



Green Fuel Cell Aerosol Safety Data Sheet

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

1.1. Product identifier

Product name	Green Fuel Cell Aerosol 500ml (For Chameleon and Salamander machines)
Product number	4002B (GS0018G)
Registration number (REACH)	Not relevant (mixture)
Unique formula identifier	J500-C029-G008-DQGT

1.2. Relevant identified uses of the substance or mixture

Identified Uses	Pyrotechnics Professional use
Uses Advised Against	Applications which do not fulfill the above-mentioned purpose.

1.3. Details of the supplier of the safety data sheet

Green Star,
Steenpad 21H,
4797 SG Willemstad,
Netherlands
Tel: +31 168 473 194
Email: info@green-star.nl (competent person)
Web: <https://www.green-star.nl>

1.4. Emergency telephone Nos

+31 168 473 194
Only during office hours:
Mon-Fri 09.00-17.00

Netherlands

Poison Centre
National
Vergiftigingen
Informatie Centrum
(UMC Utrecht) for
emergency services
only:
Tel: +31 88 755 8000

Great Britain

National Poisons Information helpline:
Tel: +44 (0)344 892 0111
NHS 111/NHS 24:
Tel: 111

Republic of Ireland

National Poisons Information helpline
Tel: +44 (0)1 809 2166

Section 2: Hazards identification

2.1. Classification of the substance or mixture classification

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

Section: 2.3

Hazard Class: Aerosols

Category: 1

Hazard Class & Category: Aerosol 1

Hazard Statement: H222, H229

Section: 3.10

Hazard Class: Acute Toxicity (oral)

Category: 4

Hazard Class & Category: Acute Tox. 4

Hazard Statement: H302

Section: 3.1D

Hazard Class: Acute Toxicity (dermal)

Category: 4

Hazard Class & Category: Acute Tox. 4

Hazard Statement: H312

Section: 3.1I

Hazard Class: Acute Toxicity (inhalation)

Category: 4

Hazard Class & Category: Acute Tox. 4

Hazard Statement: H332

Section: 3.7

Hazard Class: Reproductive Toxicity

Category: 1B

Hazard Class & Category: Repr. 1B

Hazard Statement: H360FD

Section: 3.8

Hazard Class: Specific Organ Toxicity (single exposure)

Category: 1

Hazard Class & Category: STOT SE 1

Hazard Statement: H370

Additional information

Full text of H-phrases: see Section 16

The most important adverse physicochemical, human health and environmental effects

Immediate effects can be expected after short-term exposure.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms



Signal word

Danger

Hazard statements

H222

Extremely flammable aerosol.

H229

Pressurized container: may burst if heated.

H302+H312+H332

Harmful if swallowed, in contact with skin or if inhaled.

H360FD

May damage fertility. May damage an unborn child.

H370

Causes damage to organs (optic nerve (nervus opticus), central nervous system).

Precautionary statements:

Prevention

P210

Keep away from heat, hot surfaces, sparks, naked flames and other ignition sources. No smoking.

P211

Do not spray on a naked flame or other ignition source.

P251

Do not pierce or burn, even after use.

P260

Do not breathe dust/fumes/gas/mist/vapours/spray.

P308+P311

IF exposed or concerned: call a POISON CENTRE/doctor.

P410+P412

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Additional labelling requirements

Restricted to professional users.

Additional labelling according to Directive 75/324/EEC relating to aerosol dispensers

Extremely flammable. Pressurized container: may burst if heated. Keep away from heat, hot surfaces, sparks, naked flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.1. Other hazards

There is no additional information.

Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB $\geq 0.1\%$

Endocrine disrupting properties

Contains an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$ (see Sections 11 and 12).

Section 3: Composition/information on ingredients






3.1. Substances

Not relevant (mixture)

3.2. Mixtures

This product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product, and hence require reporting in this section.

REACH information: in order to use the most up to date information we have incorporated data available via the public REACH dossier into the data sheet.

Substance name	CAS No.	INDEX No. & REACH No.	EC No.	Wt%	GHS Classification	Pictograms	Notes
Dimethyl ether	115-10-6	603-019-00-8 REACH Reg No 01-2119472128-37-xxxx	204-065-8	50-<75 %	Flam. Gas 1A H220 Press. Gas C H280		GHS-HC IOELV U(b)
Ethanol	64-17-5	603-002-00-5 REACH Reg No 01-2119457610-43-xxxx	200-578-6	10-<25 %	Flam. Liq. 2 H225 Eye Irrit. 2 H319		GHS-HC
Methanol	67-56-1	603-001-00-X REACH Reg No 01-2119433307-44-xxxx	200-659-6	2.5-<5 %	Flam. Liq. 2 H225 Acute Tox. 3 H301 Acute Tox. 3 H311 Acute Tox. 3 H331 STOT SE 1 H370		GHS-HC IOELV
Boric acid	10043-35-3	005-007-00-2 REACH Reg No 01-2119486683-25-xxxx	233-139-2	10-<25 %	Repr. 1B/H360FD		GHS-HC
Methyl ethyl ketone	78-93-3	606-002-00-3 REACH Reg No 01-2119457290-43-xxxx	201-159-0	<1%	Flam. Liq. 2 H225 Eye Irrit. 2 H319 STOT SE 3 H336 EUH066		GHS-HC IOELV

Notes

GHS-HC	Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI).
IOELV	Substance with a community indicative occupational exposure limit value.
U(b)	The allocation to the group 'compressed gas' is based on the physical state in which the gas is packaged.

