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

1.1 Product identifier

Chemical name/ trade name: **Antifreeze G11**

Producer: **OMA CZ, a.s.**

Address: **Stráž pod Ralskem, 47127, Borová 103**

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

Intended use: Coolant for car cooling circuits.

Uses advised against: Other then the above mentioned.

1.3 Details of the supplier of the safety data sheet

Supplier of SDS:	OMA CZ, a.s.
Address:	Stráž pod Ralskem, 47127, Borová 103
Identification No.:	25406761
Tel:	+420 487 851 016
www:	www.omacz.cz
Responsible person for this SDS:	OMA CZ, a.s., laborator@omacz.cz

1.4 Emergency telephone number

National Poisons Information Service (NPIS), Royal Infirmary of Edinburgh, Edinburgh EH16 4SA, United Kingdom, Tel.: +44 121 507 4123, 844 892 0111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to the EC Regulation No. 1272/2008 (CLP):

Eye irritation, category 2, H319 Causes serious eye irritation.
Specific target organ toxicity (repeated exposure), category 2, H373 May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
Acute Toxicity, category 4, H302 Harmful if swallowed.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard pictogram(s):

Signal word(s): WARNING

Contain: Ethane-1,2-diol, Natriummetasilicat Pentahydrat, 3,5,5-trimethylhexanoic acid, Disodium tetraborate, decahydrate, Sodium hydroxide, Methanol

Hazard statement(s):

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s):

P102 Keep out of reach of children.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get Medical advice/attention if you feel unwell.
P501 Dispose of contents / container as hazardous waste.

Supplemental information: None.

2.3 Other hazards

This product does not contain any substances which are classified as PBT or vPvB in a concentration of 0.1% by weight or higher.
The product contains SVHC-substance Disodium tetraborate, decahydrate.
This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Name of the component	Content (weight %)	CAS EINECS Index N° Reg. Number	Classification according to Regulation (EC) No. 1278/2008 (CLP)	
Ethane-1,2-diol *	≥ 80 - ≤ 90	107-21-1 203-473-3 603-027-00-1 01-2119456816-28	Acute Tox. 4 STOT RE 2	H302 H373
3,5,5-trimethylhexanoic acid	≤ 1.5	3302-10-1 221-975-0 - 01-2119517580-45	Acute Tox. 4 Eye Dam. 1 Skin Irrit. 2	H302 H318 H315
Disodium tetraborate, decahydrate	< 0.9	1330-96-4 215-540-4 005-011-01-1 -	Eye Irrit. 2 Repr. 1B *SCL: C > 8,5%*	H319 H360FD
Sodium hydroxide	< 0.5	1310-73-2 215-185-5 011-002-00-6 01-2119457892-27	Eye Dam. 1 Eye Irrit. 2 *SCL: 0,5% ≤ C < 2%* Met. Corr. 1 Skin Corr. 1A *SCL: C ≥ 5%* Skin Corr. 1B *SCL: 2% ≤ C < 5%* Skin Irrit. 2 *SCL: 0,5% ≤ C < 2%*	H318 H319 H290 H314 H314 H315
Natriummetasilicat Pentahydrat	< 0.2	10213-79-3 229-912-9 - 01-2119449811-37	Eye Dam. 1 Met. Corr. 1 STOT SE 3 Skin Corr. 1B	H318 H290 H335 H314
Methanol *	< 0.002	67-56-1 200-659-6 603-001-00-X 01-2119433307-44	Acute Tox. 3 Flam. Liq. 2 STOT SE 1 *SCL: C ≥ 10%* STOT SE 2 *SCL: 3% < C < 10%*	H301/311/331 H225 H370 H371

** Substance with a Community workplace exposure limit.*

Úplné znění H-vět v oddíle 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

If while you are working with the product appear symptoms that need to be solved in collaboration with the doctor, tell him about the product name and its supplier or give him MSDS or the prIn any case, avoid chaotic behaviour. If you need medical treatment, always take the original package with the label or the safety data sheet. In life-threatening conditions, first resuscitate the affected person and arrange for medical assistance. Breathing - Immediately perform artificial respiration. Heart arrest - Immediately perform an indirect heart massage. Unconscious - place the affected person in a stabilized position on the side. It is always necessary to assess the situation with regard to the patient's own safety and safety.

