

CAS number: 1330-43-4

EC number: 215-540-4

REACH registration number: 01-2119490790-32-0000

Classification

Eye Irrit. 2 - H319

Repr. 1B - H360Fd

ETHANEDIOL	<1%
-------------------	---------------

CAS number: 107-21-1

EC number: 203-473-3

REACH registration number: 01-2119456816-28

Classification

Acute Tox. 4 - H302

Classification (67/548/EEC or 1999/45/EC)

Xn;R22

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures**

BLUE STAR R/MIXED A/FREEZ

General information	Effects may be delayed. Keep affected person under observation. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Get medical attention. Remove affected person from source of contamination. Place unconscious person on the side in the recovery position and ensure breathing can take place. Never give anything by mouth to an unconscious person.
Inhalation	Remove affected person from source of contamination. Get medical attention if any discomfort continues. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If throat irritation or coughing persists, proceed as follows. Get medical attention. Show this Safety Data Sheet to the medical personnel.
Ingestion	Get medical attention immediately. Never give anything by mouth to an unconscious person. Try to induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if a large quantity has been ingested. Show this Safety Data Sheet to the medical personnel.
Skin contact	Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if any discomfort continues.
Eye contact	Do not rub eye. Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Effects may be delayed. Keep affected person under observation.
Inhalation	Irritation of nose, throat and airway.
Ingestion	May cause discomfort if swallowed. May cause unconsciousness, blindness and possibly death. Central nervous system depression.
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	Irritation, burning, lachrymation, blurred vision after liquid splash.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
-----------------------------	---

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with the following media: Foam, carbon dioxide or dry powder. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

BLUE STAR R/MIXED A/FREEZ

Protective actions during firefighting No specific firefighting precautions known.

Special protective equipment for firefighters Leave danger zone immediately. Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of spray mist and contact with skin and eyes. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Collect and dispose of spillage as indicated in Section 13. Avoid release to the environment. Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb spillage with non-combustible, absorbent material.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Keep away from heat, sparks and open flame. Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Do not eat, drink or smoke when using the product. Avoid inhalation of vapours/spray and contact with skin and eyes. Avoid the formation of mists. Observe any occupational exposure limits for the product or ingredients. Avoid inhalation of vapours and spray/mists. Pregnant or breastfeeding women should not work with this product if there is any risk of exposure. Pregnant or breastfeeding women should not work with this product if there is any risk of exposure.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks and open flame. Keep container tightly closed. Keep containers upright. Keep only in the original container. Avoid contact with oxidising agents.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits known for ingredient(s).

ETHANEDIOL

BLUE STAR R/MIXED A/FREEZ

Long-term exposure limit (8-hour TWA): WEL 20 ppm 52 mg/m³ vapour

Short-term exposure limit (15-minute): WEL 40 ppm 104 mg/m³ vapour

Sk

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ particulate

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients. Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection

It is recommended that gloves are made of the following material: Nitrile rubber. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene measures

Provide eyewash station. Wash contaminated clothing before reuse. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

Respiratory protection

No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Blue.
Odour	Odourless.
Odour threshold	Scientifically unjustified. Scientifically unjustified.
pH	pH (concentrated solution): 8.0
Melting point	Scientifically unjustified.
Initial boiling point and range	110°C @
Flash point	Technically not feasible.
Evaporation rate	Scientifically unjustified.
Upper/lower flammability or explosive limits	Scientifically unjustified.
Vapour pressure	Scientifically unjustified.

BLUE STAR R/MIXED A/FREEZ

Vapour density	Scientifically unjustified.
Relative density	1.044 g/cm ³ @ 20°C
Solubility(ies)	Soluble in water.
Partition coefficient	Scientifically unjustified.
Auto-ignition temperature	Scientifically unjustified.
Decomposition Temperature	Scientifically unjustified.
Viscosity	<50 cP @ 20°C
Oxidising properties	Not available.

9.2. Other information

Other information	None.
--------------------------	-------

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The following materials may react with the product: Oxidising materials.
-------------------	--

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
------------------	---

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not determined.
---	-----------------

10.4. Conditions to avoid

Conditions to avoid	Avoid contact with the following materials: Oxidising materials.
----------------------------	--

10.5. Incompatible materials

Materials to avoid	Strong oxidising agents.
---------------------------	--------------------------

10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
---	--

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	No information available.
------------------------------	---------------------------

Acute toxicity - oral

Notes (oral LD₅₀)	MONO ETHYLENE GLYCOL
-------------------------------------	----------------------

ATE oral (mg/kg)	1,422.48
-------------------------	----------

Specific target organ toxicity - single exposure

Target organs	Central nervous system Heart and cardiovascular system Kidneys
----------------------	--

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature. Vapours may irritate throat/respiratory system. Symptoms following overexposure may include the following: Coughing.

BLUE STAR R/MIXED A/FREEZ

Ingestion	May cause liver and/or renal damage. Irritating. Symptoms following overexposure may include the following: Nausea, vomiting. Stomach pain. Harmful: possible risk of irreversible effects if swallowed.
Skin contact	Slightly irritating.
Eye contact	May cause temporary eye irritation.
Acute and chronic health hazards	This chemical can be hazardous when inhaled and/or touched. This product is corrosive. This product may cause skin and eye irritation. Prolonged contact may cause burns. May cause severe internal injury. Vapour from this product may be hazardous by inhalation.
Route of entry	Inhalation Ingestion. Skin and/or eye contact Skin absorption
Target organs	Central nervous system Heart & cardiovascular system Kidneys
Medical symptoms	Allergic rash. Delayed, often serious, breathing problems. Tachycardia (excessively rapid heart beat, including rapid and weak pulse). Unconsciousness, possibly death.

SECTION 12: Ecological Information

Ecotoxicity Dangerous for the environment if discharged into watercourses.

12.1. Toxicity

Acute toxicity - fish Mono Ethylene Glycol
LC₅₀, 96 hours: >100 mg/l, Fish

Acute toxicity - aquatic invertebrates Not available.

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient Scientifically unjustified.

12.4. Mobility in soil

Adsorption/desorption coefficient Not available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not applicable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Confirm disposal procedures with environmental engineer and local regulations.

SECTION 14: Transport information

BLUE STAR R/MIXED A/FREEZ

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

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

**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

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).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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

Revision date 05/04/2016

Revision 9

Supersedes date 02/12/2013

SDS status Approved.

Risk phrases in full R22 Harmful if swallowed.
R60 May impair fertility.
R61 May cause harm to the unborn child.

Hazard statements in full H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H360Fd May damage fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure.

BLUE STAR R/MIXED A/FREEZ