Substance name	CAS No.	EC No.	Specific concentration limits	M-Factors	ATE	Exposure route
Ethanol	64-17-5	200-578-6	Eye Irrit. 2 H319: C \geq 50 %			

Methanol	67-56-1	200-659-6	STOT SE 1 H370: C ≥ 10 % STOT SE 2 H371: 3 % ≤ C < 10 %	100 mg/kg 300 mg/kg 3 mg/l/4h	oral dermal inhalation: vapour
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Additional information

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases see Section 16.

Section 4: First aid measures

4.1. Description of first aid measures

General information

Do not leave affected person unattended. Remove away from the danger area. If unconscious, place in the recovery position. Never give anything by mouth. Remove all contaminated clothing. If in any doubt, or if symptoms persist, seek medical attention immediately.

After inhalation

Provide fresh air. If breathing is irregular or has stopped, seek medical attention immediately and start to administer first aid. Call a Poison Centre/doctor.

After skin contact

Wash off immediately with plenty of soap and water. If a rash or skin irritation occurs, seek medical attention.

After eye contact

Irrigate copiously with water for at least 15 minutes, holding eyelids apart. Remove any contact lenses if this can be done safely. Continue to rinse. If eye irritation persists, seek medical advice.

After swallowing

Rinse mouth thoroughly with water only if person is conscious. Induce vomiting if the affected person is conscious. Call a Poison Centre/doctor.

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

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice, medical doctors should contact a Poison Centre.

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing agents

Use water spray or dry chemical extinguishers. Firefighting measures should be appropriate to surroundings.

For safety reasons unsuitable extinguishing agents

Water jet

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

During heating or in case of fire, hazardous gas/fumes/vapours may be produced.

5.3. Advice for firefighters

In case of fire and/or explosion, do not inhale fumes. Firefighting measures should be chosen in accordance with surroundings. Collect contaminated firewater separately and do not allow to enter drains or water courses. Fight fire from a safe distance and while taking usual precautions.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133) and standard protective clothing for firefighters.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Non-emergency personnel

Remove people to safety and keep away from and also upwind of spill/leak. Ventilate affected area.

Emergency personnel

Wear breathing apparatus if exposed to vapours/dust/spray/gases and personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Collect and dispose of contaminated firewater.

6.3 Methods and materials for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

Reference to other sections

See Section 5 for hazardous combustion products.

See Section 8 for personal protective equipment.

See Section 10 for incompatible materials.

See Section 13 for disposal considerations.

Section 7: Handling and storage

7.1. Precautions for safe handling

Recommended measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation and restrict use to well-ventilated areas only. Ground/bond container and receiving equipment.

Advice on occupational hygiene

Wash hands after use. Take off all contaminated clothing and protective equipment immediately, and before

entering eating areas. Do not breathe gas/fumes/vapours/spray. Avoid contact with the skin and the eyes. Keep away from food, drink and animal foodstuffs and do not place chemicals in containers that are usually used for food and drink. Smoking, eating and drinking should be prohibited in the application area.

7.2 Conditions for safe storage, including any incompatibilities

Management of associated risks

- Flammability hazards
Keep away from heat, hot surfaces, sparks, naked flames and other ignition sources. Do not smoke. Take precautionary measures against static discharge. Do not spray on a naked flame or other ignition source. Protect from sunlight.
- Incompatible substances or mixtures
Keep away from acids, alkalis and oxidizing substances.

Control of effects

- Protect from external exposure such as high temperatures, UV-radiation/sunlight.

Other considerations

- Store in a well-ventilated place. Keep container tightly sealed.
- Ventilation requirements: keep any substance that emits harmful vapours or gases in a place that allows them to be permanently extracted.
- Packaging: only approved packaging (eg acc. to ADR) should be used.

7.2. Specific end use(s)

There is no additional information.