Inhalation:

Move affected person to fresh air, keep him calm, prevent hypothermia.

Skin contact:

Take off all contaminated clothing. Wash thoroughly with soap and water and treat with a suitable cream. In case of inadequate washing, further irritation may occur.

Eye contact:

Immediately rinse eyes with running water, open eyelids. If the contact lenses are used, remove them carefully and continue to rinse, the affected eye wide open from the inner corner to the outer, so that the second eye is not affected and also under the lids for at least 15 minutes. If symptoms persist, seek medical advice.

Ingestion:

Rinse mouth with water, do not induce vomiting. Do not give anything by mouth to an unconscious person; Place the person in a stabilized position and seek immediate medical attention.

Protection of first aiders:

Pay attention to personal safety during rescue work.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Indigestion, nausea. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure. Headaches.

4.3 Indication of any immediate medical attention and special treatment needed

Decontamination. Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Foam, extinguishing powder, CO2, water mist.
Unsuitable extinguishing media:	Strong water jet.

5.2 Special hazards arising from the substance or mixture

Combustion products and hazardous gases: smoke, carbon monoxide, carbon dioxide.

5.3 Advice for firefighters

Rescue teams exposed to smoke or gases must be equipped with means for eye and respiratory protection, protective clothing. In confined spaces it is necessary to use a breathing apparatus. Containers exposed to fire cool with water mist. Collect extinguishing water separately, and avoid its penetration into the soil and water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Prevent contamination of clothing and footwear by product and contact with skin and eyes. Wear suitable protective clothing, replace contaminated clothing. Ensure ventilation of the affected area. All persons not participating in rescue work should be taken to a safe distance. Remove all ignition sources.

6.2 Environmental precautions

Avoid leakage into the environment, soil, avoid ingress into surface water and sewers. In case of leakage, inform the water / sewer manager and the relevant authorities immediately.

6.3 Methods and material for containment and cleaning up

In case of leakage, locate and, if possible, drain or mechanically remove product, withdraw from the surface of the water. Allow residuals or smaller amounts to be absorbed in a suitable sorbent (kieselguhr, sand) and placed it in suitable and labelled containers and handed over to recycling / disposal of in accordance with applicable regulations. Wash spill site with plenty of water. For cleaning do not use solvents.

6.4 Reference to other sections

See section 7, 8 a 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Use appropriate PPE. Use only in well-ventilated areas with fresh air supply. Do not eat, drink, smoke. Wash your hands after work. Do not inhale vapours. Comply with regulations on health and safety at work. All fire precautions must be observed during handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in well sealed original containers in dry, cool and well-ventilated areas. Store in a vertical position to prevent leakage and dripping. Keep away from food, feed and medication. Do not expose to the sun. Max. storage temperature: 40°C. Suitable storage materials/containers: HDPE, colour glass, stainless steel.

7.3 Specific end use(s)

see section 1.2

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limits: According to national legislation of target country.

Substance	CAS	Permissible exposure limits (mg/m³)	Maximum permissible concentration (mg/m³)	Note
Ethane-1,2-diol	107-21-1	rticulate. 52 va	rticulate. 104 vap	
Sodium-hydroxide	1310-73-2	-	2	
Methanol	67-56-1	266	333	

Substances with Community Exposure Limits:

Substance	CAS	Limit values (mg/m³)		Note
		OEL	STEL	
Ethylene glycol	107-21-1	52	104	*Dermal*
Methanol	67-56-1	260	-	*Dermal*

DNEL:

Ethane-1,2-diol (CAS: 107-21-1)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	35
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	106
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	7
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	53

Natriummetasilicat Pentahydrat (CAS: 10213-79-3)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	6.22
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	1.49
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	1.55
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	0.74
Oral	Long-term (chronic)	systemic	mg/kg bw/d	0.74

3,5,5-trimethylhexanoic acid (CAS: 3302-10-1)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	4.4
		local	mg/m³	10
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	1.25
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	1.1
		local	mg/m³	5
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	0.6
Oral	Long-term (chronic)	systemic	mg/kg bw/d	0.6

Disodium tetraborate, decahydrate (CAS: 1330-96-4)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	6.7
		local	mg/m³	17.04
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	316.4
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	3.4
		local	mg/m³	17.04
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	159.5
Oral	Long-term (chronic)	systemic	mg/kg bw/d	0.79

