

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 1 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

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

### 1.1. Product identifier

Trade name/designation : Protecton Antifreeze Concentrate

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

Specific use(s) : Coolant

### 1.3. Details of the supplier of the safety data sheet

Company : SERVICE BEST B.V.  
 De Run 4271  
 5503 LM VELDHOVEN  
 The Netherlands  
 Phone: +31 40 230 23 00  
 Fax: +31 40 230 23 02  
 E-mail: info@servicebest.com

### 1.4. Emergency telephone number

Emergency telephone : BELGIE/BELGIQUE/LUXEMBURG/LUXEMBOURG  
 Centre Anti-Poisons/Antigifcentrum/Giftnotrufzentrale  
 c/o Hôpital Central de la Base - Reine Astrid  
 +32 70 245 245

NETHERLANDS  
 Nationaal Vergiftigingen Informatie Centrum (NVIC)  
 NB Uitsluitend bestemd om professionele hulpverleners te informeren  
 bij acute vergiftigingen  
 +31 30 274 88 88

IRELAND (REPUBLIC OF)  
 National Poisons Information Centre  
 Beaumont Hospital  
 +353 18 37 99 64/+353 1 809 21 66

UNITED KINGDOM  
 National Poisons Information Service  
 (Newcastle Centre)  
 Regional Drugs and Therapeutics Centre,  
 Wolfson Unit  
 0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### **2.1.1. Classification according to Regulation (EU) 1272/2008**

CLP-Classification : The product is classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

Acute Tox. 4 (Oral) H302

Full text of H-phrases: see section 16

#### **2.1.2. Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Classification : This mixture is classified as hazardous according to 1999/45/EC.  
 Xn; R22

Full text of R-phrases: see section 16

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 2 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

## 2.2. Label elements

### 2.2.1. Labelling according to Regulation (EU) 1272/2008

Hazard pictograms :



GHS07

Signal word : Warning

Contains : ethanediol, ethylene glycol  
Diethylene glycol

Hazard statements : H302 - Harmful if swallowed.

Precautionary statements : P102 - Keep out of reach of children.  
P264 - Wash skin thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell.  
P330 - Rinse mouth.  
P501 - Dispose of contents/ container to an approved waste disposal plant.

### 2.2.2. Labelling according to Directives (67/548 - 1999/45)

Not relevant

## 2.3. Other hazards

Other hazards : Ethanediol :  
PBT/vPvB data :  
This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.,  
This substance does not meet the PBT/vPvB criteria of REACH, annex XIII. .

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Substance name	Product identifier	%	Classification according to Directive 67/548/EEC
ethanediol, ethylene glycol	(CAS No.) 107-21-1 (EC No) 203-473-3 (EC Index) 603-027-00-1	80 - 95	Xn; R22
Diethylene glycol	(CAS No.) 111-46-6 (EC No) 203-872-2 (EC Index) 603-140-00-6	0 - 15	Xn; R22
disodium tetraborate pentahydrate, borax pentahydrate substance listed as REACH Candidate	(CAS No.) 12179-04-3 (EC No) 601-808-1 (EC Index) 005-011-02-9	1 - 4	Repr.Cat.1; R60 Repr.Cat.1; R61

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethanediol, ethylene glycol	(CAS No.) 107-21-1 (EC No) 203-473-3 (EC Index) 603-027-00-1	80 - 95	Acute Tox. 4 (Oral), H302
Diethylene glycol	(CAS No.) 111-46-6 (EC No) 203-872-2 (EC Index) 603-140-00-6	0 - 15	Acute Tox. 4 (Oral), H302
disodium tetraborate pentahydrate, borax pentahydrate substance listed as REACH Candidate	(CAS No.) 12179-04-3 (EC No) 601-808-1 (EC Index) 005-011-02-9	1 - 4	Repr. 1B, H360FD

Full text of R- and H-phrases: see section 16

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 3 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation	: Keep at rest. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical advice/attention.
Skin contact	: Wash with plenty of soap and water When in doubt or if symptoms are observed, get medical advice.
Eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. When in doubt or if symptoms are observed, get medical advice.
In case of ingestion	: Rinse mouth. Never give anything by mouth to an unconscious person or a person with cramps. Induce vomiting when the affected person is not unconscious. Get medical advice/attention if you feel unwell.
Additional advice	: First aider: Pay attention to self-protection! See also section 8 . Never give anything by mouth to an unconscious person or a person with cramps. Show this safety data sheet to the doctor in attendance. Treat symptomatically. When in doubt or if symptoms are observed, get medical advice.