Section 8: Exposure controls/personal protection

Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
EU	Dimethyl ether	115-10-6	IOELV	1.000	1.920				2000/39/EC
EU	Methanol	67-56-1	IOELV	200	260			H	2006/15/EC
EU	Ethyl methyl ketone	78-93-3	IOELV	200	600	300	900		2000/39/EC
NL	Dimethyl ether	115-10-6	GW		950		1.500		SC-SZW
NL	Ethanol	64-17-5	GW		260		1.900	H	SC-SZW
NL	Methanol	67-56-1	GW		133			H	SC-SZW
NL	2-butanone	78-93-3	GW		590		900	H	SC-SZW

Notes

H absorbed through the skin

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours, time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Ethanol	64-17-5	DNEL	1.900 mg/ m ³	Human, inhalatory	Worker (industry)	Acute - local effects
Ethanol	64-17-5	DNEL	950 mg/m ³	Human, inhalatory	Worker (industry)	Chronic - systemic effects
Ethanol	64-17-5	DNEL	343 mg/kg bw/day	Human, dermal	Worker (industry)	Chronic - systemic effects
Ethanol	64-17-5	DNEL	114 mg/m ³	Human, inhalatory	Consumer (private households)	Chronic - systemic effects
Ethanol	64-17-5	DNEL	206 mg/kg bw/day	Human, dermal	Consumer (private households)	Chronic - systemic effects
Ethanol	64-17-5	DNEL	87 mg/kg bw/day	Human, oral	Consumer (private households)	Chronic - systemic effects
Methanol	67-56-1	DNEL	130 mg/m ³	Human, inhalatory	Worker (industry)	Chronic - systemic effects
Methanol	67-56-1	DNEL	130 mg/m ³	Human, inhalatory	Worker (industry)	Acute - systemic effects
Methanol	67-56-1	DNEL	130 mg/m ³	Human, inhalatory	Worker (industry)	Chronic - local effects
Methanol	67-56-1	DNEL	130 mg/m ³	Human, inhalatory	Worker (industry)	Acute - local effects
Methanol	67-56-1	DNEL	20 mg/kg bw/day	Human, dermal	Worker (industry)	Chronic - systemic effects
Methanol	67-56-1	DNEL	20 mg/kg bw/day	Human, dermal	Worker (industry)	Acute -systemic effects
Methanol	67-56-1	DNEL	26 mg/m ³	Human, inhalatory	Consumer (private households)	Chronic -systemic effects
Methanol	67-56-1	DNEL	26 mg/m ³	Human, inhalatory	Consumer (private households)	Acute -systemic effects
Methanol	67-56-1	DNEL	26 mg/m ³	Human, inhalatory	Consumer (private households)	Chronic - local effects
Methanol	67-56-1	DNEL	26 mg/m ³	Human, inhalatory	Consumer (private households)	Acute - local effects
Methanol	67-56-1	DNEL	4 mg/kg bw/day	Human, dermal	Consumer (private households)	Chronic - systemic effects
Methanol	67-56-1	DNEL	4 mg/kg bw/day	Human, dermal	Consumer (private households)	Acute - systemic effects
Methanol	67-56-1	DNEL	4 mg/kg bw/day	Human, oral	Consumer (private households)	Chronic - systemic effects
Methanol	67-56-1	DNEL	4 mg/kg bw/day	Human, oral	Consumer (private households)	Acute - systemic effects

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Boric acid	10043-35-3	DNEL	8,3 mg/m ³	Human, inhalatory	Worker (industry)	Chronic - systemic effects
Boric acid	10043-35-3	DNEL	392 mg/kg bw /day	Human, dermal	Worker (industry)	Chronic - systemic effects
Boric acid	10043-35-3	DNEL	4.15 mg/ m ³	Human, inhalatory	Consumer (private households)	Chronic - systemic effects
Boric acid	10043-35-3	DNEL	196 mg/kg bw/ day	Human, dermal	Consumer (private households)	Chronic - systemic effects
Boric acid	10043-35-3	DNEL	0.98 mg /kg bw/day	Human, oral	Consumer (private households)	Chronic - systemic effects
Boric acid	10043-35-3	DNEL	0.98 mg /kg bw/day	Human, oral	Consumer (private households)	Acute - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	600 mg/m ³	Human, inhalatory	Worker (industry)	Chronic - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	900 mg/m ³	Human, inhalatory	Worker (industry)	Acute - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	1.161 mg/ kg bw/ day	Human, dermal	Worker (industry)	Chronic - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	106 mg/m ³	Human, inhalatory	Consumer (private households)	Chronic - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	450 mg/m ³	Human, inhalatory	Consumer (private households)	Acute - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	412 mg/kg bw/day	Human, dermal	Consumer (private households)	Chronic - systemic effects
Methyl ethyl ketone	78-93-3	DNEL	31 mg/kg bw/day	Human, oral	Consumer (private households)	Chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Dimethyl ether	115-10-6	PNEC	0.155 mg/l	Aquatic organisms	Freshwater	Short-term (single instance)
Dimethyl ether	115-10-6	PNEC	0.016 mg/l	Aquatic organisms	Marine water	Short-term (single instance)
Dimethyl ether	115-10-6	PNEC	160 mg/l	Aquatic organisms	Sewage treatment plant (STP)	Short-term (single instance)
Dimethyl ether	115-10-6	PNEC	0.681 mg/l	Aquatic organisms	Freshwater sediment	Short-term (single instance)