Sodium hydroxide (CAS: 1310-73-2)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	1
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	1

Methanol (CAS: 67-56-1)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	130
		local	mg/m³	130
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	20
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	26
		local	mg/m³	26
Dermal	Long-term (chronic)	systemic	mg/kg bw/d	4
Oral	Long-term (chronic)	systemic	mg/kg bw/d	4

PNEC:

Ethane-1,2-diol (CAS: 107-21-1)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC water, fresh	mg/L	10
	Freshwater, occasional leakage	PNEC water, fresh	mg/L	10
	Freshwater sediment	PNEC sed., fresh.	mg/kg sediment dw	37
	Seawater	PNEC water, mar.	mg/L	1
	Marine sediment	PNEC sed., mar.	mg/kg sediment dw	3.7
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	199.5
Terrestrial environment / organisms	Soil	PNEC soil	mg/kg soil dw	1.53

Natriummetasilicat Pentahydrat (CAS: 10213-79-3)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC water, fresh	mg/L	7.5
	Freshwater, occasional leakage	PNEC water, fresh	mg/L	7.5
	Seawater	PNEC water, mar.	mg/L	1
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	1 000

3,5,5-trimethylhexanoic acid (CAS: 3302-10-1)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC water, fresh	mg/L	0.068
	Freshwater, occasional leakage	PNEC water, fresh	mg/L	1.36
	Freshwater sediment	PNEC sed., fresh.	mg/kg sediment dw	1.08
	Seawater	PNEC water, mar.	mg/L	0.007
	Marine sediment	PNEC sed., mar.	mg/kg sediment dw	0.108
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	23

Terrestrial environment / organisms	Soil	PNEC soil	mg/kg soil dw	0.176

Disodium tetraborate, decahydrate (CAS: 1330-96-4)

Component of the environment		**PNEC**	**Unit**	**Value**
Water environment	Freshwater	PNEC water, fresh	mg/L	2.9
	Freshwater, occasional leakage	PNEC water, fresh	mg/L	13.7
	Seawater	PNEC water, mar.	mg/L	2.9
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	10
Terrestrial environment / organisms	Soil	PNEC soil	mg/kg soil dw	5.7

DNELs and PNECs values for the other components of the mixture haven´t been determined.

8.2 Exposure controls

Technical measures: Technical measures and appropriate work procedures take precedence over personal protective equipment. Observe the usual hygiene principles. Do not eat, drink, smoke. Before breaks and after work wash your hands with warm water and soap, use reparation cream. Store in closed containers, in ventilated and dry areas. Observe the usual precautions for occupational health and especially good ventilation. This can only be achieved by local exhaust or efficient general ventilation. If this is not possible, appropriate respiratory protection must be worn. Make sure there is a safety shower or eye wash basin near the workplace.

Individual protection measures

Respiratory protection: If the exposure limits are exceeded, when dust, fog, aerosol is forming, use a suitable filter (type A -EN 14387+A1 - anti-gas and combined filters). Firefighting and accidents - use self contained breathing apparatus.

Hand protection: Protective working gloves (EN 374). Observe the manufacturer's exact instructions, including the time of use. Replace damaged gloves. Use reparation cream.
Suitable material is:NBR, CR or PVC, penetration time: > 480 min. Follow the producers instruction concerning usage of gloves.

Eye / face protection: Wear safety glasses with side shields or face shield according to EN 166.

Skin protection: Working clothes (EN ISO 13688) and footwear (EN ISO 20347). Protective clothing against liquid chemicals (EN 14605). Protective clothing against chemicals (EN ISO 14325).

Thermal hazards: No data available.