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

Inhalation	: May cause respiratory irritation. Cough Dizziness The following symptoms may occur: Headache.
Skin contact	: May be absorbed through the skin. May be irritating The following symptoms may occur: Repeated exposure may cause skin dryness or cracking.
Eye contact	: Contact with eyes may cause irritation. The following symptoms may occur: Pain erythema (redness).
Ingestion	: Harmful if swallowed. Weakness Unconsciousness The following symptoms may occur: Abdominal pain Vomiting.

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

Not applicable

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray, alcohol resistant foam, Carbon dioxide, Dry extinguishing powder
Extinguishing media which must not be used for safety reasons	: Strong water jet .

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Combustible .
Specific hazards	: Burning produces noxious and toxic fumes. Do not allow run-off from fire-fighting to enter drains or water courses. Dispose according to legislation.

### 5.3. Advice for firefighters

Advice for firefighters	: Special protective equipment for firefighters. . In case of fire: Wear self-contained breathing apparatus. Evacuate area.
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	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel : Provide adequate ventilation.  
 Use personal protective equipment as required.  
 Personal protection equipment: see section 8  
 Do not breathe vapour/spray.
- For emergency responders : Avoid contact with skin, eyes and clothes.  
 : Ensure procedures and training for emergency decontamination and disposal are in place.

### 6.2. Environmental precautions

- Environmental precautions : Do not allow to enter into surface water or drains.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Stop leak if safe to do so.  
 Dam up.  
 Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).  
 Collect in closed and suitable containers for disposal.  
 Large spills should be collected mechanically (remove by pumping) for disposal.  
 Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.  
 Dispose according to legislation.

### 6.4. Reference to other sections

- Personal protection equipment: see section 8  
 Disposal: see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Handling : Provide adequate ventilation.  
 Use personal protective equipment as required.  
 Personal protection equipment: see section 8  
 Do not breathe vapour/spray.  
 Avoid contact with skin, eyes and clothes.  
 Avoid formation of aerosol.  
 Take any precaution to avoid mixing with incompatible materials.  
 See also section 10  
 Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time).  
 After use replace the closing cap immediately.  
 Do not allow to enter into surface water or drains.
- Advices on general occupational hygiene : Keep good industrial hygiene.  
 Wash hands and face before breaks and immediately after handling of the product.  
 When using do not eat, drink or smoke.  
 Keep work clothes separately.  
 Take off contaminated clothing.  
 Wash contaminated clothing before reuse.  
 Keep away from food, drink and animal feedingstuffs.

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	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

## 7.2. Conditions for safe storage, including any incompatibilities

Storage	:	Keep container tightly closed in a cool, well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10.
Packaging materials	:	Keep/Store only in original container.

## 7.3 Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Exposure limit values :

<b>Diethylene glycol (111-46-6)</b>		
Austria	MAK (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	40 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	101 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	23 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Latvia	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Switzerland	VLE (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	40 ppm
Switzerland	VME (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	101 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	23 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	303 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	69 ppm (calculated)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	11 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	2,5 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	23 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	300 mg/m <sup>3</sup> (calculated)
Ireland	OEL (15 min ref) (ppm)	69 ppm (calculated)
Lithuania	IPRV (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable aerosol fraction)
Romania	OEL TWA (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	115 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	800 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	184 ppm

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 6 / 14
		Revision nr : 1
		Issue date : 24/04/2015
	<b>Protecton Antifreeze Concentrate</b>	Supersedes : 19/03/2007
	1890911 (1850686) 1L – 1890912 (1850685) 5L	

Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	10 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup> (the limit value applies to the combined concentration of vapour and aerosol)
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm (the limit value applies to the combined concentration of vapour and aerosol)
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
<b>ethanediol, ethylene glycol (107-21-1)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	40 ppm
Austria	MAK (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	20 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Bulgaria	OEL TWA (ppm)	20 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	40 ppm
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	20 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	40 ppm
Cyprus	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Cyprus	OEL TWA (ppm)	20 ppm
Cyprus	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Cyprus	OEL STEL (ppm)	40 ppm
France	VLE (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (indicative limit-vapor)
France	VLE (ppm)	40 ppm (indicative limit-vapor)
France	VME (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (indicative limit-vapor)
France	VME (ppm)	20 ppm (indicative limit-vapor)
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Gibraltar	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Gibraltar	OEL TWA (ppm)	20 ppm
Gibraltar	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Gibraltar	OEL STEL (ppm)	40 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	125 mg/m <sup>3</sup> (vapor)
Greece	OEL TWA (ppm)	50 ppm (vapor)
Greece	OEL STEL (mg/m <sup>3</sup> )	125 mg/m <sup>3</sup> (vapor)

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 7 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

Greece	OEL STEL (ppm)	50 ppm (vapor)
Italy - Portugal - USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (aerosol only)
Italy	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	20 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	40 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	20 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (ppm)	20 ppm (indicative limit value)
Spain	VLA-EC (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	40 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	20 ppm
Switzerland	VME (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (fume) 10 mg/m <sup>3</sup> (droplets)
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (particulates) 52 mg/m <sup>3</sup> (vapour)
United Kingdom	WEL TWA (ppm)	20 ppm (vapour)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (vapour) 30 mg/m <sup>3</sup> (calculated-particulate)
United Kingdom	WEL STEL (ppm)	40 ppm (vapour)
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup> 10 mg/m <sup>3</sup> (vapor)
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	20 ppm
Finland	HTP-arvo (15 min)	100 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	40 ppm
Hungary	AK-érték	52 mg/m <sup>3</sup>
Hungary	CK-érték	104 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (particulate) 52 mg/m <sup>3</sup> (vapour)
Ireland	OEL (8 hours ref) (ppm)	20 ppm (vapour)
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (vapour)
Ireland	OEL (15 min ref) (ppm)	40 ppm (particulate)
Lithuania	IPRV (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup> (aerosol and vapor)
Lithuania	IPRV (ppm)	10 ppm (aerosol and vapor)
Lithuania	TPRV (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup> (aerosol and vapor)
Lithuania	TPRV (ppm)	20 ppm (aerosol and vapor)
Malta	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	20 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	40 ppm

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>		Page : 8 / 14
			Revision nr : 1
			Issue date : 24/04/2015
	<b>Protecton Antifreeze Concentrate</b>		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L			

Norway	Gjennomsnittsverdier (AN) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (equal to the standard for nuisance dust-dust) 52 mg/m <sup>3</sup> (Total sum of limit values for both vapor and dust)
Norway	Gjennomsnittsverdier (AN) (ppm)	20 ppm (Total sum of limit values for both vapor and dust-total dust and vapor)
Norway	Gjennomsnittsverdier (Korttidsverdi) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (Norm is based on the sum calculation for the total gas and particulate form of the substance-dust)
Norway	Gjennomsnittsverdier (Korttidsverdi) (ppm)	40 ppm (Norm is based on the sum calculation for the total gas and particulate form of the substance)
Norway	Gjennomsnittsverdier (Takverdi) (ppm)	25 ppm (vapor)
Poland	NDS (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	20 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	40 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	20 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup> (aerosol and vapor)
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm (aerosol and vapor)
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup> (aerosol and vapor)
Sweden	kortidsvärde (KTV) (ppm)	20 ppm (aerosol and vapor)
<b>disodium tetraborate pentahydrate, borax pentahydrate (12179-04-3)</b>		
Belgium	Limit value (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Belgium	Short time value (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Greece	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalable fraction)
Italy - Portugal - USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup> (inhalable fraction)
Spain	VLA-ED (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Spain	VLA-EC (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>
Switzerland	VLE (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable)
Switzerland	VME (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>