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Dimethyl ether	115-10-6	PNEC	0.069 mg/kg	Aquatic organisms	Marine sediment	Short-term (single instance)
Dimethyl ether	115-10-6	PNEC	0.045 mg/kg	Terrestrial organisms	Soil	Short-term (single instance)
Ethanol	64-17-5	PNEC	2.75 mg/l	Aquatic organisms	Water	Intermittent release
Ethanol	64-17-5	PNEC	0.96 mg/l	Aquatic organisms	Freshwater	Short-term (single instance)
Ethanol	64-17-5	PNEC	0.79 mg/l	Aquatic organisms	Marine water	Short-term (single instance)
Ethanol	64-17-5	PNEC	580 mg/l	Aquatic organisms	Sewage treatment plant (STP)	Short-term (single instance)
Ethanol	64-17-5	PNEC	3.6 mg/kg	Aquatic organisms	Freshwater sediment	Short-term (single instance)
Ethanol	64-17-5	PNEC	2.9 mg/kg	Aquatic organisms	Marine sediment	Short-term (single instance)
Ethanol	64-17-5	PNEC	0.63 mg/kg	Terrestrial organisms	Soil	Short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/l	Microorganisms	Sewage treatment plant (STP)	Short-term (single instance)
Methanol	67-56-1	PNEC	77 mg/kg	Benthic organisms	Sediments	Short-term (single instance)
Methanol	67-56-1	PNEC	7.7 mg/kg	Pelagic organisms	Sediments	Short-term (single instance)
Methanol	67-56-1	PNEC	1.540 mg/l	Aquatic organisms	Water	Intermittent release
Methanol	67-56-1	PNEC	20.8 mg/l	Aquatic organisms	Freshwater	Short-term (single instance)
Methanol	67-56-1	PNEC	2.08 mg/l	Aquatic organisms	Marine water	Short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/l	Aquatic organisms	Sewage treatment plant (STP)	Short-term (single instance)
Methanol	67-56-1	PNEC	77 mg/kg	Aquatic organisms	Freshwater sediment	Short-term (single instance)
Methanol	67-56-1	PNEC	7.7 mg/kg	Aquatic organisms	Marine sediment	Short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/kg	Terrestrial organisms	Soil	Short-term (single instance)
Boric acid	10043-35-3	PNEC	13.7 mg/l	Aquatic organisms	Water	Intermittent release
Boric acid	10043-35-3	PNEC	2.9 mg/l	Aquatic organisms	Freshwater	Short-term (single instance)
Boric acid	10043-35-3	PNEC	2.9 mg/l	Aquatic organisms	Marine water	Short-term (single instance)
Boric acid	10043-35-3	PNEC	10 mg/l	Aquatic organisms	Sewage treatment plant (STP)	Short-term (single instance)
Boric acid	10043-35-3	PNEC	5.7 mg/kg	Terrestrial organisms	Soil	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	709 mg/l	Microorganisms	Sewage treatment plant (STP)	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	284.7 mg/kg	Benthic organisms	Sediments	Short-term (single instance)

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Methyl ethyl ketone	78-93-3	PNEC	284.7 mg/kg	Pelagic organisms	Sediments	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	10 mg/kg	(top) predators	Water	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	55.8 mg/l	Aquatic organisms	Water	Intermittent release
Methyl ethyl ketone	78-93-3	PNEC	55.8 mg/l	Aquatic organisms	Freshwater	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	55.8 mg/l	Aquatic organisms	Marine water	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	709 mg/l	Aquatic organisms	Sewage treatment plant (STP)	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	284.7 mg/kg	Aquatic organisms	Freshwater sediment	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	284.7 mg/kg	Aquatic organisms	Marine sediment	Short-term (single instance)
Methyl ethyl ketone	78-93-3	PNEC	22.5 mg/kg	Terrestrial organisms	Soil	Short-term (single instance)

8.1 Exposure controls

Appropriate engineering controls

General ventilation.

Personal protective equipment

- Eye/face protection
Use safety goggles with side protection (EN 166).
- Skin protection
Protective clothing (EN 340 & EN ISO 13688)
- Hand protection
Wear suitable gloves, for example, chemical protection gloves tested according to EN 374. Suitability does not only depend on the material but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- Type of material
Butyl rubber.
- Material thickness
Use gloves with a minimum material thickness of $\geq 0.7\text{mm}$
- Breakthrough time of the glove material
Use gloves with a minimum breakthrough time of the glove material of >480 minutes (permeation level 6).
- Other protection measures
Take recovery periods for skin regeneration. Use of preventative skin protection eg barrier creams or ointments, is recommended. Wash hands thoroughly after use. Provision of eyewash stations and safety showers.