Environmental exposure controls: Avoid unnecessary releases into the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property	**Value**		**Method**
Physical state:	Liquid		
Colour:	Green, Blue		
Odour:	not determined		
Odour threshold:	not determined		
pH :	7.8 - 8.6 (33%)		
Melting point / freezing point (°C):	-- / -37 (50%)		
Boiling point or initial boiling point and boiling range (°C):	> 160		
Flash point (°C):	No data available.		
Evaporation rate:	not determined		

Flammability (gases, liquids and solids):	not determined		
Lower and upper explosion limit:	not determined		
Vapour pressure (20 °C):	not determined		
Vapour pressure (50 °C):	not determined		
Relative vapour density:	not determined		
Density and/or relative density (g/cm³, 20 °C):	1.1 - 1.14		
Solubility (20 °C):	Miscible		
Partition coefficient n-octanol/water (log value):	not determined		
Auto-ignition temperature:	not determined		
Decomposition temperature:	not determined		
Kinematic viscosity:	No data available.		
Refractive index (20 °C):	not determined		
Oxidising properties:	not determined		
Explosive properties:	not determined		

9.2 Other information

VOC (%): approx. 85
Dry matter content: not determined
Additional information: Reserve alkalinity: : ≥ 11 ml 0,1M HCl

9.2.1 Information with regard to physical hazard classes

The product has no physical hazards.

9.2.2 Other safety characteristics:

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is stable at the specified conditions of storage, handling and use.

10.2 Chemical stability

The product is stable at the specified conditions of storage, handling and use.

10.3 Possibility of hazardous reactions

React with oxidants and oxygen. May react with some of the metals, acids and bases when heated.

10.4 Conditions to avoid

They are not subject to prescribed use and storage.

10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong alkalines.

10.6 Hazardous decomposition products

see section 5.2

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Individual components

Ethane-1,2-diol (CAS: 107-21-1)

Acute toxicity:

Test type	Results	Exposure	Tested organisms

key study	7 712 mg/kg bw LD50	oral: gavage	rat
key study	> 3 500 mg/kg bw LD50	dermal	mouse
key study	> 2.5 mg/L air	inhalation: aerosol	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
weight of evidence	GHS criteria not met	Skin	human

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
408, weight of evidence	150 mg/kg bw/day (nominal) NOEL	oral	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	1 500 mg/kg bw/day NOAEL	oral: feed	mouse

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
key study	ambiguous	In vitro	Chinese hamster Ovary (CHO)

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	> 1 000 mg/kg bw/day NOAEL	oral: feed	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Natriummetasilicat Pentahydrat (CAS: 10213-79-3)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
key study	770 - 820 mg/kg bw, LD50 661.5 - 896.3 mg/kg bw, LD50 666.7 - 1 008.6 mg/kg bw, LD50	oral.	mouse
key study	> 5 000 mg/kg bw, LD50	dermal	rat
key study	> 2.06 mg/L air (analytical)	inhalation: vapour	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
other information	irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	corrosive	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 429, key study	not sensitising	Skin	mouse

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, key study	> 227 - 237 mg/kg bw/day (nominal), NOAEL	oral	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 475, key study	negative	oral: feed	mouse

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
key study	> 159 mg/kg bw/day, NOAEL	oral: drinking water	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

3,5,5-trimethylhexanoic acid (CAS: 3302-10-1)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
OECD 401, key study	1 160 mg/kg bw, LD50	oral: gavage	rat
other information	> 2 000 mg/kg bw, LD50	dermal	rat
OECD 403, key study	0.03 mg/L air (nominal), LC0	inhalation: vapour	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	Category 1 (irreversible effects on the eye) based on GHS criteria	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	Category 2 (irritant) based on GHS criteria	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	GHS criteria not met	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, key study	5 mg/kg bw/day (actual dose received), NOAEL 30 mg/kg bw/day (actual dose received) 30 mg/kg bw/day (actual dose received)	oral	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 443, key study	25 mg/kg bw/day (actual dose received), NOAEL 120 mg/kg bw/day (actual dose received), NOAEL 120 mg/kg bw/day (actual dose received), NOAEL 5 mg/kg bw/day (actual dose received), NOAEL 25 mg/kg bw/day (actual dose received) 120 mg/kg bw/day (actual dose received)	oral: gavage	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Disodium tetraborate, decahydrate (CAS: 1330-96-4)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
OECD 401, key study	> 2 500 mg/kg bw, LD50	oral: gavage	rat
key study	> 2 000 mg/kg bw, LD50	dermal	rabbit
OECD 403, key study	> 2.04 mg/L air (nominal)	inhalation: dust	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	Category 2 (irritating to eyes) based on GHS criteria	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	not sensitising	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms

key study	100 mg/kg bw/day (nominal), NOAEL 334 mg/kg bw/day (nominal), LOAEL 17.5 mg/kg bw/day (nominal), NOAEL 58.5 mg/kg bw/day (nominal), LOAEL	oral	rat
key study	470 mg/m³ air (nominal), NOAEC 175 mg/m³ air (nominal), NOAEC 57 mg/m³ air (nominal), NOAEC	inhalation	other: rats and dogs (only females)

