



SAFETY DATA SHEET BLUE STAR DE-ICER AEROSOL

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name BLUE STAR DE-ICER AEROSOL
Product No. EDI300, EDI600, FDI600, HOT016, HOT042, NDI311, NDI601, SDI311, SDI600, SFD131, FID300, NDI604, PPD300, PPD600, DPB600

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
BEVIS GREEN WORKS
WALMERSLEY
BURY
BL9 6RE
0161 764 5981
0161 797 5899
info@tetrosyl.com

1.4. Emergency telephone number

0161 764 5981

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (1999/45/EEC) F+;R12.

2.2. Label elements

Detergent Labelling:

< 5% Aliphatic hydrocarbons

Labelling



Extremely flammable

Risk Phrases

R12 Extremely flammable.

Safety Phrases

A1 Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
A2 Do not spray on a naked flame or any incandescent material.
S2 Keep out of the reach of children.
S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition - No smoking.

BLUE STAR DE-ICER AEROSOL

S51	Use only in well-ventilated areas.
S56	Dispose of this material and its container to hazardous or special waste collection point.
S46	If swallowed, seek medical advice immediately and show this container or label.
S23	Do not breathe vapour/spray.

2.3. Other hazards**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures**

AMMONIA ...%			<1%
CAS-No.: 1336-21-6	EC No.: 215-647-6		
Classification (EC 1272/2008) Skin Corr. 1B - H314 STOT Single 3 - H335 Aquatic Acute 1 - H400	Classification (67/548/EEC) C;R34 N;R50		
BUTANE/PROPANE BLEND			1-5%
CAS-No.: 68476-85-7	EC No.: 270-704-2		
Classification (EC 1272/2008) Flam. Liq. 1 - H224	Classification (67/548/EEC) F+;R12.		
ETHANEDIOL			5-10%
CAS-No.: 107-21-1	EC No.: 203-473-3	Registration Number: 01-2119456816-28	
Classification (EC 1272/2008) Acute Tox. 4 - H302	Classification (67/548/EEC) Xn;R22		
ETHANOL			10-30%
CAS-No.: 64-17-5	EC No.: 200-578-6		
Classification (EC 1272/2008) Flam. Liq. 2 - H225	Classification (67/548/EEC) F;R11		
IPA			1-5%
CAS-No.: 67-63-0	EC No.: 200-661-7		
Classification (EC 1272/2008) Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT Single 3 - H336	Classification (67/548/EEC) F;R11 Xi;R36 R67		

BLUE STAR DE-ICER AEROSOL

METHANOL		1-5%
CAS-No.: 67-56-1	EC No.: 200-659-6	
Classification (EC 1272/2008)	Classification (67/548/EEC)	
Flam. Liq. 2 - H225	F;R11	
Acute Tox. 3 - H301	T;R23/24/25,R39/23/24/25	
Acute Tox. 3 - H311		
Acute Tox. 2 - H330		
STOT Single 1 - H370		

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

General information

Get medical attention if any discomfort continues. Remove affected person from source of contamination. General first aid, rest, warmth and fresh air. NOTE! Effects may be delayed. Keep affected person under observation.

Inhalation

Remove victim immediately from source of exposure. In case of inhalation of spray mist: Move person into fresh air and keep at rest. Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and bring these instructions. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. Immediately call an ambulance.

Ingestion

Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions. Provide rest, warmth and fresh air. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Consult a physician for specific advice.

Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Do not rub eye. Get medical attention promptly if symptoms occur after washing.

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

General information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. NOTE! Effects may be delayed. Keep affected person under observation.

Inhalation.

May cause an asthma-like shortness of breath. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death. Drowsiness, dizziness, disorientation, vertigo. Vapours may cause drowsiness and dizziness. In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects.

Ingestion

May cause discomfort if swallowed. May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication. Due to the physical nature of this material it is unlikely that swallowing will occur.

Skin contact

Prolonged contact may cause redness, irritation and dry skin. May cause skin irritation/eczema.

Eye contact

Extreme irritation of eyes and mucous membranes, including burning and tearing. Vapour, spray or dust may cause chronic eye irritation or eye damage. May cause blurred vision and serious eye damage.

BLUE STAR DE-ICER AEROSOL**4.3. Indication of any immediate medical attention and special treatment needed**

No recommendation 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!

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media**

Extinguishing media

Use: Foam, carbon dioxide or dry powder. Water. Use fire-extinguishing media appropriate for surrounding materials.

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

Hazardous combustion products

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

Unusual Fire & Explosion Hazards

Extremely flammable. Severe explosion hazard when vapours are exposed to flames. Risk of explosion if heated. Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back. Heat may cause the containers to explode. Aerosol cans may explode in a fire.

Specific hazards

When heated and in case of fire, toxic vapours/gases may be formed.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Be aware of danger of explosion.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and aerosol spray. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

6.3. Methods and material for containment and cleaning up

For waste disposal, see section 13. If leakage cannot be stopped, evacuate area. Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Remove sources of ignition. Collect with absorbent, non-combustible material into suitable containers.

6.4. 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**

BLUE STAR DE-ICER AEROSOL

Read and follow manufacturer's recommendations. Eliminate all sources of ignition. Wear full protective clothing for prolonged exposure and/or high concentrations. 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. Avoid inhalation of vapours/spray and contact with skin and eyes. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not use in confined spaces without adequate ventilation and/or respirator. Mechanical ventilation or local exhaust ventilation may be required. Observe occupational exposure limits and minimise the risk of inhalation of vapours and mist.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Keep upright. Protect against physical damage and/or friction. Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C. Do not store for long periods or in large quantities. Store in a cool and well-ventilated place. Store in a dry place. Do not store near heat sources or expose to high temperatures.

