



## SAFETY DATA SHEET ALL SEASONS SCREENWASH

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

#### 1.1. Product identifier

Product name ALL SEASONS SCREENWASH  
Product No. SWA300, GFS005, BRM005, NSW010, NSW025, NSW050, SWA001, SWA005, SWA025, SWA199, SWA500, SWS525

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

#### 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
Manufacturer	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 (EC 1272/2008)

Physical and Chemical Hazards	Flam. Liq. 3 - H226
Human health	Not classified.
Environment	Not classified.

Classification (1999/45/EEC) R10.

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

#### 2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

**ALL SEASONS SCREENWASH**

Signal Word	Warning	
Hazard Statements		
	H226	Flammable liquid and vapour.
Precautionary Statements		
	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children.
	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
	P233	Keep container tightly closed.
	P403+235	Store in a well-ventilated place. Keep cool.
	P501	Dispose of contents/container in accordance with local regulations.
Supplementary Precautionary Statements		
	P240	Ground/bond container and receiving equipment.
	P241	Use explosion-proof electrical equipment.
	P242	Use only non-sparking tools.
	P243	Take precautionary measures against static discharge.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P370+378	In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.

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

BUTYL GLYCOL			<0.1%
CAS-No.: 111-76-2	EC No.: 203-905-0	Registration Number: 01-2119475108-36-XXXX	
Classification (EC 1272/2008)		Classification (67/548/EEC)	
Acute Tox. 4 - H302		Xn;R20/21/22	
Acute Tox. 4 - H312		Xi;R36/38	
Acute Tox. 4 - H332			
Skin Irrit. 2 - H315			
Eye Irrit. 2 - H319			

**ALL SEASONS SCREENWASH**

ETHANOL		5-10%
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	Registration Number: 01-2119457558-25-XXXX
Classification (EC 1272/2008) Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336	Classification (67/548/EEC) F;R11 Xi;R36 R67	
METHANOL		<1%
CAS-No.: 67-56-1	EC No.: 200-659-6	Registration Number: 01-2119433307-44
Classification (EC 1272/2008) Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 2 - H330 STOT SE 1 - H370	Classification (67/548/EEC) F;R11 T;R23/24/25,R39/23/24/25	

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.

NOTE! Effects may be delayed. Keep affected person under observation.

**Inhalation**

Remove victim immediately from source of exposure. Get medical attention if any discomfort continues. For breathing difficulties oxygen may be necessary. If breathing stops, provide artificial respiration.

**Ingestion**

Get medical attention if any discomfort continues. Immediately rinse mouth and drink plenty of water. If person becomes uncomfortable or if ingested in large amounts (50-100 ml for an adult person): Take to hospital along with these instructions.

**Skin contact**

Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention if any discomfort continues.

**Eye contact**

Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

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

## ALL SEASONS SCREENWASH

### 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

In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Irritation of nose, throat and airway.

#### Ingestion

May cause discomfort if swallowed. May cause stomach pain or vomiting. Ingestion of large amounts may cause unconsciousness. May cause nausea, headache, dizziness and intoxication. Burning sensation in mouth.

#### Skin contact

Prolonged skin contact may cause redness and irritation. Mild dermatitis, allergic skin rash.

#### Eye contact

Irritation of eyes and mucous membranes.

### **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

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

#### Unusual Fire & Explosion Hazards

May form explosive mixture with air at very high concentration.

#### Specific hazards

Vapours may form explosive air mixtures even at room temperature.

### **5.3. Advice for firefighters**

#### Special Fire Fighting Procedures

No specific fire fighting procedure given.

#### Protective equipment for fire-fighters

Leave danger zone immediately. Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

## 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. Do not smoke, use open fire or other sources of ignition. 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**

Do not 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**

**ALL SEASONS SCREENWASH**

Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Provide ventilation and confine spill. Do not allow runoff to sewer. Absorb spillage with suitable absorbent material.