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
OECD 451, key study	> 5 000 ppm (nominal), NOEL	oral: feed	mouse

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 474, key study	negative	oral: gavage	mouse

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
key study	155 mg/kg bw/day, NOAEL 518 mg/kg bw/day, LOAEL 17.5 mg/kg bw/day, NOAEL 58.5 mg/kg bw/day, LOAEL 155 mg/kg bw/day, NOAEL 17.5 mg/kg bw/day, NOAEL 155 mg/kg bw/day, NOAEL 17.5 mg/kg bw/day, NOAEL	oral: feed	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Sodium hydroxide (CAS: 1310-73-2)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
key study	325 mg/kg bw, LD50	oral: unspecified	rabbit

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 435, key study	Category 1 (corrosive) based on GHS criteria	Skin	artificial membrane barrier model

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
key study	GHS criteria not met	Skin	other: human

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
key study	negative	In vitro	S. typhimurium TA 1538

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Methanol (CAS: 67-56-1)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	> 5 000 mg/kg bw, LD50	oral: gavage	pig
supporting study	17 100 mg/kg bw, LD50	dermal	rabbit
weight of evidence	>= 0.27 - <= 13.3 mg/L air, hormone status	inhalation	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	not sensitising	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
weight of evidence	2 340 mg/kg bw/day (actual dose received), LOAEL	oral	monkey
weight of evidence	0.013 mg/L air (nominal), NOAEC 0.13 mg/L air (nominal), LOAEC	inhalation	monkey

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	> 466 - < 529 mg/kg bw/day, NOAEL > 1 872 - < 2 101 mg/kg bw/day, LOAEL	oral: drinking water	rat
OECD 453, weight of evidence	>= 1.3 mg/L air, NOAEC	inhalation: vapour	mouse

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	negative	oral: gavage	mouse
OECD 474, weight of evidence	negative	inhalation: vapour	mouse

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 415, weight of evidence	2.39 mg/L air (nominal), NOAEC	inhalation: vapour	monkey

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

mixture:

Acute toxicity: Harmful if swallowed.
Serious eye damage / irritation: Causes serious eye irritation.

Skin corrosion / irritation:	The product does not meet the criteria for classification.
Respiratory or skin sensitisation:	The product does not meet the criteria for classification.
STOT - single exposure:	The product does not meet the criteria for classification.
STOT - repeated exposure:	May cause damage to organs through prolonged or repeated exposure .
Carcinogenicity:	The product does not meet the criteria for classification.
Germ cell mutagenicity:	The product does not meet the criteria for classification.
Reproductive toxicity:	The product does not meet the criteria for classification.
Aspiration hazard:	The product does not meet the criteria for classification.

11.2 Information on other hazards

Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

The product does not meet the criteria for classification.

Ethane-1,2-diol (CAS: 107-21-1)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Pimephales promelas*	> 72 860 mg/L LC50 / 96 h	
Acute toxicity to invertebrates	*Daphnia magna*	> 100 mg/L EC50 / 48 h	202
Acute toxicity to aquatic algae	*Pseudokirchneriella subcapitata*	> 100 mg/L NOEC / 72 h	201

Natriummetasilicat Pentahydrat (CAS: 10213-79-3)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Danio rerio*	180 mg/L, LC0 / 96 h 210 mg/L, LC50 / 96 h 250 mg/L, LC100 / 96 h	
Acute toxicity to invertebrates	*Daphnia magna*	1 700 mg/L, EC50 / 48 h	
Acute toxicity to aquatic algae	*Desmodesmus subspicatus*	207 mg/L, EC50 / 72 h > 345.4 mg/L, EC0 / 72 h	

3,5,5-trimethylhexanoic acid (CAS: 3302-10-1)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Oncorhynchus mykiss*	122 mg/L, LC50 / 96 h	OECD 203
Acute toxicity to invertebrates	*Daphnia magna*	68 mg/L, EC50 / 48 h	OECD 202
Acute toxicity to aquatic algae	*Pseudokirchneriella subcapitata*	81 mg/L, EC50 / 72 h	OECD 201