Respiratory protection

During spraying, wear suitable respiratory equipment. In poorly ventilated areas, wear respiratory protection. Full face mask/half mask/quarter mask (EN 136/140). Type: ABEK-P2 (combined filters against gases, vapours and particles, colour code: Brown/Grey/Yellow/Green/White).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid, solid, gaseous (spray aerosol)
Colour	Colourless
Odour	Alcohol
Melting/freezing point	Not determined
Boiling point/initial boiling point/boiling range	-24.8 °C calculated value referring to a component of the mixture
Flammability	Flammable aerosol in accordance with GHS criteria
Lower and upper explosion limit	LEL 2.5 vol % / UEL 26.2 vol % calculated value referring to a component of the mixture
Flash point	9.7 °C at 1.013 hPa (fluid) calculated value
Auto-ignition temperature	226 °C (auto-ignition temperature (liquid and gases)) calculated value referring to a component of the mixture
Decomposition temperature	No data available
pH (value)	Not determined
Kinematic viscosity	Not relevant
Solubility	Not determined
Partition coefficient n-octanol/water (log value)	Not determined
Vapour pressure	3.850 mmHg at 25 °C calculated value referring to a component of the mixture
Density	Not determined
Particle characteristics	Not relevant (aerosol)

9.2 Other information

Information with regard to physical hazard classes

Aerosols

Components (flammable)
87.44 %

Other safety characteristics

Propellant content 50 %

Section 10: Stability and reactivity

10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Do not spray on an open flame or other ignition source. Keep away from heat.

Hints to prevent fire or explosion: protect from sunlight.

10.5 Incompatible materials

Oxidisers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

Section 11: Toxicological effects

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

Test data for the complete mixture are not available.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

- acute toxicity estimate (ATE)

Exposure route	ATE
Oral	342.9 mg/kg
Dermal	1.029 mg/kg
Inhalation: vapour	10.29 mg/l/4h

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Methanol	67-56-1	oral	100 mg/kg
Methanol	67-56-1	dermal	300 mg/kg
Methanol	67-56-1	inhalation: vapour	3 mg/l/4h

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Dimethyl ether	115-10-6	inhalation: gas	LC50	164.000 ppmV/4h	rat
Ethanol	64-17-5	oral	LD50	10.470 mg/kg	rat
Ethanol	64-17-5	inhalation: vapour	LC50	124.7 mg/l/4h	rat
Boric acid	10043-35-3	oral	LD50	3.450 mg/kg	rat
Boric acid	10043-35-3	Inhalation: dust/mist	LC50	>2.12 mg/l/4h	rat
Boric acid	10043-35-3	dermal	LD50	>2.000 mg/kg	rabbit
Methyl ethyl ketone	78-93-3	oral	LD50	2.054 mg/kg	rat

Skin corrosion/irritation Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity Shall not be classified as germ cell mutagenic.

Carcinogenicity Shall not be classified as carcinogenic.

Reproductive toxicity May damage an unborn child. May damage fertility.

Summary of evaluation of the CMR properties

The product contains substances that are listed on the "SZW-lijst van kankerverwekkende, mutagene en voor de voortplanting giftige stoffen". See section 15 for more information on the ingredients.

Specific target organ toxicity – single exposure

Causes damage to organs (Optic nerve, central nervous system)

Hazard category	Target organ	Exposure route
1	Optic nerve (nervus opticus)	If exposed
1	Central nervous system	If exposed

Specific target organ toxicity – repeated exposure

Shall not be classified as a specific target organ toxicant- (repeated exposure)

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards
Endocrine disrupting properties

 The substance has an endocrine disrupting potential. Contains an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

Name of substance	CAS No	Human health category
<i>Boric acid</i>	<i>10043-35-3</i>	<i>CAT 1</i>

Legend

CAT1 Category 1 - evidence of endocrine disruption in at least one species using intact animals.

Other information

There is no additional information.

Section 12: Ecological information
12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture					
Substance name	CAS No.	Endpoint	Value	Species	Exposure time
<i>Dimethyl ether</i>	<i>115-10-6</i>	<i>LC50</i>	<i>>4.1 g/l</i>	<i>Fish</i>	<i>96 h</i>
<i>Dimethyl ether</i>	<i>115-10-6</i>	<i>EC50</i>	<i>>4.4 g/l</i>	<i>Aquatic invertebrates</i>	<i>48 h</i>
<i>Dimethyl ether</i>	<i>115-10-6</i>	<i>LC50</i>	<i>≥ 4.1 g/l</i>	<i>Fish</i>	<i>96 h</i>
<i>Ethanol</i>	<i>64-17-5</i>	<i>EC50</i>	<i>15.400 mg/l</i>	<i>Fish</i>	<i>96 h</i>
<i>Ethanol</i>	<i>64-17-5</i>	<i>LC50</i>	<i>12.700 mg/l</i>	<i>Fish</i>	<i>96 h</i>
<i>Ethanol</i>	<i>64-17-5</i>	<i>ErC50</i>	<i>22.000 mg/l</i>	<i>Algae</i>	<i>96 h</i>
<i>Methanol</i>	<i>67-56-1</i>	<i>LC50</i>	<i>15.400 mg/l</i>	<i>Fish</i>	<i>96 h</i>
<i>Methanol</i>	<i>67-56-1</i>	<i>EC50</i>	<i>12.700 mg/l</i>	<i>Fish</i>	<i>96 h</i>
<i>Methanol</i>	<i>67-56-1</i>	<i>ECr50</i>	<i>22.000 mg/l</i>	<i>Algae</i>	<i>96 h</i>