**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**

Read and follow manufacturer's recommendations. Keep away from heat, sparks and open flame. 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. Avoid forming spray/aerosol mists. 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 containers tightly closed. Keep upright. Keep in original container. Store away from: Acids. Oxidising material.

**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
BUTYL GLYCOL	WEL	25 ppm	123 mg/m <sup>3</sup>	50 ppm	246 mg/m <sup>3</sup>	Sk
ETHANOL	WEL	1000 ppm	1920 mg/m <sup>3</sup>			
IPA	WEL	400 ppm	999 mg/m <sup>3</sup>	500 ppm	1250 mg/m <sup>3</sup>	
METHANOL	WEL	200 ppm	266 mg/m <sup>3</sup>	250 ppm	333 mg/m <sup>3</sup>	Sk

WEL = Workplace Exposure Limit.  
Sk = Can be absorbed through skin.

**8.2. Exposure controls**

Protective equipment



Engineering measures

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

Respiratory equipment

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

**ALL SEASONS SCREENWASH****Hand protection**

For prolonged or repeated skin contact use suitable protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Nitrile gloves are recommended. PVC or rubber gloves are recommended.

**Eye protection**

Wear approved, tight fitting safety glasses where splashing is probable.

**Other Protection**

Provide eyewash station.

**Hygiene measures**

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.

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

Appearance	Clear liquid.
Colour	Blue.
Odour	Odour of alcohol.
Solubility	Miscible with water
Initial boiling point and boiling range (°C)	70°C
Melting point (°C)	Not determined.
Relative density	0.98 20°C
Vapour density (air=1)	Not determined.
Vapour pressure	Not determined.
Evaporation rate	Not determined.
Viscosity	<50 cP 20°C
Decomposition temperature (°C)	Not determined.
Odour Threshold, Lower	Not determined.
Odour Threshold, Upper	Not determined.
Flash point (°C)	45°C
Auto Ignition Temperature (°C)	Not determined.
Flammability Limit - Lower(%)	Not determined.
Flammability Limit - Upper(%)	Not determined.
Partition Coefficient (N-Octanol/Water)	Not determined.
Oxidising properties	Not available.

**9.2. Other information**

None.

**ALL SEASONS SCREENWASH****SECTION 10: STABILITY AND REACTIVITY****10.1. Reactivity**

Reaction with: Acids. Aldehydes. Isocyanates. Strong oxidising agents.

**10.2. Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3. Possibility of hazardous reactions**

Not determined.

**10.4. Conditions to avoid**

Avoid contact with strong oxidisers. Avoid heat, flames and other sources of ignition. Avoid contact with acids. Avoid contact with acids and oxidising substances. Will react violently with: Earth metals such as sodium, potassium and barium.

**10.5. Incompatible materials**

Materials To Avoid

Strong acids. Strong oxidising substances. Alkali metals. Metal oxides. Aldehydes. Isocyanates.

**10.6. Hazardous decomposition products**

None under normal conditions.

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

Toxic Dose 1 - LD 50

3450 (Ethanol) mg/kg (oral-mouse)

Toxic Dose 2 - LD 50                      6300 (Ethanol)

Toxic Conc. - LC 50

20000 (Ethanol) ppm/-- (ihl-rat)

**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                      12900-15300 (Ethanol)

**12.2. Persistence and degradability**

Degradability

There are no data on the degradability of this product.

**12.3. Bioaccumulative potential**

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

Not determined.

**12.4. Mobility in soil**

Adsorption/Desorption Coefficient

Not available.

**ALL SEASONS SCREENWASH****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.

**13.1. Waste treatment methods**

Confirm disposal procedures with environmental engineer and local regulations.

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

UN No. (ADR/RID/ADN)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993

**14.2. UN proper shipping name**

Proper Shipping Name      FLAMMABLE LIQUID, N.O.S. (ETHANOL, IPA)

**14.3. Transport hazard class(es)**

ADR/RID/ADN Class	3
ADR/RID/ADN Class	Class 3: Flammable liquids.
ADR Label No.	3
IMDG Class	3
ICAO Class/Division	3
Transport Labels	

**14.4. Packing group**

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

**14.5. Environmental hazards**

Environmentally Hazardous Substance/Marine Pollutant  
No.

