

DE-ICER BLUE

Creation date 25. July 2018
Revision date Version 1.0

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

- 1.1. Product identifier**
Substance / mixture DE-ICER BLUE
mixture
Number R 34670
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
mixture's intended use Glass and lock de-icer.
Disapproved uses of mixture For professional use only.
- 1.3. Details of the supplier of the safety data sheet**
Supplier
Name or trade name RETECH, s.r.o.
Address Vackova 1541/4, Praha 5 - Stodůlky, 155 00
Czech Republic
Identification number (ID) 25018205
Phone +420327596428
E-mail info@retech.cz
Web address www.retech.com
- Competent person responsible for the safety data sheet**
Name RETECH, s.r.o.
E-mail info@retech.cz
- 1.4. Emergency telephone number**
RETECH, Suchdol 212, 285 02 Suchdol u Kutné Hory, Czech Republic; Telephone number: +420 327 596 128 (7.30-16.00 hour)
Poisoning information centre, Na Bojišti 1, Praha, Czech Republic, Tel.: non-stop +420 224 919 293 or +420 224 915 402, Information on health risks only - acute poisoning of humans and animals.

SECTION 2: Hazards identification**2.1. Substance or mixture classification**
Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Flam. Liq. 2, H225
Eye Irrit. 2, H319

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse physico-chemical effects

Highly flammable liquid and vapour.

Most serious adverse effects on human health and the environment

Causes serious eye irritation.

2.2. Label elements
Hazard pictogram**Signal word**

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

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Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P370+P378 In case of fire: Use powder extinguisher/sand/carbon dioxide to extinguish.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container to by disposing in a hazardous waste receptacle.

2.3. Other hazards

Vapours have a narcotic effect and may cause respiratory irritation. Degreases the skin, may cause irritation to the skin and mucous membranes. After ingestion, the alcohol contained in the product is rapidly absorbed by the gastric mucosa. Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air. The mixture is flammable. Ignition by hot surfaces, sparks, open flame or electrostatic discharge.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of substances and additives specified below.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note.
Index: 603-002-00-5 CAS: 64-17-5 EC: 200-578-6	ethanol	<90	Flam. Liq. 2, H225 Eye Irrit. 2, H319 Specific concentration limit: Eye Irrit. 2, H319: C ≥ 50 %	
Index: 603-027-00-1 CAS: 107-21-1 EC: 203-473-3	ethanediol	<10	Acute Tox. 4, H302 STOT RE 2, H373	1
Index: 606-002-00-3 CAS: 78-93-3 EC: 201-159-0	butanone	<2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	1

Notes

1 Substance for which exposure limits of Community for working environment exist.

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

Inhalation

Move the affected person to fresh air; do not let the person walk! Keep the affected person warm and at rest. If the victim is not breathing, perform artificial respiration. In the event of issues, find medical advice.

Skin contact

After contact with skin, wash immediately with plenty of soap and water, treat with regenerative cream.

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Eye contact

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible.

Ingestion

Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment.

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

Possible irritation of airways, cough, headache.

Skin contact

Painful reddening, irritation.

Eye contact

Not expected.

Ingestion

Irritation, nausea.

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

Symptomatic treatment.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

Fire produces heavy, black smoke, with potential development of carbon monoxide and dioxide and other toxic gases. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

The mixture is highly flammable. Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Remove all ignition sources; provide sufficient ventilation.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. Dispose of the collected material according to the instructions in the section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the occupational exposure limits. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. No smoking. Protect against direct sunlight. Electrostatic charge may be formed during use; use only earthed piping (tubing) when repumping. Use of antistatic clothes and footwear is recommended. Use non-sparking tools. Do not inhale gases and vapours. Prevent contact with skin and eyes. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union

Substance name (component)	Type	Time of exposure	Value	Note	Source
ethanediol (CAS: 107-21-1)	OEL	8 hours	52 mg/m ³		EU limits
	OEL	8 hours	20 ppm		
	OEL	Short-term	104 mg/m ³		
	OEL	Short-term	40 ppm		
butanone (CAS: 78-93-3)	OEL	8 hours	600 mg/m ³		EU limits
	OEL	8 hours	200 ppm		
	OEL	Short-term	900 mg/m ³		
	OEL	Short-term	300 ppm		

United Kingdom of Great Britain and Northern Ireland

Substance name (component)	Type	Time of exposure	Value	Note	Source
ethanol (CAS: 64-17-5)	WEL	8 hours	1920 mg/m ³		Gestis
	WEL	8 hours	1000 ppm		
ethanediol (CAS: 107-21-1)	WEL	8 hours	10 mg/m ³	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity., Particulates only	GBR
	WEL	8 hours	20 ppm	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity., Vapour	

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United Kingdom of Great Britain and Northern Ireland

Substance name (component)	Type	Time of exposure	Value	Note	Source
ethanediol (CAS: 107-21-1)	WEL	8 hours	52 mg/m ³	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity., Vapour	GBR
	WEL	15 minutes	104 mg/m ³	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity., Vapour	
	WEL	15 minutes	40 ppm	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity., Vapour	
butanone (CAS: 78-93-3)	WEL	8 hours	600 mg/m ³	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.	GBR
	WEL	15 minutes	899 mg/m ³	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.	
	WEL	8 hours	200 ppm	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.	
	WEL	15 minutes	300 ppm	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.	

