Safety Data Sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)

AESUB
STATE OF THE ART SCANNINGSPRAY

AESUB green

Version number: GHS 7.2
Replaces version of: 2022-10-18 (GHS 6)

Revision: 2023-06-01

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

1.1 Product identifier

Trade name **AESUB green**

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

Relevant identified uses coating for particular industrial and professional uses

Uses advised against Not recommended for interior use on large surface areas.

1.3 Details of the supplier of the safety data sheet

Scanningspray Vertriebs GmbH
Johann-Strauß-Str. 13
45657 Recklinghausen
Germany

e-mail: info@aesub.com
Website: www.aesub.com

e-mail (competent person) liese@aesub.com (Max Liese)

1.4 Emergency telephone number

(CCN 994267 / WISAG FMO Cargo Service GmbH & Co. KG)

Country	Name	Telephone	Opening hours
United Kingdom	24 Hour Emergency Contact Phone Number (WISAG) - United Kingdom	44-870-8200418	Mon - Fri 00:00 - 00:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	2	Flam. Liq. 2	H225
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336
3.10	aspiration hazard	1	Asp. Tox. 1	H304
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

- Signal word: danger

- Pictograms

GHS02, GHS07, GHS08, GHS09

- Hazard statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

- Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.

- Hazardous ingredients for labelling: Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane, Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane, Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics, Hydrocarbons, C6, isoalkanes, <5% n-hexane

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

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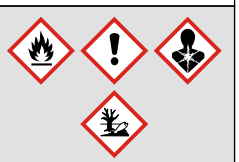
Description of the mixture

Hazardous ingredients acc. to GHS

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
bioethanol	CAS No 64-17-5 EC No 200-578-6 Index No 603-002-00-5	25 – < 50	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319	
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	EC No 926-605-8	10 – < 25	Flam. Liq. 2 / H225 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411 EUH066	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	EC No 921-024-6	10 – < 25	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	
Hydrocarbons, C6, isoalkanes, <5% n-hexane	EC No 931-254-9	10 – < 25	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EC No 927-510-4	10 – < 25	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	
propan-2-ol	CAS No 67-63-0 EC No 200-661-7	10 – < 25	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	
Tricyclo[3.3.1.13,7]decane	CAS No 281-23-2 EC No 206-001-4	5 – < 10	Aquatic Acute 1 / H400 Aquatic Chronic 4 / H413	
n-hexane	CAS No 110-54-3 EC No 203-777-6 Index No 601-037-00-0	1 – < 5	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 Repr. 2 / H361 STOT SE 3 / H336 STOT RE 2 / H373 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	

Hazardous ingredients acc. to GHS

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
cyclohexane	CAS No 110-82-7 EC No 203-806-2 Index No 601-017-00-1	< 1	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water. Take off contaminated clothing. Thaw frosted parts with lukewarm water. Do not rub affected area.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO_2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Personal protective equipment shall be used when the risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Equipment required for containment/clean-up

Non-sparking tools and equipment, Collecting basins for spills, Personal protective equipment

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- Corrosive conditions

Protect from moisture.

- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

- Storage class (LGK) - TRGS 510

LGK 3 (flammable and desensitizing explosive liquids)

7.3 Specific end use(s)

Coating for particular industrial and professional uses

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
EU	n-hexane	110-54-3	IOELV	20	72						2006/15/EC
EU	cyclohexane	110-82-7	IOELV	200	700						2006/15/EC
GB	hydrocarbon mixture (RCP method)		WEL		100		200				EH40/2005
GB	n-hexane	110-54-3	WEL	20	72						EH40/2005
GB	cyclohexane	110-82-7	WEL	100	350	300	1,050				EH40/2005
GB	ethanol	64-17-5	WEL	1,000	1,920						EH40/2005
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250				EH40/2005