Storage Class

Flammable liquid storage.

7.3. 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**

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
AMMONIA ...%	WEL		18 mg/m3		25 mg/m3	
BUTANE/PROPANE BLEND	WEL	1000 ppm	1750 mg/m3	1250 ppm	2180 mg/m3	Carc
ETHANEDIOL	WEL		10 mg/m3		104 mg/m3	Sk
ETHANOL	WEL	1000 ppm	1920 mg/m3			
IPA	WEL	400 ppm	999 mg/m3	500 ppm	1250 mg/m3	
METHANOL	WEL	200 ppm(Sk)	266 mg/m3(Sk)	250 ppm(Sk)	333 mg/m3(Sk)	

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through skin.

Carc = Capable of causing cancer and/or heritable genetic damage.

8.2. Exposure controls

Protective equipment



Engineering measures

Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of spray.

Provide explosion proof ventilation for high concentrations.

Respiratory equipment

In case of inadequate ventilation use suitable respirator.

BLUE STAR DE-ICER AEROSOL**Hand protection**

The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection

Wear splash-proof eye goggles to prevent any possibility of eye contact.

Other Protection

Provide eyewash station.

Hygiene measures

Wash contaminated clothing before reuse. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. **DO NOT SMOKE IN WORK AREA!** When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Appearance	Aerosol.
Colour	Blue.
Odour	Slight odour. Ammonia.
Solubility	Soluble in water.
Initial boiling point and boiling range	
Technically not feasible.	
Melting point (°C)	-25°C
Relative density	0.960
Vapour density (air=1)	
Not determined.	Scientifically unjustified.
Vapour pressure	
Not determined.	
Evaporation rate	
Not determined.	Scientifically unjustified.
pH-Value, Conc. Solution	11.0
Viscosity	1 cps 20°C
Decomposition temperature (°C)	
Not determined.	Scientifically unjustified.
Odour Threshold, Lower	
Not determined.	Scientifically unjustified.
Odour Threshold, Upper	
Not determined.	Scientifically unjustified.
Flash point (°C)	
Technically not feasible.	
Auto Ignition Temperature (°C)	
Not determined.	Scientifically unjustified.
Flammability Limit - Lower(%)	
Not determined.	Scientifically unjustified.
Flammability Limit - Upper(%)	
Not determined.	Scientifically unjustified.

BLUE STAR DE-ICER AEROSOL

Partition Coefficient (N-Octanol/Water) Not determined.
-1.36
Scientifically unjustified.

Oxidising properties
Not determined.

9.2. Other information

None.

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Not relevant

10.4. Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Materials To Avoid

No incompatible groups noted.

10.6. Hazardous decomposition products

None under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Toxic Dose 1 - LD 50 6000-13000 mg/kg (oral rat)

Toxic Dose 2 - LD 50 >22270 mg/kg (oral rat)

Inhalation

Not relevant at normal room temperatures. When heated, irritating vapours may be formed.

Ingestion

Harmful if swallowed. May cause stomach pain or vomiting.

Skin contact

Slightly irritating.

Eye contact

Irritating to eyes.

Health Warnings

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

SECTION 12: ECOLOGICAL INFORMATION

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.

12.1. Toxicity

LC 50, 96 Hrs, Fish mg/l 18000-46000 (Ethanediol) mg/l

Acute Toxicity - Fish

Not available.

EC 50, 48 Hrs, Daphnia, mg/l 46300-51100 (Ethanediol) mg/l

BLUE STAR DE-ICER AEROSOL

Acute Toxicity - Aquatic Invertebrates
Not available.

12.2. Persistence and degradability

Degradability
The product is biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential
Will not bio-accumulate.
Partition Coefficient -1.36

12.4. Mobility in soil

Adsorption/Desorption Coefficient
Not available.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Do not puncture or incinerate even when empty.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Confirm disposal procedures with environmental engineer and local regulations.

SECTION 14: TRANSPORT INFORMATION**14.1. UN number**

UN No. (ADR/RID/ADN)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950

14.2. UN proper shipping name

Proper Shipping Name	AEROSOLS
----------------------	----------

14.3. Transport hazard class(es)

ADR/RID/ADN Class	2.1
ADR/RID/ADN Class	Class 2: Gases
ADR Label No.	2.1
IMDG Class	2.1
ICAO Class/Division	2.1

Transport Labels

**14.4. Packing group**

ADR/RID/ADN Packing group	#
IMDG Packing group	#

BLUE STAR DE-ICER AEROSOL

ICAO Packing group #

14.5. Environmental hazardsEnvironmentally Hazardous Substance/Marine Pollutant
No.**14.6. Special precautions for user**

EMS F-D, S-U

14.7. Transport in bulk according to Annex II of MARPOL73/78 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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

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 19/10/2011
Revision 26
Supersedes date 12/08/2011 v25
Safety Data Sheet Status Approved.

Risk Phrases In Full

R34 Causes burns.
R12 Extremely flammable.
R22 Harmful if swallowed.
R11 Highly flammable
R36 Irritating to eyes.
R37 Irritating to respiratory system.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R67 Vapours may cause drowsiness and dizziness.
R50 Very toxic to aquatic organisms.

BLUE STAR DE-ICER AEROSOL

Hazard Statements In Full

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs <<Organs>>.
H400	Very toxic to aquatic life.