Disodium tetraborate, decahydrate (CAS: 1330-96-4)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Pimephales promelas*	79.7 mg/L, LC50 / 96 h	
Acute toxicity to invertebrates	*other aquatic arthropod: Allocaphnia vivipara (Insecta, stonefly)*	476 mg/L, LC50 / 96 h	

Acute toxicity to aquatic algae	*Phaeodactylum tricornutum*	54 mg/L, EC50 / 72 h 27.9 mg/L, NOEC / 72 h 70.1 mg/L, LOEC / 62.4 h	

Sodium hydroxide (CAS: 1310-73-2)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish		No data available.	
Acute toxicity to invertebrates	*Ceriodaphnia sp.*	40.4 mg/L, EC50 / 48 h	
Acute toxicity to aquatic algae		No data available.	

Methanol (CAS: 67-56-1)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Lepomis macrochirus*	15 400 mg/L, LC50 / 96 h 12 700 mg/L, EC50 / 96 h	
Acute toxicity to invertebrates	*Daphnia magna*	18 260 mg/L, EC50 / 96 h	OECD 202
Acute toxicity to aquatic algae	*Raphidocelis subcapitata*	ca. 22 000 mg/L, EC50 / 96 h	OECD 201

12.2 Persistence and degradability

Ethane-1,2-diol is biodegradable. OECD Test 301 A: 90 - 100% DOC reduction, 10 days, aerobic, treatment of activated sludge.

12.3 Bioaccumulative potential

Toxicological data are not available.

12.4 Mobility in soil

The mixture is miscible with water.

12.5 Results of PBT and vPvB assessment

This product does not contain any substances which are classified as PBT or vPvB in a concentration of 0.1% by weight or higher.

12.6 Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

12.7 Other adverse effects

Avoid uncontrolled release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Catalogue No. of substance/mixture waste:	16 01 14 Antifreeze fluids containing dangerous substances
Waste codes / waste designations according to LoW:	15 01 10 Packaging containing residues of or contaminated by dangerous substances 15 01 02 Plastic packaging
Recommended procedure for substance/mixture waste disposal:	Remains of the mixture to be collected in labelled containers and handed over to a person authorized to handle hazardous waste. Suitable method of disposal: incineration in hazardous waste incineration plant. If possible, regenerate the product.
Recommended procedure for packaging disposal:	Empty containers must be disposed of in accordance with valid waste legislation. After perfect cleaning, the packaging can be used as a secondary raw material for the same purpose. Recommended way of disposing of is recycling, burning in a hazardous waste incinerator or storing hazardous waste.
Physical / chemical properties that may affect waste treatment method:	No determinated.

Sewage disposal-relevant information: Do not allow to enter into surface water or drains.

Other disposal recommendations: Dispose of waste according to applicable legislation.

SECTION 14: Transport information

	Type of transport	Land transport ADR / RID	Sea transport IMDG	Air Transport ICAO / IATA
14.1	UN number or ID number	There is no dangerous good in terms of transport.	There is no dangerous good in terms of transport.	There is no dangerous good in terms of transport.
14.2	UN proper shipping name	-	-	-
14.3	Transport hazard class(es)	-	-	-
	Classification code	-	-	-
	Labels	-	-	-
14.4	Packing group	-	-	-

14.5 Environmental hazards No data available.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not specified.

Other information

Type of transport	Land transport ADR / RID	Sea transport IMDG	Air Transport ICAO / IATA
Limited quantities:	-	-	-
Excepted quantities:	-	-	-
Transport category:	-	-	-
Tunnel restriction code:	-	-	-
Segregation group:	-	-	-

SECTION 15: Regulatory information

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

Regulation (EC) No. 1272/2008 (CLP) on classification, labelling and packaging of substances and mixtures,…
Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),…
Applicable national regulations.

The product contains substance Methanol (A500 / B5000) with its own evaluation limit according to Seveso III (Directive 2012/18 / EU).
The product contains SVHC-substance Disodium tetraborate, decahydrate.
The product contains substance Disodium tetraborate, decahydrate, Methanol, that is included in Annex XVII. of REACH Regulation.

