SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

PROTECTON LOCK DEFROSTER

Creation date	20. May 2014	Revision no.	
Revision date	25. July 2019	Version	4.0

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

1.1. Product identifier

Substance / mixture	PROTECTON LOCK DEFROSTER
	mixture
Number	UFI: SKJP-VVPK-R00V-A91R

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

mixture's intended use	Lock de-icer
Disapproved uses of mixture	The product should not be used in ways other then those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name	FILSON s.r.o.
Address	Slévačská 902, Praha 9, 19800
	Czech Republic
Identification number (ID)	47549947
Phone	+420 2677106201
E-mail	msds@filson.cz
Web address	www.filson.cz

Competent person responsible for the safety data sheet

Name	FILSON s.r.o.
E-mail	msds@filson.cz

1.4. Emergency telephone number

National Health Service (NHS) 111
National poisoning information centre Scotland, NHS 24: 111

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.

Precautionary statements

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P501	Dispose of contents/container to by disposing in a hazardous waste receptacle.

Requirements for child-resistant fastenings and tactile warning of danger

Container must carry a tactile warning of danger.

2.3. Other hazards

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

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 Registration number: 01-2119457610-43-0031	ethanol	<65	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 Registration number: 01-2119456816-28-0004	ethanediol	<10	Acute Tox. 4, H302	1
Index: 606-002-00-3 CAS: 78-93-3 EC: 201-159-0 Registration number: 01-2119457290-43-xxxx	butanone	<5	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

Take care of your own safety. 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

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

Skin contact

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists. Rinse skin with water/shower.

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

DO NOT INDUCE VOMITING! Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment if the person has any health problems.

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

Inhalation

Not expected.

Skin contact

Not expected.

Eye contact

Causes serious eye irritation.

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

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. 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

Provide sufficient ventilation. Highly flammable liquid and vapour. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Prevent contact with skin and eyes.

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. 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.

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. Use non-sparking tools. Use of antistatic clothes and footwear is recommended. Prevent contact with skin and eyes. No smoking. Use only non-sparking tools. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

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. Do not expose to sunlight. Keep container tightly closed. Keep cool.

Storage temperature <25 °C

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/m³		EU limits
	OEL	8 hours	20 ppm		
	OEL	Short-term	104 mg/m³		
	OEL	Short-term	40 ppm		
butanone (CAS: 78-93-3)	OEL	8 hours	600 mg/m³		směrnice EU
	OEL	8 hours	200 ppm		
	OEL	Short-term	900 mg/m³		
	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/m³		GBR
	WEL	8 hours	1000 ppm		
ethanediol (CAS: 107-21-1)	WEL	8 hours	10 mg/m³	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	

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/m³	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/m³	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	

DNEL

ethanediol

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	35 mg/m³	Local chronic effects	
Workers	Dermal	106 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	7 mg/m³	Local chronic effects	
Consumers	Dermal	53 mg/kg bw/day	Systemic chronic effects	

ethanol

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	1900 mg/m³	Local acute effects	
Workers	Dermal	343 mg/kg	Systemic chronic effects	
Workers	Inhalation	950 mg/m³	Systemic chronic effects	
Consumers	Inhalation	950 mg/m³	Local acute effects	
Consumers	Dermal	206 mg/kg bw	Systemic chronic effects	
Consumers	Inhalation	114 mg/m³	Systemic chronic effects	
Consumers	Oral	87 mg/kg bw	Systemic chronic effects	

PNEC

ethanediol

Route of exposure	Value	Determining method
Freshwater environment	10 mg/l	
Seawater	1 mg/l	
Water (occasional leak)	10 mg/l	
Freshwater sediment	37 mg/kg	
Soil (agricultural)	1.53 mg/kg of dry substance of soil	
Microorganisms in wastewater treatment plants	199.5 mg/l	

ethanol

Route of exposure	Value	Determining method
Freshwater environment	0.96 mg/l	
Seawater	0.79 mg/l	
Water (occasional leak)	2.75 mg/l	
Freshwater sediment	3.6 mg/l	
Sea sediments	2.9 mg/l	
Soil (agricultural)	0.63 mg/kg of dry substance of soil	
Microorganisms in wastewater treatment plants	580 mg/l	
Food chain	720 mg/kg	

8.2. Exposure controls

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.

