De-Icer -30°C Trigger Spray

Future Developments (man.) Ltd

Part Number:
Version No: **3.15**
Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

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

1.1. Product Identifier

Product name	De-Icer -30°C Trigger Spray
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	**Future Developments (man.) Ltd**
Address	Davenport Street, Burslem. ST6 4HS Stoke-on-Trent Staffordshire GB
Telephone	01782829000
Fax	Not Available
Website	www.fdev.co.uk
Email	sales@fdev.co.uk

1.4. Emergency telephone number

Association / Organisation	**Future Developments (man.) Ltd**
Emergency telephone number(s)	**01782 829000**
Other emergency telephone number(s)	**Not Available**

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments[1]	H226 - Flammable Liquids Category 3, H319 - Serious Eye Damage/Eye Irritation Category 2
Legend:	***1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567***

2.2. Label elements

Hazard pictogram(s)	

SIGNAL WORD	**WARNING**

Hazard statement(s)

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P264	Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Material contains triethylamine, sodium hydroxide, allyl alcohol, 2-bromo-2-nitropropan-1,3-diol.

2.3. Other hazards

Inhalation and/or ingestion may produce health damage*.

May produce discomfort of the respiratory system and skin*.

Cumulative effects may result following exposure*.

Vapours potentially cause drowsiness and dizziness*.

triethylamine	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)
2-bromo-2-nitropropan-1,3-diol	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)
ethanol	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)
methanol	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)
allyl alcohol	Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (Restrictions may apply)

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

See 'Composition on ingredients' in Section 3.2

3.2. Mixtures

1. CAS No 2. EC No 3. Index No 4. REACH No	% [weight]	Name	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 121-44-8 2. 204-469-4 3. 612-004-00-5 4. Not Available	<1.0%	triethylamine*	Flammable Liquids Category 2, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 1A, Acute Toxicity (Inhalation) Category 4; H225, H302, H312, H314, H332[2]	STOT SE 3; H335: C ≥ 1 %	Not Available
1. 136504-88-6 2. Not Available 3. Not Available 4. Not Available	<1.0%	C9-11 alcohols, ethoxylated, phosphated	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 3; H315, H319, H412[1]	SCL: Not Available	Not Available
1. 1310-73-2 2. 215-185-5 3. 011-002-00-6 4. Not Available	<1.0%	sodium hydroxide	Skin Corrosion/Irritation Category 1A; H314[2]	Skin Corr. 1A; H314: C ≥ 5 %, Skin Corr. 1B; H314: 2 % ≤ C < 5 %, Skin Irrit. 2; H315: 0,5 % ≤ C < 2 %, Eye Irrit.2; H319: 0,5 % ≤ C < 2 %	Not Available
1. 52-51-7 2. 200-143-0 3. 603-085-00-8 4. Not Available	<0.5%	2-bromo-2-nitropropan-1,3-diol	Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Acute Hazard Category 1; H302, H312, H315, H318, H335, H400[2]	M=10	Not Available
1. 64-02-8 2. 200-573-9 3. 607-428-00-2 4. Not Available	<0.5%	EDTA tetrasodium salt	Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 1; H302, H318[2]	SCL: Not Available	Not Available
1. 5064-31-3 2. 225-768-6 3. 607-620-00-6 4. Not Available	<0.5%	nitrilotriacetic acid, trisodium salt	Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 2, Carcinogenicity Category 2; H302, H319, H351[2]	Carc. 2; H351: C ≥ 5 %	Not Available
1. 1300-72-7 2. 215-090-9 3. Not Available 4. Not Available	<0.5%	sodium xylenesulfonate	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; H315, H319, H335[1]	SCL: Not Available	Not Available
1. 497-19-8 2. 207-838-8 3. 011-005-00-2 4. Not Available	<0.5%	sodium carbonate	Serious Eye Damage/Eye Irritation Category 2; H319[2]	SCL: Not Available	Not Available
1. 8042-47-5 2. 232-455-8 3. Not Available 4. Not Available	<0.5%	white mineral oil (petroleum)	Aspiration Hazard Category 1; H304[1]	SCL: Not Available	Not Available
1. 64-17-5 2. 200-578-6 3. 603-002-00-5 4. Not Available	40-50%	ethanol	Flammable Liquids Category 2; H225[2]	SCL: Not Available	Not Available
1. 67-56-1* 2. 200-659-6 3. 603-001-00-X 4. Not Available	<0.5%	methanol*	Flammable Liquids Category 2, Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 3, Acute Toxicity (Inhalation) Category 3, Specific Target Organ Toxicity - Single Exposure Category 1; H225, H301, H311, H331, H370[2]	* STOT SE 1; H370: C ≥ 10 %, STOT SE 2; H371: 3 % ≤ C < 10 %	Not Available

1. 109-87-5 2. 203-714-2 3. Not Available 4. Not Available	<0.5%	methylal	Flammable Liquids Category 2, Acute Toxicity (Oral, Dermal and Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Specific Target Organ Toxicity - Single Exposure Category 2; H225, H302+H312+H332, H315, H319, H335, H336, H371, EUH019[1]	SCL: Not Available	Not Available
1. 107-18-6 2. 203-470-7 3. 603-015-00-6 4. Not Available	0.5%	allyl alcohol*	Flammable Liquids Category 2, Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Acute Toxicity (Inhalation) Category 3, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Acute Hazard Category 1; H225, H301, H311, H315, H319, H331, H335, H400[2]	SCL: Not Available	Not Available

Legend: *1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties*

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: • Wash out immediately with fresh running water. • Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. • Seek medical attention without delay; if pain persists or recurs seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: • Immediately remove all contaminated clothing, including footwear. • Flush skin and hair with running water (and soap if available). • Seek medical attention in event of irritation.
Inhalation	• If fumes or combustion products are inhaled remove from contaminated area. • Lay patient down. Keep warm and rested. • Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. • Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. • Transport to hospital, or doctor, without delay.
Ingestion	• Immediately give a glass of water. • First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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

See Section 11

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

Treat symptomatically.
For acute or short term repeated exposures to ethanol:

- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
- Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions.
- Fructose administration is contra-indicated due to side effects.

SECTION 5 FIREFIGHTING MEASURES

5.1. Extinguishing media

- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

5.3. Advice for firefighters

Fire Fighting	• Alert Fire Brigade and tell them location and nature of hazard. • Wear breathing apparatus plus protective gloves in the event of a fire. • Prevent, by any means available, spillage from entering drains or water courses. • Use fire fighting procedures suitable for surrounding area. • **DO NOT** approach containers suspected to be hot. • Cool fire exposed containers with water spray from a protected location. • If safe to do so, remove containers from path of fire. • Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	# carbon dioxide (CO2) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	• Remove all ignition sources. • Clean up all spills immediately. • Avoid breathing vapours and contact with skin and eyes. • Control personal contact with the substance, by using protective equipment. • Contain and absorb small quantities with vermiculite or other absorbent material. • Wipe up. • Collect residues in a flammable waste container.
Major Spills	• Clear area of personnel and move upwind. • Alert Fire Brigade and tell them location and nature of hazard. • Wear full body protective clothing with breathing apparatus. • Prevent, by all means available, spillage from entering drains or water courses. • Consider evacuation (or protect in place). • No smoking, naked lights or ignition sources. • Increase ventilation. • Stop leak if safe to do so. • Water spray or fog may be used to disperse / absorb vapour. • Contain or absorb spill with sand, earth or vermiculite. • Collect recoverable product into labelled containers for recycling. • Collect solid residues and seal in labelled drums for disposal. • Wash area and prevent runoff into drains. • After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. • If contamination of drains or waterways occurs, advise emergency services.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling	• Avoid all personal contact, including inhalation.