Recommended monitoring procedures : Concentration measurement in air  
Personal air monitoring

## 8.2. Exposure controls

Personal protection equipment : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection : Not required under normal use.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
Full face mask (EN 136)  
Half-face mask (DIN EN 140)



SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 9 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

	Filter type: A (EN 141). Use compressed air or fresh air breathing apparatus in closed compartments. (EN 137)
Hand protection	: Wear chemically resistant gloves (tested to EN374) ,Neoprene gloves,The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.
Eye protection	: Safety glasses (EN166)
Body protection	: Wear suitable protective clothing.
Thermal hazard protection	: Not required under normal use.
Engineering control measures	: Provide adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Organisational measures to prevent/limit releases, dispersion and exposure : See also section 7 .
Environmental exposure controls	: Do not allow to enter into surface water or drains. Comply with applicable Community environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	: liquid
Colour	: blue
Odour	: almost odourless
Odour threshold	: No data available
pH	: No data available
Melting point/freezing point	: Not determined
Initial boiling point and boiling range	: 165 °C
Flash point	: 111 °C CC
Evaporation rate	: Not determined
Flammability (solid, gas)	: Not applicable, liquid
Upper/lower flammability or explosive limits	: LEL: 3,2 % (estimated) UEL: 15,3 % (estimated)
Vapour pressure	: 0,08 hPa @ 20°C
Vapour density	: 2,1 Relative vapour density
Relative density	: 1,1 @ 20°C
Water solubility	: completely soluble
Partition coefficient n-octanol/water	: Not determined
Auto-ignition temperature	: > 350 °C
Decomposition temperature	: No data available
Viscosity	: Not determined
Explosive properties	: Not applicable The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable The classification procedure needs not to be applied because there are

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 10 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

no chemical groups present in the molecule which are associated with oxidising properties.

## 9.2. Other information

No data available

## **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

Reactivity : Reference to other sections: 10.5

### 10.2. Chemical stability

Stability : The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions : Reacts vigorously with strong oxidizers and acids  
See also section 7  
Handling and storage

### 10.4. Conditions to avoid

Conditions to avoid : Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.  
See also section 7  
Handling and storage

### 10.5. Incompatible materials

Incompatible materials : Strong acids and oxidizing agents, See also section 7, Handling and storage

### 10.6. Hazardous decomposition products

Hazardous decomposition products : Burning produces noxious and toxic fumes. Reference to other sections: 5.2

## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

<b>Diethylene glycol (111-46-6)</b>	
LD50/oral/rat	12565 mg/kg
LD50/dermal/rabbit	11890 mg/kg
ATE CLP (oral)	500 mg/kg bodyweight
<b>ethanediol, ethylene glycol (107-21-1)</b>	
LD50/oral/rat	4000 - 10200 mg/kg
LD50/dermal/rat	10600 mg/kg
ATE CLP (oral)	500 mg/kg bodyweight
<b>disodium tetraborate pentahydrate, borax pentahydrate (12179-04-3)</b>	
LD50/oral/rat	3400 mg/kg
LD50/dermal/rabbit	> 2000

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met.)  
pH: No data available

Serious eye damage/eye irritation : Not classified (Based on available data, the classification criteria are not met.)  
pH: No data available

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 11 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met.)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met.)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met.)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met.)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met.)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met.)

#### Other information

Symptoms related to the physical, chemical and toxicological characteristics, Reference to other sections: 4.2

## SECTION 12: Ecological information

### 12.1. Toxicity

Toxicity : Ecological injuries are not known or expected under normal use.

<b>Diethylene glycol (111-46-6)</b>	
LC50 fish 1	75200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	84000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>ethanediol, ethylene glycol (107-21-1)</b>	
LC50 fish 1	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

### 12.2. Persistence and degradability

Persistence and degradability : Ethanediol  
Readily biodegradable.