Skin protection

Hand protection: Protective gloves resistant to the product. 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	liquid
Physical state	liquid at 20°C
color	blue
Odour	containing alcohol
Odour threshold	data not available
pH	6-8 (undiluted at 20 °C)
Melting point/freezing point	data not available
Initial boiling point and boiling range	data not available
Flash point	<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	data not available
Vapour pressure	data not available
Vapour density	data not available
Relative density	data not available
Solubility(ies)	
solubility in water	data not available
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	0,9-0,901 g/cm^3 at 20 °C
ignition temperature	data not available

SECTION 10: Stability and reactivity

10.1. Reactivity

not available

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

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.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

No toxicological data is available for the mixture.

Acute toxicity

Based on available data the classification criteria are not met.

butanone

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral		3460 mg/kg bw		Rat (Rattus norvegicus)	
Dermal	LD50	>10 ml/kg bw		Rabbit	

ethanediol

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral	LD50	4700 mg/kg		Rat (Rattus norvegicus)	
Oral	LD50	5500 mg/kg		Mouse	
Dermal	LD50	9530 mg/kg		Rat (Rattus norvegicus)	
Oral	LDL0	100 ml		Human	
Inhalation	LC50	10876 mg/m³		Rat (Rattus norvegicus)	

ethanol

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral	LD50	10470 mg/kg bw			
Dermal	LD50	15800 mg/kg bw			
Inhalation	LC50	30000 mg/m³			

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

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. 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.

butanone

Parameter	Value	Time of exposure	Species	Environment
LC50	2993 mg/kg	96 hour	Fishes (Pimephales promelas)	
EC50	308 mg/l	48 hour	Invertebrates (Daphnia magna)	
EC50	1972 mg/l	72 hour	Algae (Pseudokirchneriella subcapitata)	

ethanediol

Parameter	Value	Time of exposure	Species	Environment
	18500 mg/l	96 hour	Fishes (Salmo gairdneri)	
LD50	41000 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	
LD50	18500 mg/l	96 hour	Fishes (Lepomis macrochirus)	
EC50	46300 mg/l	48 hour	Invertebrates (Daphnia magna)	
EC50	>100 mg/l	72 hour	Algae	

ethanol

Parameter	Value	Time of exposure	Species	Environment
LC50	11200 mg/l of air	24 hour	Fishes (Oncorhynchus mykiss)	
EC50	5012 mg/l	48 hour	Invertebrates (Ceriodaphnia dubia)	

ethanol

Parameter	Value	Time of exposure	Species	Environment
EC50	857 mg/l	48 hour	Invertebrates (Artemia salina)	
EC50	275 mg/l	72 hour	Algae (Chlorella vulgaris)	

12.2. Persistence and degradability

Biodegradability

ethanediol

Parameter	Method	Value	Time of exposure	Environment	Result
	OECD 301A	>70 %	5 day		Easily biodegradable

Data not available.

12.3. Bioaccumulative potential

Not available.

12.4. Mobility in soil

Not available.

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

20 01 13 solvents

Packaging waste type code

15 01 02 plastic packaging

15 01 10 packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

14.1. UN number

UN 1170

14.2. UN proper shipping name

ETHANOL

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.	**33** (Kemler Code)
UN number	**1170**
Classification code	F1
Safety signs	3

Air transport - ICAO/IATA

Packaging instructions passenger	353
Cargo packaging instructions	364

Marine transport - IMDG

EmS (emergency plan)	F-E, S-D
MFAG	305

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.

Guidelines for safe handling used in the safety data sheet

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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.

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
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC50	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
IC50	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
LC50	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50	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 Kow	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 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

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. First aid principles after the exposure to the chemicals (Zásady pro poskytování první pomoci při expozici chemickým látkám, doc. MUDr. Daniela Pelclová, CSc., MUDr. Alexandr Fuchs, CSc., MUDr. Miroslava Hornychová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

Statement