	• Wear protective clothing when risk of exposure occurs. • Use in a well-ventilated area. • Avoid contact with moisture. • Avoid contact with incompatible materials. • When handling, **DO NOT** eat, drink or smoke. • Keep containers securely sealed when not in use. • Avoid physical damage to containers. • Always wash hands with soap and water after handling. • Work clothes should be laundered separately. Launder contaminated clothing before re-use. • Use good occupational work practice. • Observe manufacturer's storage and handling recommendations contained within this SDS. • Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. • **DO NOT** allow clothing wet with material to stay in contact with skin
Fire and explosion protection	See section 5
Other information	

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	• Polyethylene or polypropylene container. • Packing as recommended by manufacturer. • Check all containers are clearly labelled and free from leaks.
Storage incompatibility	• Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates. Formaldehyde: • is a strong reducing agent • may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures • will polymerize with active organic material such as phenol • reacts violently with strong oxidisers, hydrogen peroxide, potassium permanganate, acrylonitrile, caustics (sodium hydroxide, yielding formic acid and flammable hydrogen), magnesium carbonate, nitromethane, nitrogen oxides (especially a elevated temperatures), peroxyformic acid • is incompatible with strong acids (hydrochloric acid forms carcinogenic bis(chloromethyl)ether*), amines, ammonia, aniline, bisulfides, gelatin, iodine, magnesite, phenol, some monomers, tannins, salts of copper, iron, silver. • acid catalysis can produce impurities: methylal, methyl formate Aqueous solutions of formaldehyde: • slowly oxidise in air to produce formic acid • attack carbon steel Concentrated solutions containing formaldehyde are: • unstable, both oxidising slowly to form formic acid and polymerising; in dilute aqueous solutions formaldehyde appears as monomeric hydrate (methylene glycol) - the more concentrated the solution the more polyoxymethylene glycol occurs as oligomers and polymers (methanol and amine-containing compounds inhibit polymer formation) • readily subject to polymerisation, at room temperature, in the presence of air and moisture, to form paraformaldehyde (8-100 units of formaldehyde), a solid mixture of linear polyoxymethylene glycols containing 90-99% formaldehyde; a cyclic trimer, trioxane (CH2O3), may also form Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents *The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl: log(BCME)ppb = -2.25 + 0.67• log(HCHO) ppm + 0.77• log(HCl)ppm Assume values for formaldehyde, in air, of 1 ppm and for HCl of 5 ppm, resulting BCME concentration, in air, would be 0.02 ppb. • Avoid strong bases. *
Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)	P5a: Flammable Liquids, P5b: Flammable Liquids, P5c: Flammable Liquids
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	P5a Lower- / Upper-tier requirements: 10 / 50 P5b Lower- / Upper-tier requirements: 50 / 200 P5c Lower- / Upper-tier requirements: 5 000 / 50 000

7.3. Specific end use(s)

See section 1.2

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Ingredient	**DNELs** **Exposure Pattern Worker**	**PNECs** **Compartment**
triethylamine	Dermal 12.1 mg/kg bw/day (Systemic, Chronic) Inhalation 8.4 mg/m^3 (Systemic, Chronic) Inhalation 8.4 mg/m^3 (Local, Chronic) Inhalation 12.6 mg/m^3 (Systemic, Acute) Inhalation 12.6 mg/m^3 (Local, Acute)	0.11 mg/L (Water (Fresh)) 0.08 mg/L (Water - Intermittent release) 0.011 mg/L (Water (Marine)) 1.575 mg/kg sediment dw (Sediment (Fresh Water)) 0.158 mg/kg sediment dw (Sediment (Marine)) 0.25 mg/kg soil dw (Soil) 100 mg/L (STP)
sodium hydroxide	Inhalation 2.05 mg/m^3 (Systemic, Chronic) Inhalation 1 mg/m^3 (Local, Chronic) Inhalation 2 mg/m^3 (Local, Acute) ***#Inhalation 0.51 mg/m^3 (Systemic, Chronic)*** * ***#Inhalation 1 mg/m^3 (Local, Chronic)*** *	Not Available
2-bromo-2-nitropropan-1,3-diol	Dermal 2 mg/kg bw/day (Systemic, Chronic) Inhalation 3.5 mg/m^3 (Systemic, Chronic) Dermal 8 µg/cm^2 (Local, Chronic) Inhalation 2.5 mg/m^3 (Local, Chronic) Dermal 6 mg/kg bw/day (Systemic, Acute) Inhalation 10.5 mg/m^3 (Systemic, Acute) Dermal 8 µg/cm^2 (Local, Acute) Inhalation 2.5 mg/m^3 (Local, Acute) ***#Dermal 0.7 mg/kg bw/day (Systemic, Chronic)*** * ***#Inhalation 0.6 mg/m^3 (Systemic, Chronic)*** * ***#Oral 0.18 mg/kg bw/day (Systemic, Chronic)*** * ***#Dermal 4 µg/cm^2 (Local, Chronic)*** * ***#Inhalation 0.6 mg/m^3 (Local, Chronic)*** * ***#Dermal 2.1 mg/kg bw/day (Systemic, Acute)*** * ***#Inhalation 1.8 mg/m^3 (Systemic, Acute)*** * ***#Oral 0.5 mg/kg bw/day (Systemic, Acute)*** * ***#Dermal 4 µg/cm^2 (Local, Acute)*** * ***#Inhalation 0.6 mg/m^3 (Local, Acute)*** *	0.001 mg/L (Water (Fresh)) 0 mg/L (Water - Intermittent release) 0.001 mg/L (Water (Marine)) 0.021 mg/kg sediment dw (Sediment (Fresh Water)) 0.009 mg/kg sediment dw (Sediment (Marine)) 0.21 mg/kg soil dw (Soil) 0.43 mg/L (STP)
EDTA tetrasodium salt	Inhalation 1.5 mg/m^3 (Systemic, Chronic) Inhalation 1.5 mg/m^3 (Local, Chronic) Inhalation 3 mg/m^3 (Systemic, Acute) Inhalation 3 mg/m^3 (Local, Acute) ***#Oral 25 mg/kg bw/day (Systemic, Chronic)*** * ***#Inhalation 0.6 mg/m^3 (Local, Chronic)*** * ***#Inhalation 1.2 mg/m^3 (Local, Acute)*** *	2.83 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.283 mg/L (Water (Marine)) 1.1 mg/kg soil dw (Soil) 50 mg/L (STP)
nitrilotriacetic acid, trisodium salt	Inhalation 3.2 mg/m^3 (Systemic, Chronic) Inhalation 5.25 mg/m^3 (Systemic, Acute) ***#Inhalation 0.8 mg/m^3 (Systemic, Chronic)*** * ***#Oral 0.3 mg/kg bw/day (Systemic, Chronic)*** * ***#Inhalation 1.75 mg/m^3 (Systemic, Acute)*** * ***#Oral 0.5 mg/kg bw/day (Systemic, Acute)*** *	0.93 mg/L (Water (Fresh)) 0.8 mg/L (Water - Intermittent release) 0.093 mg/L (Water (Marine)) 3.64 mg/kg sediment dw (Sediment (Fresh Water)) 0.364 mg/kg sediment dw (Sediment (Marine)) 0.182 mg/kg soil dw (Soil) 270 mg/L (STP) 0.2 mg/kg food (Oral)
sodium carbonate	Inhalation 10 mg/m^3 (Local, Chronic) ***#Inhalation 5 mg/m^3 (Local, Chronic)*** *	Not Available
white mineral oil (petroleum)	Dermal 217.05 mg/kg bw/day (Systemic, Chronic) Inhalation 164.56 mg/m^3 (Systemic, Chronic) ***#Dermal 93.02 mg/kg bw/day (Systemic, Chronic)*** * ***#Inhalation 34.78 mg/m^3 (Systemic, Chronic)*** * ***#Oral 25 mg/kg bw/day (Systemic, Chronic)*** *	Not Available
ethanol	Dermal 343 mg/kg bw/day (Systemic, Chronic) Inhalation 380 mg/m^3 (Systemic, Chronic) Inhalation 1 900 mg/m^3 (Local, Acute) ***#Dermal 206 mg/kg bw/day (Systemic, Chronic)*** * ***#Inhalation 114 mg/m^3 (Systemic, Chronic)*** * ***#Oral 87 mg/kg bw/day (Systemic, Chronic)*** * ***#Inhalation 950 mg/m^3 (Local, Acute)*** *	0.96 mg/L (Water (Fresh)) 2.75 mg/L (Water - Intermittent release) 0.79 mg/L (Water (Marine)) 3.6 mg/kg sediment dw (Sediment (Fresh Water)) 2.9 mg/kg sediment dw (Sediment (Marine)) 0.63 mg/kg soil dw (Soil) 580 mg/L (STP) 0.38 g/kg food (Oral)
methanol	Dermal 20 mg/kg bw/day (Systemic, Chronic) Inhalation 130 mg/m^3 (Systemic, Chronic) Inhalation 130 mg/m^3 (Local, Chronic) Dermal 20 mg/kg bw/day (Systemic, Acute)	Not Available