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8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Use barrier creams for skin protection, they should, however, not be applied once exposure has occurred. Observe other recommendations of the manufacturer. Other protection: Protective antistatic clothing made of natural fibres (cotton) or synthetic fibres resistant to elevated temperatures. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance

Physical state liquid at 20°C

color colourless / blue

Odour alcohol-like

Odour threshold data not available

pH 7-10 (undiluted)

Melting point/freezing point -80 °C

Initial boiling point and boiling range >76 °C

Flash point 15-23 °C

Evaporation rate data not available

Flammability (solid, gas) Highly flammable liquid and vapour.

Upper/lower flammability or explosive limits
flammability limits data not available

explosive limits

bottom 3.6 %

upper 19 %

Vapour pressure 5.6 at 20 °C

Vapour density data not available

Relative density data not available

Solubility(ies)

solubility in water soluble

solubility in fats data not available

Partition coefficient: n-octanol/water data not available

Auto-ignition temperature data not available

Decomposition temperature data not available

Viscosity data not available

Explosive properties data not available

Oxidising properties data not available

9.2. Other information

Density 0.830-0.850 g/cm³ at 20 °C

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SECTION 10: Stability and reactivity

10.1. Reactivity

The mixture is flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

The product is stable under normal conditions.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents. Thereby a dangerous exothermic reaction will be prevented.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide, heavy smoke and nitrogen oxides are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Vapours have a narcotic effect and may cause respiratory irritation. Degreases the skin, may cause irritation to the skin and mucous membranes. After ingestion, the alcohol contained in the product is rapidly absorbed by the gastric mucosa.

Acute toxicity

Based on available data the classification criteria are not met.

ethanediol

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral	LD ₅₀	5840 mg/kg		Rat	
Dermal	LD ₅₀	9530 mg/kg		Rat	

ethanol

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral	LD ₅₀	7060 mg/kg		Rat	
Dermal	LD ₅₀	6300 ml/kg		Rabbit	
Inhalation	LC ₅₀	20000 mg/m ³	4 hour	Rat	
Oral	LD ₅₀	13300 mg/kg		Rat	

Irritation

ethanol

Route of exposure	Result	Time of exposure	Species
Skin	Irritating		Rabbit
Skin	Slightly irritating		Rabbit
Eye	Irritating	4 s (100 mg)	Rabbit
	Highly irritating		Rabbit

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Skin corrosion/irritation

Based on available data the classification criteria are not met.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Based on available data the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Data for the mixture are not available.

ethanediol

Parameter	Value	Time of exposure	Species	Environment
LC ₅₀	18000-46000 mg/l	96 hour	Fishes (Leuciscus idus)	
IC ₅₀	>100 mg/l	72 hour	Algae	

ethanol

Parameter	Value	Time of exposure	Species	Environment
LC ₅₀	1040 mg/l	96 hour	Fishes (Lepomis macrochirus)	
LC ₅₀	1520 mg/l	96 hour	Fishes (Cyprinus carpio)	
LC ₅₀	1030-14200 mg/l	96 hour	Fishes (Pimephales promelas)	
EC ₅₀	9248 mg/l		Aquatic invertebrates (Daphnia magna)	

12.2. Persistence and degradability

Surfactants are biodegradable according to the European Parliament and Council Regulation (EC) No. 648/2004 on detergents, as amended.

12.3. Bioaccumulative potential

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Insignificant.

12.4. Mobility in soil

The product is soluble and mobile in water and soil. Contamination of water courses may occur in the event of rain.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Other adverse effects

Not available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Legislation of waste

Council Directive 75/442/EEC on waste, as amended. Decree No. 383/2001 Coll., on details regarding waste handling as amended. Decree No. 93/2016 Coll., (waste catalogue) as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

14 06 03 other solvents and solvent mixtures

SECTION 14: Transport information**14.1. UN number**

UN 1987

14.2. UN proper shipping name

ALCOHOLS, N.O.S.

14.3. Transport hazard class(es)

3 Flammable liquids

14.4. Packing group

II - substances presenting medium danger

14.5. Environmental hazards

not available

14.6. Special precautions for user

Reference in the Sections 4 to 8.

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

not available

Additional information

Hazard identification No.

UN number

Classification code

Safety signs

33	(Kemler Code)
1987	

F1

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Air transport - ICAO/IATA

Packaging instructions passenger	353
Cargo packaging instructions	364

Marine transport - IMDG

EmS (emergency plan)	F-E, S-D
MFAG	310
Marine pollution	No

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. The Act No. 350/2011 Coll., on Chemical Substances and Chemical Preparations as amended (the Chemical Act). Decree No. 432/2003 Coll., laying down conditions for assigning categories to individual jobs, limit values of indices from biological exposure tests, conditions for the sampling of biological materials for biological exposure and the particulars of the reports on work with asbestos and biological agents as amended.

15.2. Chemical safety assessment

not available

SECTION 16: Other information**A list of standard risk phrases used in the safety data sheet**

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.

Guidelines for safe handling used in the safety data sheet

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378	In case of fire: Use powder extinguisher/sand/carbon dioxide to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to by disposing in a hazardous waste receptacle.

A list of additional standard phrases used in the safety data sheet

EUH 066	Repeated exposure may cause skin dryness or cracking.
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Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures

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DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC ₅₀	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC ₅₀	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD ₅₀	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log K _{ow}	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquid
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

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REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. The Act No. 350/2011 Coll., on Chemical Substances and Chemical Preparations as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.