**14.6. Special precautions for user**



**ALL SEASONS SCREENWASH**

EMS F-E, S-E  
Emergency Action Code •3YE  
Hazard No. (ADR) 30  
Tunnel Restriction Code (D/E)

**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 02/07/2013  
Revision 6  
Supersedes date 05/10/2011 v5  
Safety Data Sheet Status Approved.

## Risk Phrases In Full

R10 Flammable  
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
R11 Highly flammable  
R36/38 Irritating to eyes and skin.  
R36 Irritating to eyes.  
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.

## Hazard Statements In Full

H370 Causes damage to organs <<Organs>>.  
H319 Causes serious eye irritation.  
H315 Causes skin irritation.  
H330 Fatal if inhaled.  
H226 Flammable liquid and vapour.  
H332 Harmful if inhaled.  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H225 Highly flammable liquid and vapour.  
H336 May cause drowsiness or dizziness.  
H301 Toxic if swallowed.  
H311 Toxic in contact with skin.



## SAFETY DATA SHEET DE-ICER AEROSOL

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

#### 1.1. Product identifier

Product name DE-ICER AEROSOL  
Product No. CDG300, CDG600, PLD600, JSB110, AOD300, AOD600, DPB600, EDI300, EDI600, FDI600, FID300, NDI311, NDI601, NDI604, PPD300, PPD600, SDI311, SDI600, SFD131, DPB300, ADI600, DIA003, FDI601, FID301, IDI612, NDI612, PRO600, RDI300

#### 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  
Manufacturer 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 (EC 1272/2008)  
Physical and Chemical Hazards Flam. Aerosol 1 - H222  
Human health Not classified.  
Environment Not classified.

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

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

#### 2.2. Label elements

**DE-ICER AEROSOL**

Label In Accordance With (EC) No. 1272/2008



Signal Word	Danger	
Hazard Statements	H222	
Precautionary Statements	Extremely flammable aerosol.	
	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children.
	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
	P211	Do not spray on an open flame or other ignition source.
	P251	Pressurized container: Do not pierce or burn, even after use.
	P410+412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

**2.3. Other hazards**

This product does not contain any PBT or vPvB substances.

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

AMMONIA ...%		0.1 - <0.3%
CAS-No.: 1336-21-6	EC No.: 215-647-6	
Classification (EC 1272/2008)	Classification (67/548/EEC)	
Skin Corr. 1B - H314	C;R34	
STOT SE 3 - H335	N;R50	
Aquatic Acute 1 - H400		
ETHANEDIOL		5.0 - <10.0%
CAS-No.: 107-21-1	EC No.: 203-473-3	
	Registration Number: 01-2119456816-28	
Classification (EC 1272/2008)	Classification (67/548/EEC)	
Acute Tox. 4 - H302	Xn;R22	
ETHANOL		10.0 - <20.0%
CAS-No.: 64-17-5	EC No.: 200-578-6	
Classification (EC 1272/2008)	Classification (67/548/EEC)	
Flam. Liq. 2 - H225	F;R11	

**DE-ICER AEROSOL**

IPA			3.0 - <5.0%
CAS-No.: 67-63-0	EC No.: 200-661-7	Registration Number: 01-2119457558-25-XXXX	
Classification (EC 1272/2008)		Classification (67/548/EEC)	
Flam. Liq. 2 - H225		F;R11	
Eye Irrit. 2 - H319		Xi;R36	
STOT SE 3 - H336		R67	
METHANOL			1.3258%
CAS-No.: 67-56-1	EC No.: 200-659-6	Registration Number: 01-2119433307-44	
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 SE 1 - H370			
PETROLEUM GASES, LIQUEFIED			3.0 - <5.0%
CAS-No.: 68476-85-7	EC No.: 270-704-2		
Classification (EC 1272/2008)		Classification (67/548/EEC)	
Flam. Gas 1 - H220		F+;R12.	
Press. Gas - H280			

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

Wash skin thoroughly with soap and water. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.