	Inhalation 130 mg/m^3 (Systemic, Acute) Inhalation 130 mg/m^3 (Local, Acute) ***#Dermal 4 mg/kg bw/day (Systemic, Chronic) **** ***#Inhalation 26 mg/m^3 (Systemic, Chronic) **** ***#Oral 4 mg/kg bw/day (Systemic, Chronic) **** ***#Inhalation 26 mg/m^3 (Local, Chronic) **** ***#Dermal 4 mg/kg bw/day (Systemic, Acute) **** ***#Inhalation 26 mg/m^3 (Systemic, Acute) **** ***#Oral 4 mg/kg bw/day (Systemic, Acute) **** ***#Inhalation 26 mg/m^3 (Local, Acute) ****	
methylal	Dermal 17.9 mg/kg bw/day (Systemic, Chronic) Inhalation 126.6 mg/m^3 (Systemic, Chronic) ***#Dermal 18.1 mg/kg bw/day (Systemic, Chronic) **** ***#Inhalation 31.5 mg/m^3 (Systemic, Chronic) **** ***#Oral 18.1 mg/kg bw/day (Systemic, Chronic) ****	14.577 mg/L (Water (Fresh)) 1.477 mg/L (Water (Marine)) 13.135 mg/kg sediment dw (Sediment (Fresh Water)) 1.313 mg/kg sediment dw (Sediment (Marine)) 4.654 mg/kg soil dw (Soil) 10 g/L (STP)
allyl alcohol	Dermal 0.125 mg/kg bw/day (Systemic, Chronic) Inhalation 4.63 mg/m^3 (Systemic, Chronic) Dermal 7.6 mg/kg bw/day (Systemic, Acute) Inhalation 12.1 mg/m^3 (Systemic, Acute) Inhalation 12.1 mg/m^3 (Local, Acute) ***#Oral 0.075 mg/kg bw/day (Systemic, Chronic) ****	3.2 µg/L (Water (Fresh)) 3.2 µg/L (Water - Intermittent release) 0.32 µg/L (Water (Marine)) 12.7 µg/kg sediment dw (Sediment (Fresh Water)) 1.27 µg/kg sediment dw (Sediment (Marine)) 3.68 µg/kg soil dw (Soil) 10 mg/L (STP) 0.33 mg/kg food (Oral)

* Values for General Population

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs).	triethylamine	Triethylamine	2 ppm / 8 mg/m3	17 mg/m3 / 4 ppm	Not Available	Sk
UK Workplace Exposure Limits (WELs).	sodium hydroxide	Sodium hydroxide	Not Available	2 mg/m3	Not Available	Not Available
UK Workplace Exposure Limits (WELs).	ethanol	Ethanol	1000 ppm / 1920 mg/m3	Not Available	Not Available	Not Available
UK Workplace Exposure Limits (WELs).	methanol	Methanol	200 ppm / 266 mg/m3	333 mg/m3 / 250 ppm	Not Available	Sk
UK Workplace Exposure Limits (WELs).	methylal	Dimethoxymethane	1000 ppm / 3160 mg/m3	3950 mg/m3 / 1250 ppm	Not Available	Not Available
UK Workplace Exposure Limits (WELs).	allyl alcohol	Allyl alcohol	2 ppm / 4.8 mg/m3	9.7 mg/m3 / 4 ppm	Not Available	Sk

EMERGENCY LIMITS

Ingredient	TEEL-1	TEEL-2	TEEL-3
triethylamine	1 ppm	170 ppm	1,000 ppm
sodium hydroxide	Not Available	Not Available	Not Available
EDTA tetrasodium salt	75 mg/m3	830 mg/m3	5,000 mg/m3
EDTA tetrasodium salt	82 mg/m3	900 mg/m3	5,500 mg/m3
nitrilotriacetic acid, trisodium salt	1.6 mg/m3	18 mg/m3	110 mg/m3
sodium carbonate	7.6 mg/m3	83 mg/m3	500 mg/m3
white mineral oil (petroleum)	140 mg/m3	1,500 mg/m3	8,900 mg/m3
ethanol	Not Available	Not Available	15000* ppm
methanol	Not Available	Not Available	Not Available
methylal	230 ppm	2500* ppm	15000** ppm
allyl alcohol	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH

triethylamine	200 ppm	Not Available
C9-11 alcohols, ethoxylated, phosphated	Not Available	Not Available
sodium hydroxide	10 mg/m3	Not Available
2-bromo-2-nitropropan-1,3-diol	Not Available	Not Available
EDTA tetrasodium salt	Not Available	Not Available
nitrilotriacetic acid, trisodium salt	Not Available	Not Available
sodium xylenesulfonate	Not Available	Not Available
sodium carbonate	Not Available	Not Available
white mineral oil (petroleum)	2,500 mg/m3	Not Available
ethanol	Not Available	Not Available
methanol	6,000 ppm	Not Available
methylal	Not Available	Not Available
allyl alcohol	20 ppm	Not Available

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
C9-11 alcohols, ethoxylated, phosphated	C	> 1 to ≤ 10 parts per million (ppm)
2-bromo-2-nitropropan-1,3-diol	E	≤ 0.01 mg/m^3
EDTA tetrasodium salt	E	≤ 0.01 mg/m^3
nitrilotriacetic acid, trisodium salt	E	≤ 0.01 mg/m^3
sodium xylenesulfonate	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m^3)
sodium carbonate	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m^3)
Notes:	***Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.***	

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure.

- Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area.
- Work should be undertaken in an isolated system such as a "glove-box" . Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.
- Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within.
- Open-vessel systems are prohibited.
- Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.
- Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system.
- For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas).

- Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.
- Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.

8.2.2. Individual protection measures, such as personal protective equipment

Eye and face protection

- Safety glasses with side shields.
- Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

Skin protection

See Hand protection below

Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:
· frequency and duration of contact,
· chemical resistance of glove material,
· glove thickness and
· dexterity
Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).
· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
· Contaminated gloves should be replaced.
As defined in ASTM F-739-96 in any application, gloves are rated as:
· Excellent when breakthrough time > 480 min
· Good when breakthrough time > 20 min
· Fair when breakthrough time < 20 min
· Poor when glove material degrades
For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.
It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.
Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:
· Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
· Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential
Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body protection

See Other protection below

Other protection

- Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent]
- Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent]

- Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.
- Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.
- Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Overalls.
- P.V.C apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
De-Icer -30°C Trigger Spray

Material	CPI
BUTYL	C
BUTYL/NEOPRENE	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/CHLOROBUTYL	C
VITON/NEOPRENE	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type KAX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	KAX-AUS P2	-	KAX-PAPR-AUS / Class 1 P2
up to 50 x ES	-	KAX-AUS / Class 1 P2	-
up to 100 x ES	-	KAX-2 P2	KAX-PAPR-2 P2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

8.2.3. Environmental exposure controls

See section 12

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Not Available

Physical State	Liquid	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Miscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available
Heat of Combustion (kJ/g)	Not Available	**Ignition Distance (cm)**	Not Available
Flame Height (cm)	Not Available	**Flame Duration (s)**	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	**Enclosed Space Ignition Deflagration Density (g/m3)**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity	See section 7.2
10.2. Chemical stability	• Unstable in the presence of incompatible materials. • Product is considered stable. • Hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

<table>
<tr><td>Inhaled</td><td>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.
Animal testing shows that the most common signs of inhalation overdose is inco-ordination and drowsiness.
Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.
Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</td></tr>
<tr><td>Ingestion</td><td>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.
Ingestion of ethanol (ethyl alcohol, "alcohol") may produce nausea, vomiting, bleeding from the digestive tract, abdominal pain, and diarrhoea. Effects on the body:
<table>
<tr><td>Blood concentration</td><td>Effects</td></tr>
<tr><td><1.5 g/L</td><td>Mild: impaired vision, co-ordination and reaction time; emotional instability</td></tr>
<tr><td>1.5-3.0 g/L</td><td>Moderate: Slurred speech, confusion, inco-ordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence. Slow breathing may occur rarely and fast breathing may develop in cases of metabolic acidosis, low blood sugar and low blood potassium.
Central nervous system depression may progress to coma.</td></tr>
<tr><td>3-5 g/L</td><td>Severe: cold clammy skin, low body temperature and low blood pressure. Atrial fibrillation and heart block have been reported. Depression of breathing may occur, respiratory failure may follow serious poisoning, choking on vomit may result in lung inflammation and swelling. Convulsions due to severe low blood sugar may also occur. Acute liver inflammation may develop.</td></tr>
</table>
Accidental ingestion of the material may be damaging to the health of the individual.</td></tr>
<tr><td>Skin Contact</td><td>Skin contact with the material may be harmful; systemic effects may result following absorption.
Open cuts, abraded or irritated skin should not be exposed to this material
Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</td></tr>
<tr><td>Eye</td><td>Direct contact of the eye with ethanol (alcohol) may cause an immediate stinging and burning sensation, with reflex closure of the lid, and a temporary, tearing injury to the cornea together with redness of the conjunctiva. Discomfort may last 2 days but usually the injury heals without treatment.
There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.</td></tr>
<tr><td>Chronic</td><td>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.
Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.
Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.
There is sufficient evidence to suggest that this material directly causes cancer in humans.
Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.
Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material.
Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.</td></tr>
</table>