15.2 Chemical safety assessment

A chemical safety report has been prepared for ethane-1,2-diol; 3,5,5-trimethylhexanoic acid; sodium tetraborate, decahydrate; sodium metasilicate; sodium hydroxide. The other components of the mixture were not assessed.

SECTION 16: Other information

Complete text of all classifications and hazard classes referred to in SECTION 3

Hazard class:

Acute Tox. 3 - Acute Toxicity, category 3
Acute Tox. 4 - Acute Toxicity, category 4
Aquatic Acute 1 - Acute aquatic toxicity, category 1
Aquatic Chronic 2 - Chronic (long term) aquatic hazard, category 2
Eye Dam. 1 - Serious eye damage, category 1
Eye Irrit. 2 - Eye irritation, category 2
Flam. Liq. 2 - Flammable liquids, category 2
Met. Corr. 1 - Corrosive to metals, category 1
Repr. 1B - Reproductive toxicity, category 1B
STOT RE 2 - Specific target organ toxicity (repeated exposure), category 2
STOT SE 1 - Specific target organ toxicity — single exposure, category 1
STOT SE 2 - Specific target organ toxicity — single exposure, category 2
STOT SE 3 - Specific target organ toxicity — single exposure, category 3
Skin Corr. 1A - Skin corrosion, category 1A
Skin Corr. 1B - Skin corrosion, category 1B
Skin Irrit. 2 - Skin irritation, category 2
Skin Sens. 1 - Skin sensitisation, category 1

H-statements:

H225 Highly flammable liquid and vapour.
H290 May be corrosive to metals.
H301 Toxic if swallowed.
H301/311/331 Toxic if swallowed, in contact with skin or if inhaled.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H360FD May damage fertility. May damage the unborn child.
H370 Causes damage to organs <or state all organs affected, if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H371 May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H373 May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Abbreviations:

ADN	Inland waterways
ADR	Accord Dangereuses Route
CAS	Chemical Abstracts Service
DNEL	Derived no-effect level

EC50	Effect concentration for 50%
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effect level for 50%
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50%
LD50	Lethal dose for 50%
LL50	Lethal load for 50%
LOAEC	Lowest observable adverse effect concentration
LOAEL	Lowest observable adverse effect level
LOEC	Lowest observable effect concentration
NOAEC	No observable adverse effect concentration
NOAEL	No observable adverse effect level
NOEC	No observable effect concentration
NOEL	No observable effect level
NPK-P	Maximum permissible concentration
OEL	Occupational Exposure Limit (workplace exposure limit - 8 hours / shift)
PBT	Persistent, bioacumulative and toxic
PEL	Permissible exposure limits
PNEC	Predicted no-effect concentration
RID	Regulations for the International Carriage of Dangerous Goods by Rail
SCL	Specific concentration limits
STEL	Short Term Exposure Limit (short exposure - corresponds to approx. 15 min.)
VOC	Volatile organic substances
vPvB	Very persistent and very bioacumulative

Indication of changes: change of composition, change of classification and labeling of the product, complete revision of the SDS.

This revision follows the version 1.0, issue date 2020-01-10 and is in accordance with Regulations (EC) No. 1907/2006 (REACH) and No. 1272/2008 (CLP).

Classification was performed by calculation method.

Instructions for training:
Workers who come into contact with hazardous substances/mixtures must be in the necessary extent informed about the effects of these substances/mixtures, about the ways how to deal with them.
Workers must be in the necessary extent informed with protective measures, the principles of first aid, with the necessary sanitation practices and procedures for liquidation of failures and accidents.
A person dealing with this chemical product must be familiar with the safety rules and the data given in the MSDS.

If the hazardous chemical substance / mixture is classified as corrosive or toxic, workers must be familiar with the rules for handling with corrosive / toxic chemical substance/mixture.
Persons transporting hazardous substances must be familiar with the guidelines for emergency response in accordance with the regulations of ADR / RID.
Other information:
The above information describes the conditions for safe handling and corresponds with current knowledge of the manufacturer.

The manufacturer bears responsibility for the above described properties of the product when used according to specifications.
The user is responsible for determining suitability of product for specific purposes and adapt security measures if such application is contrary to the manufacturer's recommendations.