<i>Boric acid</i>	10043-35-3	LC50	447 mg/l	<i>Fish</i>	96h
<i>Boric acid</i>	10043-35-3	LOEC	99.4 mg/l	<i>Fish</i>	96h
<i>Boric acid</i>	10043-35-3	NOEC	13 mg/l	<i>Fish</i>	96h
<i>Methyl ethyl ketone</i>	78-93-3	LC50	2.973 mg/l	<i>Fish</i>	96h
<i>Methyl ethyl ketone</i>	78-93-3	EC50	308 mg/l	<i>Aquatic invertebrates</i>	48h
<i>Methyl ethyl ketone</i>	78-93-3	ECr50	1.220 mg/l	<i>Algae</i>	72h
<i>Methyl ethyl ketone</i>	78-93-3	NOAEC	1.240 mg/l	<i>Algae</i>	96h
<i>Methyl ethyl ketone</i>	78-93-3	NOEC	1.170 mg/l	<i>Fish</i>	96h
<i>Methyl ethyl ketone</i>	78-93-3	Growth rate (ErCx) 10%	1.050 mg/l	<i>Algae</i>	72h

Aquatic toxicity (chronic) of components of the mixture

Substance name	CAS No.	Endpoint	Value	Species	Exposure time
<i>Ethanol</i>	64-17-5	EC50	22.6 g/l	<i>Algae</i>	10 d
<i>Ethanol</i>	64-17-5	LC50	1.806 mg/l	<i>Aquatic invertebrates</i>	10 h
<i>Ethanol</i>	64-17-5	ErC50	675 mg/l	<i>Algae</i>	4 d
<i>Ethanol</i>	64-17-5	NOEC	250 mg/l	<i>Fish</i>	120 h
<i>Ethanol</i>	64-17-5	Growth rate (ErCx) 10%	86 mg/l	<i>Algae</i>	4 d
<i>Methanol</i>	67-56-1	LOEC	47.49 mg/l	<i>Fish</i>	90 d
<i>Methanol</i>	67-56-1	NOEC	23.75 mg/l	<i>Fish</i>	90 d
<i>Boric acid</i>	10043-35-3	EC50	180.6 mg/l	<i>Aquatic invertebrates</i>	24h
<i>Boric acid</i>	10043-35-3	NOEC	18 mg/l	<i>Fish</i>	87 d
<i>Boric acid</i>	10043-35-3	LOEC	108 mg/l	<i>Fish</i>	14 d
<i>Methyl ethyl ketone</i>	78-93-3	LC50	1.816 mg/l	<i>Fish</i>	24 h
<i>Methyl ethyl ketone</i>	78-93-3	EC50	>345 mg/l	<i>Aquatic invertebrates</i>	24 h
<i>Methyl ethyl ketone</i>	78-93-3	ECr50	1.901 mg/l	<i>Algae</i>	24 h

2.2 Persistence and degradability

No available data.

12.3 Bioaccumulative potential

No available data.

12.4 Mobility in soil

No available data.

12.5 Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB ≥ 0.1 %.

12.6 Endocrine disrupting properties

Contains an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

Name of substance	CAS No	Human health category
<i>Boric acid</i>	<i>10043-35-3</i>	<i>CAT 2</i>

Legend

CAT2 Category 2 - at least some in vitro evidence of biological activity related to endocrine disruption.

12.7 Other adverse effects

No available data.

Section 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packaging

It is dangerous waste.: approved packaging only to be used (eg acc. to ADR). Completely empty packaging may be recycled. Handle contaminated packaging in same way as substance itself.

Remarks

Please adhere to the relevant national or regional policies. Waste should be separated into categories manageable by local or national waste management facilities.

Section 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 1950
IMDG-Code	UN 1950
ICAO-TI	UN 1950

14.2 UN proper shipping name

ADR/RID/ADN	AEROSOLS flammable
IMDG-Code	AEROSOLS
ICAO-TI	Aerosols, flammable

14.3 Transport hazard class(es)

ADR/RID/ADN	2 (2.1)
IMDG-Code	2.1
ICAO-TI	2.1

14.4 Packing group

Not assigned

14.5 Environmental hazards

Non-environmentally hazardous according to the dangerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

No available data.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

Classification code 5F
Danger label(s) 2.1



Special provisions (SP) 190, 327, 344, 625
Excepted quantities (EQ) E0
Limited quantities (LQ) 1 L
Transport category (TC) 2
Tunnel restriction code (TRC) D

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant Special provisions (SP) Excepted quantities (EQ)
Danger label(s) 2.1



Special provisions (SP) 63, 190, 277, 327, 344, 381, 959
Excepted quantities (EQ) E0
Limited quantities (LQ) 1 L
EmS F-D, S-U
Stowage category -

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Danger label(s) 2.1



Special provisions (SP) A145, A167
Excepted quantities (EQ) E0
Limited quantities (LQ) 30 kg