	TOXICITY	IRRITATION
De-Icer -30°C Trigger Spray	Not Available	Not Available
triethylamine	Dermal (rabbit) LD50: 570 mg/kg [2]	Eye (rabbit): 0.25 mg/24h SEVERE
	Inhalation (Rat) LC50: 3.675 mg/l4h [1]	Eye: adverse effect observed (irritating) [1]
	Oral (Cat) LD50; >370<730 mg/kg [1]	Eye(rabbit): 50ppm/30d int SEVERE
		Skin (rabbit): 365 mg open mild
		Skin: adverse effect observed (corrosive) [1]
		Skin: adverse effect observed (irritating) [1]
C9-11 alcohols, ethoxylated, phosphated	Not Available	Not Available
sodium hydroxide	Dermal (rabbit) LD50: 1350 mg/kg [2]	Eye (rabbit): 0.05 mg/24h SEVERE
	Oral (Rabbit) LD50; 325 mg/kg [1]	Eye (rabbit):1 mg/24h SEVERE
		Eye (rabbit):1 mg/30s rinsed-SEVERE
		Eye: adverse effect observed (irritating) [1]
		Skin (rabbit): 500 mg/24h SEVERE
		Skin: adverse effect observed (corrosive) [1]
2-bromo-2-nitropropan-1,3-diol	dermal (rat) LD50: ~1600 mg/kg [1]	Eye (rabbit): 5 mg
	Inhalation (Rat) LC50: >0.12<1.14 mg/l4h [1]	Eye: adverse effect observed (irreversible damage) [1]
	Oral (Rat) LD50; 180 mg/kg [2]	Skin (human): 10 mg moderate
		Skin (rabbit): 500 mg/24h mild
		Skin (rabbit): 80 mg moderate
		Skin: adverse effect observed (irritating) [1]
EDTA tetrasodium salt	Oral (Rat) LD50; 630 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
		Eyes (rabbit): 1.9 mg
		Eyes (rabbit):100 mg/24h-moderate
		Skin (rabbit):500 mg/24h-moderate *[BASF]
		Skin: no adverse effect observed (not irritating) [1]

nitrilotriacetic acid, trisodium salt

TOXICITY	IRRITATION
Inhalation (Rat) LC50: >5 mg/l4h [2]	Eye (rabbit): Irritant * * [BASF]
Oral (Rat) LD50; 1100 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
	Skin (rabbit): non-irritating *
	Skin: no adverse effect observed (not irritating) [1]

sodium xylenesulfonate

TOXICITY	IRRITATION
Oral (Rat) LD50; >10 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
	Skin: no adverse effect observed (not irritating) [1]

sodium carbonate

TOXICITY	IRRITATION
dermal (rat) LD50: >2000 mg/kg [2]	Eye (rabbit): 100 mg/24h moderate
Oral (Rat) LD50; 2800 mg/kg [2]	Eye (rabbit): 100 mg/30s mild
	Eye (rabbit): 50 mg SEVERE
	Eye: adverse effect observed (irritating) [1]
	Skin (rabbit): 500 mg/24h mild
	Skin: no adverse effect observed (not irritating) [1]

white mineral oil (petroleum)

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg [1]	Eye: no adverse effect observed (not irritating) [1]
Inhalation (Rat) LC50: >4.5 mg/l4h [1]	Skin: no adverse effect observed (not irritating) [1]
Oral (Rat) LD50; >5000 mg/kg [2]	

ethanol

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 17100 mg/kg [1]	Eye (rabbit): 500 mg SEVERE
Inhalation (Rat) LC50: 64000 ppm4h [2]	Eye (rabbit):100mg/24hr-moderate
Oral (Rat) LD50; 7060 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
	Eye: no adverse effect observed (not irritating) [1]
	Skin (rabbit):20 mg/24hr-moderate
	Skin (rabbit):400 mg (open)-mild
	Skin: no adverse effect observed (not irritating) [1]

methanol

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 15800 mg/kg [2]	Eye (rabbit): 100 mg/24h-moderate

Inhalation (Rat) LC50: 64000 ppm4h [2]	Eye (rabbit): 40 mg-moderate
Oral (Rat) LD50; 5628 mg/kg [2]	Eye: no adverse effect observed (not irritating) [1]
	Skin (rabbit): 20 mg/24 h-moderate
	Skin: no adverse effect observed (not irritating) [1]

methylal

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >5000 mg/kg [1]	Skin: no adverse effect observed (not irritating) [1]
Inhalation (Rat) LC50: 3000 ppm4h [2]	
Oral (Rabbit) LD50; 5708 mg/kg [2]	

allyl alcohol

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 45 mg/kg [2]	Eye (human): 25 ppm - SEVERE
Inhalation (Rat) LC50: >100 ppm4h [1]	Eye (rabbit): 4.27 ug - SEVERE
Oral (Rat) LD50; 64 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
	Skin (rabbit): 10 mg (open)
	Skin: adverse effect observed (irritating) [1]

Legend: *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

2-bromo-2-nitropropan-1,3-diol	Chemical with the aliphatic nitro group (-C-NO2) have been added to a list of DNA-reactive subgroups recognised by the National Toxicological Program (NTP, U.S. Dept Health and Human Services) for possible carcinogenic activity.
nitrilotriacetic acid, trisodium salt	Nitrilotriacetic acid and its water-soluble metal complexes occur in household detergents and drinking water. Their ability to chelate metal ions accounts for the toxicity. They may cause cancer of the kidney, bladder and urinary tract in some experimental animals but no foetal or genetic damage has been recorded. They do not cause skin sensitisation or irritation but may accumulate in the foetal skeleton. In humans, they are poorly absorbed from the intestines and rapidly excreted in the urine.
sodium xylenesulfonate	Toxicological data is available and well documented for representative toluene, xylene and cumene sulfonates (including sodium, potassium, ammounium and calcium salts). These data show that hydrotropes have low toxicity for all routes, do not cause genetic damage, show no evidence of causing cancer in long-term skin studies, and have not caused birth defects, developmental defects or reduced fertility. <
sodium carbonate	For sodium carbonate: Sodium carbonate has little potential for skin irritation, but is irritating to the eyes. Due to its alkaline properties, irritation of the airways is also possible. There is no data available for animal studies regarding the repeated dose toxicity of sodium carbonate by any route. There is no evidence that sodium carbonate causes whole-body effects under normal handling and use. Sodium carbonate does not reach the foetus or the reproductive organs, which shows that there is no risk for developmental or reproductive toxicity. Sodium carbonate has not been shown to cause genetic toxicity or mutations.
methylal	For acetals: Aliphatic acetals are reported to have little acute toxicity if given by mouth. They are generally broken down to their corresponding aldehydes and alcohols within several hours in the stomach and bowel; in the liver, they are expected, in humans, to be converted to alcohols and acids. There is not enough data to rule out significant amounts of the original acetals reaching the general circulation. The component alcohols and aldehydes are divided into linear, alpha,beta-unsaturated and branched chain structural types which differ in their breakdown process. The first two types are generally oxidised to carboxylic acids; branched-chain aliphatic aldehydes have been reported to be mainly oxidised to more polar breakdown products which are mainly excreted in the urine as a mixture of diacids and hydroxyacids.
allyl alcohol	Animal studies show that allyl alcohol is broken down in the liver to many products, including acrolein, which is toxic to the liver. Acrolein is also potentially toxic to the heart. Allyl alcohol is slightly irritating to the skin, eyes and lining of the nose. The