**DE-ICER AEROSOL****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.

**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 spray. 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, CO<sub>2</sub>, NO<sub>x</sub>) may be formed. During fire, toxic gases (CO, CO<sub>2</sub>, NO<sub>x</sub>) 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**

Aerosol containers can explode when heated, due to excessive pressure build-up. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive air mixtures even at room temperature.

**5.3. Advice for firefighters****Special Fire Fighting Procedures**

Be aware of risk of fire re-starting, and risk of explosion. Cool containers exposed to flames with water until well after the fire is out. Use water to keep fire exposed containers cool and disperse vapours.

**Protective equipment for fire-fighters**

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

**DE-ICER AEROSOL****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**

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**

**DE-ICER AEROSOL**

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
AMMONIA ...%	WEL		18 mg/m <sup>3</sup>		25 mg/m <sup>3</sup>	
ETHANEDIOL	WEL	20 ppm	10 mg/m <sup>3</sup>	40 ppm	104 mg/m <sup>3</sup>	Sk
ETHANOL	WEL	1000 ppm	1920 mg/m <sup>3</sup>			
IPA	WEL	400 ppm	999 mg/m <sup>3</sup>	500 ppm	1250 mg/m <sup>3</sup>	
METHANOL	WEL	200 ppm	266 mg/m <sup>3</sup>	250 ppm	333 mg/m <sup>3</sup>	Sk
PETROLEUM GASES, LIQUEFIED	WEL	1000 ppm	1750 mg/m <sup>3</sup>	1250 ppm	2180 mg/m <sup>3</sup>	Carc

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.

Hand protection

No specific hand protection noted, but gloves may still be advisable.

Eye protection

Wear approved, tight fitting safety glasses where splashing is probable.

Other Protection

Provide eyewash station. Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures

Wash contaminated clothing before reuse. Wash hands 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	Ammonia.
Solubility	Soluble in water.
Initial boiling point and boiling range (°C)	
Technically not feasible.	

**DE-ICER AEROSOL**

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 cP 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.
Partition Coefficient (N-Octanol/Water)	Not determined.
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.



**DE-ICER AEROSOL****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)

**Carcinogenicity:**

Does not contain any substances known to be carcinogenic.

**Reproductive Toxicity:**

No evidence of reproductive toxicity in animal studies

**Target Organs**

Central nervous system

Central nervous system depression including narcotic effects such as drowsiness, narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.

**Target Organs**

Skin

Morphological changes that are potentially reversible but provide clear evidence of marked organ dysfunction.

**Aspiration hazard:**

Not relevant, due to the form of the product.

**General information**

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

**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.

**Route of entry**

Inhalation. Skin and/or eye contact.

**DE-ICER AEROSOL****Target Organs**

Central nervous system Eyes Skin

**Medical Symptoms**

Skin irritation. Irritation of eyes and mucous membranes. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo.

**Medical Considerations**

Skin disorders and allergies. Pre-existing eye problems.

**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

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

Not determined. -1.36

Scientifically unjustified.

**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**

**DE-ICER AEROSOL****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 #  
ICAO Packing group #

**14.5. Environmental hazards**

Environmentally 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**

Not applicable.

**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**DE-ICER AEROSOL****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. 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with 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 11/09/2013

Revision 15

Supersedes date 12/06/2012 V14

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.

**Hazard Statements In Full**

H370 Causes damage to organs <<Organs>>.

H319 Causes serious eye irritation.

H314 Causes severe skin burns and eye damage.

H280 Contains gas under pressure; may explode if heated.

H222 Extremely flammable aerosol.

H220 Extremely flammable gas.

H330 Fatal if inhaled.

H302 Harmful if swallowed.

H225 Highly flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

H335 May cause respiratory irritation.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H400 Very toxic to aquatic life.