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
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 of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
bioethanol	64-17-5	DNEL	1,900 mg/m³	human, inhalatory	worker (industry)	acute - local effects
bioethanol	64-17-5	DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
bioethanol	64-17-5	DNEL	950 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
bioethanol	64-17-5	DNEL	87 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
bioethanol	64-17-5	DNEL	206 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
bioethanol	64-17-5	DNEL	114 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		DNEL	13,964 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		DNEL	5,306 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		DNEL	1,301 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		DNEL	1,377 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		DNEL	1,131 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	773 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	2,035 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	699 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	699 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	608 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6, isoalkanes, <5% n-hexane		DNEL	5,306 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Hydrocarbons, C6, isoalkanes, <5% n-hexane		DNEL	13,964 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Hydrocarbons, C6, isoalkanes, <5% n-hexane		DNEL	1,131 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6, isoalkanes, <5% n-hexane		DNEL	1,377 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Hydrocarbons, C6, isoalkanes, <5% n-hexane		DNEL	1,301 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		DNEL	300 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		DNEL	2,085 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		DNEL	149 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		DNEL	149 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		DNEL	447 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	500 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	89 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	319 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	26 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
n-hexane	110-54-3	DNEL	11 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
n-hexane	110-54-3	DNEL	75 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
n-hexane	110-54-3	DNEL	4 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
n-hexane	110-54-3	DNEL	5.3 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
n-hexane	110-54-3	DNEL	16 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
cyclohexane	110-82-7	DNEL	700 mg/m³	human, inhalatory	worker (industry)	acute - local effects
cyclohexane	110-82-7	DNEL	700 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
cyclohexane	110-82-7	DNEL	700 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
cyclohexane	110-82-7	DNEL	2,016 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
cyclohexane	110-82-7	DNEL	700 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
cyclohexane	110-82-7	DNEL	412 mg/m³	human, inhalatory	consumer (private households)	acute - systemic effects
cyclohexane	110-82-7	DNEL	206 mg/m³	human, inhalatory	consumer (private households)	chronic - local effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
cyclohexane	110-82-7	DNEL	59.4 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
cyclohexane	110-82-7	DNEL	1,186 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
cyclohexane	110-82-7	DNEL	206 mg/m³	human, inhalatory	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
bioethanol	64-17-5	PNEC	0.96 mg/l	aquatic organisms	freshwater	short-term (single instance)
bioethanol	64-17-5	PNEC	0.79 mg/l	aquatic organisms	marine water	short-term (single instance)
bioethanol	64-17-5	PNEC	580 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
bioethanol	64-17-5	PNEC	3.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
bioethanol	64-17-5	PNEC	0.63 mg/kg	terrestrial organisms	soil	short-term (single instance)
bioethanol	64-17-5	PNEC	2.75 mg/l	aquatic organisms	water	intermittent release
propan-2-ol	67-63-0	PNEC	160 mg/kg	aquatic organisms	water	short-term (single instance)
propan-2-ol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	water	intermittent release
propan-2-ol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	freshwater	short-term (single instance)
propan-2-ol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	marine water	short-term (single instance)
propan-2-ol	67-63-0	PNEC	2,251 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
propan-2-ol	67-63-0	PNEC	552 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
propan-2-ol	67-63-0	PNEC	552 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
propan-2-ol	67-63-0	PNEC	28 mg/kg	terrestrial organisms	soil	short-term (single instance)
cyclohexane	110-82-7	PNEC	0.207 mg/l	aquatic organisms	freshwater	short-term (single instance)
cyclohexane	110-82-7	PNEC	0.207 mg/l	aquatic organisms	marine water	short-term (single instance)

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
cyclohexane	110-82-7	PNEC	3.24 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
cyclohexane	110-82-7	PNEC	3.627 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
cyclohexane	110-82-7	PNEC	3.627 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
cyclohexane	110-82-7	PNEC	2.99 mg/kg	terrestrial organisms	soil	short-term (single instance)
cyclohexane	110-82-7	PNEC	0.207 mg/l	aquatic organisms	water	intermittent release

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Personal protective equipment shall be used when the risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Butyl rubber; Layer thickness: 0.7 mm; Break through time: 240 min. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. Do not wear gloves near rotary machines or tools. In the case of wanting to use the gloves again, clean them before taking off and air them well.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

During spraying wear suitable respiratory equipment. [In case of inadequate ventilation] wear respiratory protection. Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown).

Environmental exposure controls

The disposal by sewage disposal systems is generally not allowed.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid liquid, solid, gaseous
Colour	not determined
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	58 °C at 101.3 kPa
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	0.6 vol% - 13.5 vol%
Flash point	-20 °C at 101.3 kPa calculated value, referring to a component of the mixture
Auto-ignition temperature	225 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined
Solubility(ies)	not determined
Partition coefficient	
Partition coefficient n-octanol/water (log value)	this information is not available
Vapour pressure	25 kPa at 20 °C
Density and/or relative density	
Density	not determined
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
Decomposition temperature	not determined

9.2 Other information

there is no additional information

Information with regard to physical hazard classes	there is no additional information
Other safety characteristics	there is no additional information

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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

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

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

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 information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