	substance has been harmful to the kidney in rats. It is uncertain whether allyl alcohol causes genetic damage or cancer. It is harmful to the foetus at sufficient doses, although this is at levels that are harmful to the mother.
triethylamine	Inhalation (human) TCLo: 12mg/m3/11W contin.Skin (rabbitmild Overexposure to most of these materials may cause adverse health effects. Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient. There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing. Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, inflammation of the bronchi and lungs, and possible lung damage. Repeated and/or prolonged exposure to some amines may result in liver disorders, jaundice and liver enlargement. Some amines have been shown to cause kidney, blood and central nervous system disorders in animal studies. While most polyurethane amine catalysts are not sensitisers, some certain individuals may also become sensitized to amines and my experience distress while breathing, including asthma-like attacks, whenever they are subsequently exposed to even very small amounts of vapours. Once sensitized, these individuals must avoid any further exposure to amines. Chronic overexposure may lead to permanent lung injury, including reduction in lung function, breathlessness, chronic inflammation of the bronchi, and immunologic lung disease. Products with higher vapour pressures may reach higher concentrations in the air, and this increases the likelihood of worker exposure. Inhalation hazards are increased when exposure to amine catalysts occurs in situations that produce aerosols, mists or heated vapours. Such situations include leaks in fitting or transfer lines. Medical conditions generally aggravated by inhalation exposure include asthma, bronchitis and emphysema. Skin contact: Skin contact with amine catalysts poses a number of concerns. Direct skin contact can cause moderate to severe irritation and injury, from simple redness and swelling to painful blistering, ulceration, and chemical burns. Repeated or prolonged exposure may also result in severe cumulative skin inflammation. Skin contact with some amines may result in allergic sensitization. Sensitised persons should avoid all contact with amine catalysts. Whole-body effects resulting from the absorption of the amines though skin exposure may include headaches, nausea, faintness, anxiety, decrease in blood pressure, reddening of the skin, hives, and facial swelling. These symptoms may be related to the pharmacological action of the amines, and they are usually temporary. Eye contact: Amine catalysts are alkaline and their vapours are irritating to the eyes, even at low concentrations. Direct contact with liquid amine may cause severe irritation and tissue injury, and the “burning” may lead to blindness. Contact with solid products may result in mechanical irritation, pain and corneal injury. Exposed persons may experience excessive tearing, burning, inflammation of the conjunctiva, and swelling of the cornea, which manifests as a blurred or foggy vision with a blue tint, and sometimes a halo phenomenon around lights. These symptoms are temporary and usually disappear when exposure ends. Some people may experience this effect even when exposed to concentrations that do not cause respiratory irritation. Ingestion: Amine catalysts have moderate to severe toxicity if swallowed. Some amines can cause severe irritation, ulcers and burns of the mouth, throat, gullet and gastrointestinal tract. Material aspirated due to vomiting can damage the bronchial tubes and the lungs. Affected people may also experience pain in the chest or abdomen, nausea, bleeding of the throat and gastrointestinal tract, diarrhea, dizziness, drowsiness, thirst, collapse of circulation, coma and even death.
C9-11 alcohols, ethoxylated, phosphated	For alkyl alcohol alkoxylate phosphate (AAAPD) surfactants (alkyl or alcohol ether phosphates): Acute toxicity: This group of surfactants exhibit similar effects to the alcohol ether sulfates (AAASDs, such as sodium lauryl ether sulfate). They are likely to be irritating to the skin and eyes (R36/R38) in their undiluted forms, but not acutely toxic. Commercial products may contain excess phosphoric acid and may produce serious eye irritation (R41) or may even be classified as corrosive, acidic substances. Subchronic toxicity: Animal testing shows that these substances have relatively low chronic toxicity. Effects usually included enlargement of the liver. Genetic toxicity: Alcohol ether phosphates are unlikely to cause genetic toxicity. Cancer-causing potential: Chronic dietary studies on animals showed no cancer-causing evidence. Reproductive and developmental toxicity: Animal studies did not show reproductive and developmental toxicity to be associated with AAAPD surfactants. Sensitising potential: Animal testing showed that the pure surfactant itself is non-sensitising, but its oxidation products may cause sensitization. Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation.
EDTA tetrasodium salt	* Sigma Aldrich - for the dihydrate For ethylendiaminetetraacetic acid (EDTA) and its salts: EDTA is a strong organic acid, with a high affinity for alkaline-earth ions (for example, calcium and magnesium) and heavy-metal ions (such as lad and mercury), resulting in highly stable chelate complexes. The ability of EDTA to complex is used commercially to either promote or inhibit chemical reactions, depending on application. EDTA and its salts are expected to be absorbed by the lungs and the gastrointestinal tract; absorption through skin is unlikely. They cause mild skin irritation, and severe eye irritation. The greatest risk in the human body will occur when the EDTA attempts to scavenge the trace metals used and required by the body. The binding of divalent and trivalent cations by EDTA can cause mineral deficiencies, such as zinc deficiency. These appear to be responsible for all of the known pharmacological effects. EDTA and its salts are mostly eliminated through the urine, with 5% eliminated via the bile, along with the metal ions which are bound to it.

	Trisodium EDTA has not been found to cause cancer. EDTA and its salts are not likely to cause harm to children and infants at levels likely to be encountered.
white mineral oil (petroleum)	Oral (rat) TCLo: 92000 mg/kg/92D-Cont. Generally the toxicity and irritation is of low order. White oils and highly/solvent refined oils have not shown the long term risk of skin cancer that follows persistent skin contamination with some other mineral oils, due in all probability to refining that produces low content of both polyaromatics (PAH) and benz-alpha-pyrenes (BaP) The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. For highly and severely refined distillate base oils: In animal studies, the acute, oral, semilethal dose is >5g/kg body weight and the semilethal dose by skin contact is >2g/kg body weight. The semilethal concentration for inhalation is 2.18 to >4 mg/L. The materials have varied from “non-irritating” to “moderately irritating” when tested for skin and eye irritation. Testing for sensitisation has been negative. The effects of repeated exposure vary by species; in animals, effects to the testes and lung have been observed, as well as the formation of granulomas. In animals, these substances have not been found to cause reproductive toxicity or significant increases in birth defects. They are also not considered to cause cancer, mutations or chromosome aberrations. The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since: • The adverse effects of these materials are associated with undesirable components, and • The levels of the undesirable components are inversely related to the degree of processing; • Distillate base oils receiving the same degree or extent of processing will have similar toxicities; • The potential toxicity of residual base oils is independent of the degree of processing the oil receives. • The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing. Unrefined & mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential cancer-causing and mutation-causing activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity. Testing of residual oils for mutation-causing and cancer-causing potential has shown negative results, supporting the belief that these materials lack biologically active components or the components are largely non-bioavailable due to their molecular size. Toxicity testing has consistently shown that lubricating base oils have low acute toxicities. Numerous tests have shown that a lubricating base oil s mutagenic and carcinogenic potential correlates with its 3-7 ring polycyclic aromatic compound (PAC) content, and the level of DMSO extractables (e.g. IP346 assay), both characteristics that are directly related to the degree/conditions of processing.
De-Icer -30°C Trigger Spray & EDTA tetrasodium salt	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.
De-Icer -30°C Trigger Spray & sodium xylenesulfonate	For alkyl sulfates; alkane sulfonates and alpha-olefin sulfonates Most chemicals of this category are not defined substances, but mixtures of homologues with different alkyl side chains. Common physical and/or biological pathways result in structurally similar breakdown products, and are, together with the surfactant properties, responsible for similar environmental behavior and essentially identical hazard profiles with regard to human health. Acute toxicity: These substances are well absorbed after ingestion; penetration through the skin is however, poor. After absorption, these chemicals are distributed mainly to the liver. In animals, signs of poisoning by mouth include lethargy, hair standing up, decreased motor activity and breathing rate, and diarrhea. Poisoning from skin contact caused irritation, tremor, tonic-clonic convulsions, breathing failure, and weight loss. The C-12-akyl sulfate sodium salt caused the greatest effect. In eye irritation tests, C-12 containing alkyl sulfates at greater than 10% concentration were severely irritating and produced irreversible effects on the cornea. With increasing alkyl chain length, the irritating potential decreases, and the longer species are only mildly irritant. Animal studies have not shown alkyl sulfates and C14-18 alpha-olefin sulfonates to cause skin sensitization. However there is anecdotal evidence to suggest sodium lauryl sulfate causes sensitization of the lung, resulting in hyperactive airway dysfunction and lung allergy, accompanied by fatigue, malaise and aching. Significant symptoms of exposure can persist for more than two years, and can be activated by a variety of non-specific environmental stimuli, such as exhaust, perfumes and passive smoking. Airborne sulfonates may be responsible for respiratory allergies, and in some cases, minor skin allergies. Repeated skin contact with some sulfonated surfactants has produced skin inflammation was sensitization in predisposed individuals. Repeat dose toxicity: The liver seems to be the only organ that is affected by repeated exposure, with elevated levels of liver enzymes, an increase in liver weight and enlargement of liver cells being seen. Genetic toxicity: Alkyl sulfates and alkyl-olefin sulfonates do not appear to cause mutations or genetic toxicity. Cancer-causing potential: Animal testing suggested that alkyl sulfates and alpha-olefin sulfonates do not have cancer-causing potential. Reproductive toxicity: In animal testing, these substances only caused harm to the foetus and/or offspring at levels which were toxic to the mother. Developmental toxicity: Alkane sulfonates are not considered to be toxic to development.
De-Icer -30°C Trigger Spray & nitrilotriacetic	**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