Section 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	Restriction	No
<i>Methanol</i>	<i>Methanol</i>	<i>R69</i>	<i>69</i>
<i>Methanol</i>	<i>This product meets the criteria for classification in accordance with Regulation No 1272/2008/ EC</i>	<i>R3</i>	<i>3</i>
<i>Methanol</i>	<i>Flammable / pyrophoric</i>	<i>R40</i>	<i>40</i>
<i>Boric acid</i>	<i>Toxic for reproduction</i>	<i>R28-30</i>	<i>30</i>
<i>Boric acid</i>	<i>Substances in tattoo inks and permanent make-up</i>	<i>R75</i>	<i>75</i>
<i>Methyl ethyl ketone</i>	<i>This product meets the criteria for classification in accordance with Regulation No 1272/2008/ EC</i>	<i>R3</i>	<i>3</i>
<i>Methyl ethyl ketone</i>	<i>Flammable / pyrophoric</i>	<i>R40</i>	<i>40</i>
<i>Methyl ethyl ketone</i>	<i>Substances in tattoo inks and permanent make-up</i>	<i>R75</i>	<i>75</i>
<i>Dimethyl ether</i>	<i>Flammable / pyrophoric</i>	<i>R40</i>	<i>40</i>
<i>Ethanol</i>	<i>This product meets the criteria for classification in accordance with Regulation No 1272/2008/ EC</i>	<i>R3</i>	<i>3</i>
<i>Ethanol</i>	<i>Flammable / pyrophoric</i>	<i>R40</i>	<i>40</i>
<i>Ethanol</i>	<i>Substances in tattoo inks and permanent make-up</i>	<i>R75</i>	<i>75</i>

Legend:

- R28-30
1. Shall not be placed on the market, or used,
 - as substances,
 - as constituents of other substances, or,
 - in mixtures,
 for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:
 - either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,
 - the relevant generic concentration limit specified in Part 3 of Annex I of Regulation (EC) No 1272/2008.
 Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:
 - 'Restricted to professional users.
 2. By way of derogation, paragraph 1 shall not apply to:
 - (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;
 - (b) cosmetic products as defined by Directive 76/768/EEC;

- (c) the following fuels and oil products:
 - motor fuels which are covered by Directive 98/70/EC,
 - mineral oil products intended for use as fuel in mobile or fixed combustion plants,
 - fuels sold in closed systems (e.g. liquid gas bottles);
 - (d) artists' paints covered by Regulation (EC) No 1272/2008;
 - (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date;
 - (f) devices covered by Regulation (EU) 2017/745.
- R3
1. Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ash- trays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 2. Articles not complying with paragraph 1 shall not be placed on the market.
 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
 - (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;
- R40
1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
 - (a) metallic glitter intended mainly for decoration,
 - (b) artificial snow and frost,
 - (d) 'whoopee' cushions,
 - (e) silly string aerosols,
 - (f) imitation excrement,
 - (g) horns for parties,
 - (h) decorative flakes and foams,
 - (i) artificial cobwebs,
 - (j) stink bombs.
 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
'For professional users only'.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC (2).
 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
- R69
- Shall not be placed on the market to the public after 9 May 2019 in windscreen washing or defrosting fluids, in a concentration equal to or greater than 0,6 % by weight.
- R75
1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
 - (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
 - (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
 - (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
 - (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
 - 0.1 % by weight, if the substance is used solely as a pH regulator;

- 0,01 % by weight, in all other cases;
 - (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
 - (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
 - (i) "Rinse-off products";
 - (ii) "Not to be used in products applied on mucous membranes";
 - (iii) "Not to be used in eye products";
 - (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
 - (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
 3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
 4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
 - (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
 - (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
 5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
 6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
 7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
 - (a) the statement "Mixture for use in tattoos or permanent make-up";
 - (b) a reference number to uniquely identify the batch;
 - (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
 - (d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
 - (e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
 - (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
 - (g) safety instructions for use insofar as they are not already required to be stated on the label Regulation (EC) No 1272/2008. The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise. Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use. Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.
 8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.
 9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).
 10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a

medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

List of substances of Very High Concern

Name according to inventory	CAS No	Listed in	Remarks
<i>Boric acid</i>	<i>10043-35-3</i>	<i>Candidate list</i>	<i>Repr. A57c</i>

Legend

Candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV Toxic Repr. A57c
 Repr. A57c Toxic for reproduction (article 57c)

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance / hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
<i>P3a</i>	<i>Flammable aerosols (containing Flam. Gas or Flam. Liq., cat. 1)</i>	<i>150</i>	<i>500</i>	<i>46)</i>

Notation 46)

'flammable' aerosols category 1 or 2, containing flammable gases category 1 or 2 or flammable liquids category 1
 Note: qualifying quantity = net

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Methanol	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Boric acid	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Ethanol	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

Legend

A) Indicative list of the main pollutants

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Netherlands) SZW-lijst CMR effects

List of Substances of carcinogenic, mutagenic and reproductive toxic substances (SZW Lijst)

Name acc. to inventory	CAS No	Carcinogenity	Mutagenicity	Reproductive toxicity
<i>Boric acid</i>	<i>10043-35-3</i>			<i>Repr F1B D1B</i>
<i>Ethanol (Ethyl alcohol)</i>	<i>64-17-5</i>	<i>Carc</i>		<i>Repr F1A D1A B</i>