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

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

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

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
bioethanol	64-17-5	LC50	15,400 mg/l	fish	96 h
bioethanol	64-17-5	EC50	12,700 mg/l	fish	96 h
bioethanol	64-17-5	ErC50	22,000 mg/l	algae	96 h
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		LL50	12 mg/l	fish	96 h
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		EL50	17.06 mg/l	aquatic invertebrates	48 h
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		LL50	15.8 mg/l	fish	72 h
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		EL50	3 mg/l	aquatic invertebrates	48 h
Hydrocarbons, C6, isoalkanes, <5% n-hexane		LL50	18.27 mg/l	fish	96 h
Hydrocarbons, C6, isoalkanes, <5% n-hexane		EL50	31.9 mg/l	aquatic invertebrates	48 h
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		LL50	>13.4 mg/l	fish	96 h
propan-2-ol	67-63-0	LC50	10,000 mg/l	fish	96 h

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
n-hexane	110-54-3	LL50	12.51 mg/l	fish	96 h
n-hexane	110-54-3	EL50	21.85 mg/l	aquatic invertebrates	48 h
cyclohexane	110-82-7	LC50	4.53 mg/l	fish	96 h
cyclohexane	110-82-7	EC50	0.9 mg/l	aquatic invertebrates	48 h
cyclohexane	110-82-7	ErC50	9.317 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
bioethanol	64-17-5	EC50	22.6 g/l	algae	10 d
bioethanol	64-17-5	LC50	1,806 mg/l	aquatic invertebrates	10 d
bioethanol	64-17-5	ErC50	675 mg/l	algae	4 d
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		EL50	12 mg/l	aquatic invertebrates	24 h
propan-2-ol	67-63-0	LC50	>10,000 mg/l	aquatic invertebrates	24 h

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
bioethanol	64-17-5	oxygen depletion	69 %	5 d		ECHA
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane		oxygen depletion	83 %	10 d		ECHA
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		oxygen depletion	83 %	16 d		ECHA
Hydrocarbons, C6, isoalkanes, <5% n-hexane		oxygen depletion	83 %	10 d		ECHA
propan-2-ol	67-63-0	oxygen depletion	53 %	5 d		
cyclohexane	110-82-7	oxygen depletion	77 %	28 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
bioethanol	64-17-5		-0.77	0.6211
Hydrocarbons, C6, isoalkanes, <5% n-hexane		501.2	3.6 (pH value: 7, 20 °C)	
Tricyclo[3.3.1.13,7]decane	281-23-2		4.24	
n-hexane	110-54-3	501.2	4 (pH value: 7, 20 °C)	
cyclohexane	110-82-7	167	3.44 (pH value: 7, 25 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The disposal by sewage disposal systems is generally not allowed.

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Relevant provisions relating to waste

List of wastes

14 06 03

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID	UN 1263
IMDG-Code	UN 1263
ICAO-TI	UN 1263

14.2 UN proper shipping name

ADR/RID	PAINT
IMDG-Code	PAINT
ICAO-TI	Paint

14.3 Transport hazard class(es)

ADR/RID	3
IMDG-Code	3
ICAO-TI	3

14.4 Packing group

ADR/RID	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

hazardous to the aquatic environment

14.6 Special precautions for user

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

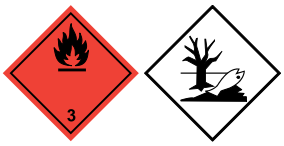
14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

Particulars in the transport document	special provision 640D
Classification code	F1
Danger label(s)	3, fish and tree

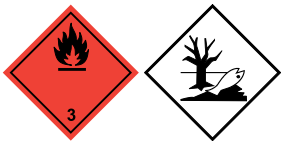


Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	163, 367, 640D, 650
Excepted quantities (EQ)	E2
Limited quantities (LQ)	5 L

Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33
Emergency Action Code	3YE

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

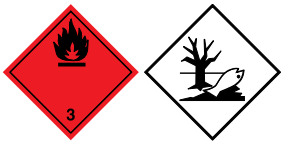
Classification code	F1
Danger label(s)	3, fish and tree



Environmental hazards	yes (hazardous to water)
Special provisions (SP)	163, 367, 640D, 650
Excepted quantities (EQ)	E2
Limited quantities (LQ)	5 L
Transport category (TC)	2
Hazard identification No	33

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	3, fish and tree



Special provisions (SP)	163, 367
Excepted quantities (EQ)	E2
Limited quantities (LQ)	5 L
EmS	F-E, S-E
Stowage category	B

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

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	3

Special provisions (SP)	A3, A72, A192

Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

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)

Regulation 648/2004/EC on detergents

30 % and more aliphatic hydrocarbons.

National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)

Name of substance	Name acc. to inventory	CAS No	No
AESUB green	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
bioethanol	flammable / pyrophoric		40

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
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
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard

Abbr.	Descriptions of used abbreviations
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. 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)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ 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. Liq.	Flammable liquid
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
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

Abbr.	Descriptions of used abbreviations
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RCP	Reciprocal calculation procedure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the 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 section 2 and 3)

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Code	Text
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.