acid, trisodium salt	
triethylamine & sodium carbonate	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
sodium hydroxide & methylal	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
2-bromo-2-nitropropan-1,3-diol & methylal	Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%.The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.
triethylamine & sodium hydroxide & allyl alcohol	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
C9-11 alcohols, ethoxylated, phosphated & sodium xylenesulfonate & methylal	No significant acute toxicological data identified in literature search.
2-bromo-2-nitropropan-1,3-diol & ethanol & methanol	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
De-Icer -30°C Trigger Spray & triethylamine & C9-11 alcohols, ethoxylated, phosphated & sodium hydroxide & 2-bromo-2-nitropropan-1,3-diol & EDTA tetrasodium salt & nitrilotriacetic acid, trisodium salt & sodium xylenesulfonate & sodium carbonate & methylal & allyl alcohol	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✗	**Reproductivity**	✗
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
De-Icer -30°C Trigger Spray	Not Available	Not Available	Not Available	Not Available	Not Available
triethylamine	LC50	96h	Fish	24mg/l	2
	BCF	1008h	Fish	<0.5	7

EC50	72h	Algae or other aquatic plants	6.8mg/l	2
EC50	48h	Crustacea	17mg/l	2
NOEC(ECx)	72h	Algae or other aquatic plants	1.1mg/l	2
EC50	96h	Algae or other aquatic plants	1.167mg/l	2

C9-11 alcohols, ethoxylated, phosphated

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

sodium hydroxide

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96h	Fish	144-267mg/l	4
EC50	48h	Crustacea	34.59-47.13mg/l	4
EC50(ECx)	48h	Crustacea	34.59-47.13mg/l	4

2-bromo-2-nitropropan-1,3-diol

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC10(ECx)	72h	Algae or other aquatic plants	0.013mg/l	2
EC50	72h	Algae or other aquatic plants	0.026mg/l	2
EC50	96h	Algae or other aquatic plants	0.02-0.025mg/L	4
EC50	48h	Crustacea	1.1-3.52mg/L	4
LC50	96h	Fish	10.274-14.454mg/L	4

EDTA tetrasodium salt

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96h	Fish	>500mg/l	Not Available
NOEC(ECx)	72h	Algae or other aquatic plants	0.39mg/l	1
EC50	72h	Algae or other aquatic plants	1.01mg/l	1
EC50	48h	Crustacea	>100mg/l	2

nitrilotriacetic acid, trisodium salt

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50(ECx)	48h	Crustacea	>100mg/l	Not Available
EC50	72h	Algae or other aquatic plants	>91.5mg/l	2
EC50	96h	Algae or other aquatic plants	180-320mg/l	1
EC50	48h	Crustacea	>100mg/l	Not Available
LC50	96h	Fish	>100mg/l	Not Available

sodium xylenesulfonate

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
EC50	72h	Algae or other aquatic plants	~252mg/l	2
EC50	48h	Crustacea	>400mg/l	1
NOEC(ECx)	72h	Algae or other aquatic plants	40mg/l	2
EC50	96h	Algae or other aquatic plants	>=230mg/l	2

sodium carbonate

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
NOEC(ECx)	48h	Fish	0.011mg/L	4
EC50	72h	Algae or other aquatic plants	>800mg/l	2
EC50	96h	Algae or other aquatic plants	242mg/L	4

	EC50	48h	Crustacea	156.6-298.9mg/l	4
	LC50	96h	Fish	300mg/l	2
white mineral oil (petroleum)	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96h	Fish	>10000mg/L	2
ethanol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96h	Fish	42mg/L	4
	EC50(ECx)	96h	Algae or other aquatic plants	<0.001mg/L	4
	EC50	72h	Algae or other aquatic plants	275mg/l	2
	EC50	96h	Algae or other aquatic plants	<0.001mg/L	4
	EC50	48h	Crustacea	2mg/L	4
methanol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96h	Fish	290mg/l	2
	NOEC(ECx)	720h	Fish	0.007mg/L	4
	EC50	96h	Algae or other aquatic plants	14.11-20.623mg/l	4
	EC50	48h	Crustacea	>10000mg/l	2
methylal	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	72h	Algae or other aquatic plants	9120mg/l	2
	LC50	96h	Fish	>1000mg/l	2
	EC50	48h	Crustacea	>1200mg/l	2
	NOEC(ECx)	720h	Algae or other aquatic plants	145.77mg/l	2
	EC50	96h	Algae or other aquatic plants	874.12mg/l	2
allyl alcohol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	EC50	72h	Algae or other aquatic plants	2.25mg/l	2
	LC50	96h	Fish	0.32mg/l	2
	EC50	48h	Crustacea	1.65mg/l	2
	EC50(ECx)	96h	Crustacea	0.25mg/l	1
Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*				

Harmful to aquatic organisms.
For Ethanol:
log Kow: -0.31 to -0.32;
Koc 1: Estimated BCF= 3;
Half-life (hr) air: 144;
Half-life (hr) H2O surface water: 144;
Henry's atm m3 /mol: 6.29E-06;
BOD 5 if unstated: 0.93-1.67,63%
COD: 1.99-2.11,97%;
ThOD : 2.1.
Environmental Fate: Terrestrial - Ethanol quickly biodegrades in soil but may leach into ground water; most is lost by evaporation. Ethanol is expected to have very high mobility in soil. Volatilization of ethanol from moist soil surfaces is expected to be an important fate process. The potential for volatilization of ethanol from dry soil surfaces may exist. Biodegradation is expected to be an important fate process for ethanol based on half-lives on the order of a few days for ethanol in sandy soil/groundwater microcosms.
Atmospheric Fate: Ethanol is expected to exist solely as a vapour in the ambient atmosphere. Vapour-phase ethanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days. Ethanol readily degraded by reaction with photochemically produced hydroxy radicals; release into air will result in photodegradation and wet deposition.
Aquatic Fate: When released into water ethanol readily evaporates and is biodegradable. Ethanol is not expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is expected and volatilization half-lives for a model river and model lake are 3 and 39 days, respectively. Bioconcentration in aquatic organisms is considered to be low. Hydrolysis and photolysis in sunlit surface waters is not expected to be an important environmental fate process for ethanol and is unlikely to be persistent in aquatic environments.
For 2-bromo-2-nitropropan-1,3-diol (Bronopol)

Environmental fate:
One hydrolysis study indicates that bronopol appears to hydrolyse slowly at acidic or neutral pH conditions. Bronopol decomposes in aqueous solution on exposure to light. Increases in temperature increase decomposition.
Ecotoxicity:
Bird LD50: mallard duck 510 mg/kg
Bird dietary LC50: quail 4488 ppm
Daphnia magna EC50 (48 h): 1.4 mg/l
Fish LC50: trout 41.5 ppm
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
triethylamine	HIGH	HIGH
sodium hydroxide	LOW	LOW
2-bromo-2-nitropropan-1,3-diol	LOW	LOW
sodium carbonate	LOW	LOW
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
methanol	LOW	LOW
methylal	LOW	LOW
allyl alcohol	LOW (Half-life = 14 days)	LOW (Half-life = 0.92 days)