Legend

- B Breastfeeding category
- carc Listed in "B List of carcinogenic substances"
- D1A Development category 1A
- D1B Development category 1B
- F1A Fertility category 1A
- F1B Fertility category 1B
- repr Listed in "NIET-limitative list of reproductive toxic substances"

List of Substances of Very High Concern, Rijksinstituut voor Volksgezondheid en Milieu (RIVM)

List of Substances of Very High Concern (225-Lijst)

Name acc. to inventory	CAS No	Dust class for air emissions	Remarks	Threshold mass flow	Emission limit value
<i>Boric acid</i>	<i>10043-35-3</i>	<i>MVP1</i>	<i>Rem-89.2022</i>	<i>Repr F1B D1B</i>	<i>5 mg/Nm3</i>

Legend

- rem-89.2022 De grensmassaastroom en emissiegrenswaarde voor deze stof wijken af van de algemene waarden voor de MVP 1 stofklasse. Het volgende geldt tot 1 januari 2025, daarna worden de algemene waarden voor MVP 1 van kracht: Voor deze stof geldt: a) Alle bronnen in de inrichting mogen afzonderlijk ten hoogste 5 mg/Nm³ emitteren, indien de massaastroom van een stof of de som van de onder normale procesomstandigheden gedurende één uur optredende massaastromen van stoffen binnen deze stofklasse vanuit al die puntbronnen, groter of gelijk is aan 200 gram per uur. Indien voor een bron geen filterende afscheider kan worden toegepast, emiteert deze bron afzonderlijk niet meer dan 20 milligram per normaal kubieke meter; of b) Alle bronnen in de inrichting mogen afzonderlijk ten hoogste 20 mg/Nm³ emitteren, indien de massaastroom van een stof of de som van de onder normale procesomstandigheden gedurende één uur optredende massaastromen van stoffen binnen deze stofklasse vanuit al die puntbronnen, kleiner is dan 200 gram per uur.

15.2 Chemical safety assessment

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

Section 16: Other information

Abbreviations and acronyms

- 2000/39/EC: Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
- 2006/15/EC: Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
- Acute Tox: Acute toxicity
- ADN: Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
- ADR: Accord européen sur le transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- ADR/RID/ADN: Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service (division of the American Chemical Society) that maintains the most comprehensive list of chemical substances
- CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- CMR: Carcinogenic, Mutagenic or toxic for Reproduction
- DGR: Dangerous Goods Regulations (see IATA/DGR)
- DMEL: Derived Minimal Effect Level
- DNEL: Derived No-Effect Level
- EC50: Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (eg on growth) during a specified time interval
- EC No: The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- EmS: Emergency Schedule
- ErC50: \equiv EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
- Eye Dam: Seriously damaging to the eye
- Eye Irrit: Irritant to the eye
- Flam. Gas: Flammable gas
- Flam. Liq: Flammable liquid
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals developed by UN
- IATA: International Air Transport Association
- IATA/DGR: Dangerous Goods Regulation (DGR) for air transport (IATA)
- ICAO: International Civil Aviation Organization
- ICAO-TI: Technical instructions for the safe transport of dangerous goods by air
- IMDG: International Maritime Code for Dangerous Goods
- IMDG-Code: International Maritime Code for Dangerous Goods
- Index No: The index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
- IOELV: Indicative occupational exposure limit value
- LC50: Lethal concentration, 50 %: The LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
- LD50: Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval

- LEL: Lower Explosion Limit
- LOEC: Lowest Observed Effect Concentration
- NLP: No-Longer Polymer
- NOAEC: No Observed Adverse Effect Concentration
- NOEC: No Observed Effect Concentration
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-effect Concentration
- Ppm: Parts per million
- Press. Gas: Gas under pressure
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- RID: Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the international carriage of Dangerous goods by Rail)
- SC-SZW: Staatscourant: Regeling van de Minister van Sociale Zaken en Werkgelegenheid tot wijziging van de Arbeidsom- standighedenregeling
- STEL: Short-term Exposure Limit
- STOT SE: Specific target organ toxicity - single exposure
- SVHC: Substance of Very High Concern
- TWA: Time-weighted Average
- UEL: Upper Explosion Limit
- vPvB: Very Persistent and Very Bioaccumulative

Further information

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for air transport (IATA).

Classification procedure

Physical and chemical properties: the classification is based on tested mixture.

Health hazards, Environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in Sections 2 and 3)

H220	Extremely flammable gas
H222	Extremely flammable aerosol
H225	Highly flammable liquid and vapour
H229	Pressurised container: may burst if heated
H280	Contains gas under pressure: may explode if heated
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H360FD	May damage fertility. May damage unborn child.
H370	Causes damage to organs (Optic nerve (nervus opticus), central nervous system).
H371	May cause damage to organs (Optic nerve (nervus opticus), central nervous system).

Other information

The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. It only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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