### 12.3. Bioaccumulative potential

Bioaccumulation : Ethanediol  
Does not bioaccumulate.

Partition coefficient n-octanol/water : Not determined

### 12.4. Mobility in soil

Mobility : Adsorbs on soil.

### 12.5. Results of PBT and vPvB assessment

PBT/vPvB data : Ethanediol :  
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

### 12.6. Other adverse effects

Other information : No data available

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 12 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product waste:	: Handle with care. Safe handling: see section 7 Refer to manufacturer/supplier for information on recovery/recycling. Collect and dispose of waste product at an authorised disposal facility. Dispose according to legislation.
Contaminated packaging	: Delivery to an approved waste disposal company. Dispose according to legislation.
List of proposed waste codes/waste designations in accordance with EWC	: Classified as hazardous waste according to European Union regulations. The following Waste Codes are only suggestions: 07 01 04* - other organic solvents, washing liquids and mother liquors, 150110* - packaging containing residues of or contaminated by dangerous substances Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

## SECTION 14: Transport information

### 14.1. UN number

UN number : NA

### 14.2. UN proper shipping name

Proper Shipping Name : Not applicable

### 14.3. Transport hazard class(es)

#### **14.3.1. Overland transport**

ADR/RID : Not classified for this transport way.  
Class(es) : Not applicable

#### **14.3.2. Inland waterway transport (ADN)**

ADN : Not classified for this transport way.

#### **14.3.3. Transport by sea**

IMDG : Not classified for this transport way.  
Class or Division :

#### **14.3.4. Air transport**

ICAO/IATA : Not classified for this transport way.  
Class or Division :

### 14.4. Packing group

Packing group : NA

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

Special precautions for user : Not applicable.

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Code: IBC : Not applicable.

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 13 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006 :

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 : Protecton Antifreeze Concentrate

3.b. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 : Protecton Antifreeze Concentrate

This product contains an ingredient according to the candidate list of Annex XIV of the REACH Regulation 1907/2006/EC. : Disodium tetraborate, anhydrous  
 Authorisations : Not applicable

#### 15.1.2. National regulations

DE : WGK : 1

### 15.2. Chemical safety assessment

Chemical Safety Assessment : No data available

## SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral) : Acute toxicity Category 4  
 Repr. 1B : Reproductive toxicity, Category 1B  
 H302 : Harmful if swallowed.  
 H360FD : May damage fertility. May damage the unborn child.  
 R22 : Harmful if swallowed.  
 R60 : May impair fertility.  
 R61 : May cause harm to the unborn child.  
 Xn : Harmful

Key literature references and sources for data : European Chemicals Bureau  
 SDS Supplier

Other information : Assessment/classification CLP, Article 9, Calculation method.

Abbreviations and acronyms : ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin  
 ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC  
 IATA = International Air Transport Association  
 IMDG = International Maritime Dangerous Goods Code  
 LEL = Lower Explosive Limit/Lower Explosion Limit  
 UEL = Upper Explosion Limit/Upper Explosive Limit

SERVICE BEST B.V. De Run 4271 5503 LM VELDHOVEN The Netherlands Phone: +31 40 230 23 00 Fax: +31 40 230 23 02 E-mail: info@servicebest.com	<b>SAFETY DATA SHEET</b>	Page : 14 / 14
	<b>Protecton Antifreeze Concentrate</b>	Revision nr : 1
		Issue date : 24/04/2015
		Supersedes : 19/03/2007
1890911 (1850686) 1L – 1890912 (1850685) 5L		

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 CSR = CSR = Chemical Safety Report  
 DNEL = DNEL = Derived No Effect Level  
 LD50 = Median lethal dose  
 N.O.S. = Not Otherwise Specified  
 PNEC = Predicted No Effect Concentration  
 TWA = time weighted average  
 STEL = Short term exposure limit  
 TLV = Threshold limits  
 WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)  
 NA = Not applicable

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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