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
triethylamine	LOW (BCF = 7.45)
sodium hydroxide	LOW (LogKOW = -3.8796)
2-bromo-2-nitropropan-1,3-diol	LOW (LogKOW = -0.6408)
sodium carbonate	LOW (LogKOW = -0.4605)
ethanol	LOW (LogKOW = -0.31)
methanol	LOW (BCF = 10)
methylal	LOW (LogKOW = 0)
allyl alcohol	LOW (LogKOW = 0.17)

12.4. Mobility in soil

Ingredient	Mobility
triethylamine	LOW (KOC = 107.2)
sodium hydroxide	LOW (KOC = 14.3)
2-bromo-2-nitropropan-1,3-diol	HIGH (KOC = 1)
sodium carbonate	HIGH (KOC = 1)
ethanol	HIGH (KOC = 1)
methanol	HIGH (KOC = 1)
methylal	HIGH (KOC = 1)
allyl alcohol	HIGH (KOC = 1.325)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available
PBT	✗	✗	✗
vPvB	✗	✗	Not Applicable

PBT Criteria fulfilled?	No

vPvB	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

One or more ingredients within this SDS has the potential of causing ozone depletion and/or photochemical ozone creation.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product / Packaging disposal	• Containers may still present a chemical hazard/ danger when empty. • Return to supplier for reuse/ recycling if possible. Otherwise: • If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. • Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: • Reduction • Reuse • Recycling • Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. • **DO NOT** allow wash water from cleaning or process equipment to enter drains. • It may be necessary to collect all wash water for treatment before disposal. • In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. • Where in doubt contact the responsible authority. • Recycle wherever possible. • Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. • Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material). • Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number or ID number**	Not Applicable	
14.2. **UN proper shipping name**	Not Applicable	
14.3. **Transport hazard class(es)**	Class	Not Applicable
	Subsidiary Hazard	Not Applicable
14.4. **Packing group**	Not Applicable	
14.5. **Environmental hazard**	Not Applicable	

14.6. **Special precautions for user**	Hazard identification (Kemler)	Not Applicable
	Classification code	Not Applicable
	Hazard Label	Not Applicable
	Special provisions	Not Applicable
	Limited quantity	Not Applicable
	Transport Category	Not Applicable
	Tunnel Restriction Code	Not Applicable

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable	
14.2. **UN proper shipping name**	Not Applicable	
14.3. **Transport hazard class(es)**	ICAO/IATA Class	Not Applicable
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	Not Applicable
14.4. **Packing group**	Not Applicable	
14.5. **Environmental hazard**	Not Applicable	
14.6. **Special precautions for user**	Special provisions	Not Applicable
	Cargo Only Packing Instructions	Not Applicable
	Cargo Only Maximum Qty / Pack	Not Applicable
	Passenger and Cargo Packing Instructions	Not Applicable
	Passenger and Cargo Maximum Qty / Pack	Not Applicable
	Passenger and Cargo Limited Quantity Packing Instructions	Not Applicable
	Passenger and Cargo Limited Maximum Qty / Pack	Not Applicable

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable	
14.2. **UN proper shipping name**	Not Applicable	
14.3. **Transport hazard class(es)**	IMDG Class	Not Applicable
	IMDG Subsidiary Hazard	Not Applicable
14.4. **Packing group**	Not Applicable	
14.5. **Environmental hazard**	Not Applicable	
14.6. **Special precautions for user**	EMS Number	Not Applicable
	Special provisions	Not Applicable
	Limited Quantities	Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. **UN number**	Not Applicable	
14.2. **UN proper shipping name**	Not Applicable	
14.3. **Transport hazard class(es)**	Not Applicable	Not Applicable
14.4. **Packing group**	Not Applicable	
	Not Applicable	

14.5. **Environmental hazard**	
14.6. **Special precautions for user**	Classification code: Not Applicable Special provisions: Not Applicable Limited quantity: Not Applicable Equipment required: Not Applicable Fire cones number: Not Applicable

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
triethylamine	Not Available
C9-11 alcohols, ethoxylated, phosphated	Not Available
sodium hydroxide	Not Available
2-bromo-2-nitropropan-1,3-diol	Not Available
EDTA tetrasodium salt	Not Available
nitrilotriacetic acid, trisodium salt	Not Available
sodium xylenesulfonate	Not Available
sodium carbonate	Not Available
white mineral oil (petroleum)	Not Available
ethanol	Not Available
methanol	Not Available
methylal	Not Available
allyl alcohol	Not Available

14.7.3.

Product name	Ship Type
triethylamine	Not Available
C9-11 alcohols, ethoxylated, phosphated	Not Available
sodium hydroxide	Not Available
2-bromo-2-nitropropan-1,3-diol	Not Available
EDTA tetrasodium salt	Not Available
nitrilotriacetic acid, trisodium salt	Not Available
sodium xylenesulfonate	Not Available
sodium carbonate	Not Available
white mineral oil (petroleum)	Not Available
ethanol	Not Available
methanol	Not Available
methylal	Not Available
allyl alcohol	Not Available

SECTION 15 REGULATORY INFORMATION

15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

TRIETHYLAMINE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)
- Great Britain GB mandatory classification and labelling (GB MCL) technical reports
- UK Workplace Exposure Limits (WELs).

C9-11 ALCOHOLS, ETHOXYLATED, PHOSPHATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Not Applicable

SODIUM HYDROXIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)
- UK Workplace Exposure Limits (WELs).

2-BROMO-2-NITROPROPAN-1,3-DIOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)
- Great Britain GB Biocidal Active Substances

EDTA TETRASODIUM SALT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)

NITRILOTRIACETIC ACID, TRISODIUM SALT IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Chemical Footprint Project - Chemicals of High Concern List
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
- Great Britain GB mandatory classification and labelling list (GB MCL)

SODIUM XYLENESULFONATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Not Applicable

SODIUM CARBONATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)

WHITE MINERAL OIL (PETROLEUM) IS FOUND ON THE FOLLOWING REGULATORY LISTS

- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

ETHANOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)
- Great Britain GB Biocidal Active Substances
- UK Workplace Exposure Limits (WELs).

METHANOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Chemical Footprint Project - Chemicals of High Concern List
- Great Britain GB mandatory classification and labelling list (GB MCL)
- UK Workplace Exposure Limits (WELs).

METHYLAL IS FOUND ON THE FOLLOWING REGULATORY LISTS

- UK Workplace Exposure Limits (WELs).

ALLYL ALCOHOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Great Britain GB mandatory classification and labelling list (GB MCL)
- UK Workplace Exposure Limits (WELs).

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Seveso Category	P5a, P5b, P5c

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
triethylamine	121-44-8	612-004-00-5	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Acute Tox. 4; Acute Tox. 4; Skin Corr. 1A; Acute Tox. 4	GHS02; GHS05; Dgr	H225; H302; H312; H314; H332

2	Flam. Liq. 2; Acute Tox. 3; Skin Corr. 1A; Eye Dam. 1; STOT SE 3; STOT SE 3; Acute Tox. 3; Met. Corr. 1; Acute Tox. 2; Aquatic Chronic 3	GHS05; GHS06; Dgr; GHS01; GHS08	H225; H311; H314; H335; H318; H336; H301; H228; H330; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
C9-11 alcohols, ethoxylated, phosphated	136504-88-6	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Irrit. 2; Eye Dam. 1	GHS05; Dgr	H315; H318
2	Skin Irrit. 2; Eye Dam. 1	GHS05; Dgr	H315; H318

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
sodium hydroxide	1310-73-2	011-002-00-6	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Corr. 1A	GHS05; Dgr	H314
2	Skin Corr. 1A; Eye Dam. 1	GHS05; Dgr	H314
1	Skin Corr. 1A	GHS05; Dgr	H314
2	Met. Corr. 1; Skin Corr. 1A; Eye Dam. 1; STOT SE 3; Acute Tox. 4; Acute Tox. 4; Aquatic Chronic 3; STOT SE 1; Aquatic Acute 3	GHS05; Dgr; GHS06; GHS08	H290; H314; H318; H335; H412; H370; H312; H302; H402

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
2-bromo-2-nitropropan-1,3-diol	52-51-7	603-085-00-8	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Aquatic Acute 1	GHS09; GHS05; Dgr	H302; H312; H315; H318; H335; H400
2	Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; Flam. Sol. 2; Self-react. C; Acute Tox. 2; Acute Tox. 2	GHS05; GHS09; GHS06; Dgr; GHS02	H301; H315; H318; H335; H400; H410; H228; H242; H310; H330

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
EDTA tetrasodium salt	64-02-8	607-428-00-2	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Eye Dam. 1	GHS05; Dgr	H302; H318
2	Acute Tox. 4; Eye Dam. 1; Skin Irrit. 2; STOT SE 3; Acute Tox. 4; STOT RE 2	GHS05; Dgr; GHS08	H302; H318; H315; H335; H332; H373
1	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3	GHS07; Wng	H302; H315; H319; H335
2	Acute Tox. 4; Skin Irrit. 2; STOT SE 3; Eye Dam. 1; Acute Tox. 4; STOT RE 2; Aquatic Chronic 2	GHS05; Dgr; GHS08; GHS09	H302; H315; H335; H318; H332; H373; H411
1	Acute Tox. 4; Eye Dam. 1	GHS05; Dgr	H302; H318
2	Acute Tox. 4; Eye Dam. 1	GHS05; Dgr	H302; H318; H315; H335
1	Acute Tox. 4; Eye Dam. 1	GHS05; Dgr	H302; H318
2	Acute Tox. 4; Eye Dam. 1; Acute Tox. 4; STOT RE 2; STOT SE 2; Met. Corr. 1; Acute Tox. 4; Skin Sens. 1; Carc. 2; STOT SE 3;	GHS05; Dgr; GHS08	H302; H318; H332; H373; H371; H312; H317; H351; H335; H314

	Skin Corr. 1		

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
nitrilotriacetic acid, trisodium salt	5064-31-3	607-620-00-6	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Eye Irrit. 2; Carc. 2	GHS08; Wng	H302; H319; H351
2	Acute Tox. 4; Eye Irrit. 2; Carc. 2; Skin Irrit. 2	GHS08; Wng	H302; H319; H351; H315
1	Acute Tox. 4; Eye Irrit. 2; Carc. 2	GHS08; Wng	H302; H319; H351
2	Eye Irrit. 2; Carc. 2; Met. Corr. 1; Acute Tox. 3; Aquatic Chronic 3	GHS08; GHS05; Dgr; GHS06	H319; H351; H290; H301; H412

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
sodium xylenesulfonate	1300-72-7	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Skin Irrit. 2; STOT SE 3	Wng; GHS08	H319; H315; H335; H400

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
sodium carbonate	497-19-8	011-005-00-2	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Acute Tox. 4; Skin Irrit. 2; STOT SE 3; Acute Tox. 4; Acute Tox. 4; STOT RE 2	GHS08; Dgr	H319; H332; H252; H261; H312; H302; H335; H373
1	Not Classified	Not Available	Not Available
2	Not Classified	Not Available	Not Available

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
white mineral oil (petroleum)	8042-47-5	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Asp. Tox. 1; Eye Irrit. 2; Acute Tox. 4; Muta. 2; STOT SE 2; STOT RE 1; Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1; Acute Tox. 4; Acute Tox. 4; Aquatic Chronic 2	GHS08; Dgr; GHS02; GHS09	H304; H319; H341; H371; H372; H226; H315; H317; H312; H331; H302; H411

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
ethanol	64-17-5	603-002-00-5	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2	GHS02; Dgr	H225
2	Flam. Liq. 2; Carc. 1B; STOT SE 3; STOT RE 1; STOT SE 3; Muta. 1B; Repr. 1A; Met. Corr. 1; Skin Corr. 1B; Aquatic Acute	Dgr; GHS08; GHS01; GHS09;	H225; H350; H411; H335; H304; H340; H336; H372; H315; H360;

	1; Aquatic Chronic 1; Acute Tox. 3; Acute Tox. 3; Acute Tox. 3; STOT SE 1; Skin Sens. 1; Eye Dam. 1	GHS05; GHS06	H318; H220; H301; H311; H331; H370; H317

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
methanol	67-56-1*	603-001-00-X	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Acute Tox. 3; Acute Tox. 3; Acute Tox. 3; STOT SE 1	GHS08; GHS02; GHS06; Dgr	H225; H301; H311; H331; H370
2	Flam. Liq. 2; Acute Tox. 3; Acute Tox. 3; STOT SE 1; Eye Irrit. 2; Repr. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; Skin Corr. 1A; STOT SE 3; STOT SE 3; Acute Tox. 2; Carc. 2	GHS08; GHS06; Dgr; GHS01; GHS05; GHS09	H301; H311; H370; H315; H319; H335; H360; H372; H336; H340; H350; H400; H410; H330; H224

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
methylal	109-87-5	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2	GHS02; Dgr	H225
2	Flam. Liq. 2; Acute Tox. 4; STOT SE 2; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; Acute Tox. 1; Skin Sens. 1; STOT SE 3	GHS02; Dgr; GHS08; GHS06	H225; H302; H371; H315; H319; H335; H310; H317; H336

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
allyl alcohol	107-18-6	603-015-00-6	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Acute Tox. 3; Acute Tox. 2; Skin Irrit. 2; Eye Irrit. 2A; Acute Tox. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 3	GHS02; GHS09; GHS06; Dgr	H225; H301; H310; H315; H319; H330; H335; H400; H412
2	Flam. Liq. 2; Acute Tox. 3; Acute Tox. 2; Skin Irrit. 2; Eye Irrit. 2A; Acute Tox. 2; STOT SE 3; Repr. 2; Aquatic Acute 1; Aquatic Chronic 3; STOT SE 3	GHS09; GHS06; Dgr; GHS08; GHS01	H225; H301; H310; H315; H319; H330; H335; H400; H361; H410; H370

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (C9-11 alcohols, ethoxylated, phosphated)
Canada - DSL	No (C9-11 alcohols, ethoxylated, phosphated)
Canada - NDSL	No (triethylamine, C9-11 alcohols, ethoxylated, phosphated, sodium hydroxide, 2-bromo-2-nitropropan-1,3-diol, EDTA tetrasodium salt, nitrilotriacetic acid, trisodium salt, sodium xylenesulfonate, sodium carbonate, white mineral oil (petroleum), ethanol, methanol, methylal, allyl alcohol)
China - IECSC	No (C9-11 alcohols, ethoxylated, phosphated)
Europe - EINEC / ELINCS / NLP	No (C9-11 alcohols, ethoxylated, phosphated)
Japan - ENCS	No (C9-11 alcohols, ethoxylated, phosphated)
Korea - KECI	No (C9-11 alcohols, ethoxylated, phosphated)
New Zealand - NZIoC	No

	(C9-11 alcohols, ethoxylated, phosphated)
Philippines - PICCS	No (C9-11 alcohols, ethoxylated, phosphated)
USA - TSCA	No (C9-11 alcohols, ethoxylated, phosphated)
Taiwan - TCSI	No (C9-11 alcohols, ethoxylated, phosphated)
Mexico - INSQ	No (C9-11 alcohols, ethoxylated, phosphated)
Vietnam - NCI	Yes
Russia - FBEPH	No (C9-11 alcohols, ethoxylated, phosphated)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 OTHER INFORMATION

Revision Date	14/11/2024
Initial Date	14/11/2024

SDS Version Summary

Version	Issue Date	Sections Updated
2.15	14/11/2024	Physical and chemical properties - Physical Properties, Identification of the substance / mixture and of the company / undertaking - Supplier Information

Full text Risk and Hazard codes

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H242	Heating may cause a fire.
H252	Self-heating in large quantities; may catch fire.
H261	In contact with water releases flammable gases.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H370	Causes damage to organs.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Other information

Ingredients with multiple cas numbers

Name	CAS No
sodium hydroxide	1310-73-2, 12200-64-5
EDTA tetrasodium salt	64-02-8, 10378-23-1, 13235-36-4, 194491-31-1, 50809-35-3, 70699-53-5, 8013-51-2, 8023-21-0, 97928-93-3, 67401-50-7
nitrilotriacetic acid, trisodium salt	5064-31-3, 18662-53-8
sodium xylenesulfonate	1300-72-7, 30587-85-0
sodium carbonate	497-19-8, 7542-12-3, 1314087-39-2, 1332-57-6, 1977561-09-3
ethanol	64-17-5, 2348-46-1

As from 24 August 2023 adequate training is required before industrial or professional use.
Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 166 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Flammable Liquids Category 3, H226	Expert judgement
Serious Eye Damage/Eye Irritation Category 2, H319	Expert judgement