

Universal-Verdüner

Version number: 2.0
Replaces version of: 15.06.2021 (1)

Revision: 20.04.2023

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

1.1 Product identifier

Trade name **Universal-Verdüner**
Registration number (REACH) Not relevant (mixture)

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

Relevant identified uses Solvents

1.3 Details of the supplier of the safety data sheet

FRIEDRICH SCHARR KG
Liebknechtstraße 50
70565 Stuttgart
Germany

Telephone: +49 711 7868-0
Telefax: +49 711 7868-489
e-mail: info@scharr.de
Website: www.scharr.de

e-mail (competent person) produktsicherheit@scharr.de

1.4 Emergency telephone number

Poison centre			
Country	Name	Postal code/city	Telephone
Germany	Giftinformation Freiburg	79106 Freiburg im Breisgau	+49 (0)761 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Hazard class	Category	Hazard class and category	Hazard statement
flammable liquid	2	Flam. Liq. 2	H225
skin corrosion/irritation	2	Skin Irrit. 2	H315
serious eye damage/eye irritation	2	Eye Irrit. 2	H319
specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336
aspiration hazard	1	Asp. Tox. 1	H304
hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

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.

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2.2 Label elements

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

- signal word danger

- pictograms

GHS02, GHS07, GHS08



- 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.
H412 Harmful 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.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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 Methyl acetate, Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane, acetone, xylene

2.3 Other hazards

Results of PBT and vPvB assessment

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

Endocrine disrupting properties

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Methyl acetate	CAS No 79-20-9 EC No 201-185-2 REACH Reg. No 01-2119459211-47- xxxx	25 – < 50	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	

Safety Data Sheet


















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

amended by 2020/878/EU

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
acetone	CAS No 67-64-1 EC No 200-662-2 Index No 606-001-00-8 REACH Reg. No 01-2119471330-49- xxxx	10 – < 25	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336	 
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyc-lics, <5% n-hexane	EC No 921-024-6 REACH Reg. No 01-2119475514-35- xxxx	10 – < 25	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	   
n-butyl acetate	CAS No 123-86-4 EC No 204-658-1 Index No 607-025-00-1 REACH Reg. No 01-2119485493-29- xxxx	< 10	Flam. Liq. 3 / H226 STOT SE 3 / H336	 
xylene	CAS No 1330-20-7 EC No 215-535-7 REACH Reg. No 01-2119488216-32- xxxx	< 10	Flam. Liq. 3 / H226 Acute Tox. 4 / H312 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335 STOT RE 2 / H373 Asp. Tox. 1 / H304	  
ethylbenzene	CAS No 100-41-4 EC No 202-849-4 REACH Reg. No 01-2119489370-35- xxxx	< 3	Flam. Liq. 2 / H225 Acute Tox. 4 / H332 STOT RE 2 / H373 Asp. Tox. 1 / H304 Aquatic Chronic 3 / H412	  
isobutanol	CAS No 78-83-1 EC No 201-148-0 REACH Reg. No 01-2119484609-23- xxxx	< 3	Flam. Liq. 3 / H226 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 STOT SE 3 / H335 STOT SE 3 / H336	  

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Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
xylene	-	-	1.100 mg/kg 11 mg/l/4h	dermal inhalation: vapour
ethylbenzene	-	-	11 mg/l/4h	inhalation: vapour

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. 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. Self-protection of the first aider.

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.

Following eye contact

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

Following ingestion

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

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects. Breathing difficulties. Headache. Vertigo.

4.3 Indication of any immediate medical attention and special treatment needed

Subsequent observance for pneumonia and pulmonary oedema. Supervise the blood circulation.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂), Sand

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. Danger of bursting container.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

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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

Remove persons to safety. Ventilate affected area. Avoidance of ignition sources.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Provision of sufficient ventilation.

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.

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.

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.

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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.

- 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.

- Lagerklasse (storage class according to TRGS 510, 3 (flammable and desensitizing explosive liquids) Germany)

- packaging compatibilities

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

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)								
Coun-try	Name of sub-stance	CAS No	Identifi-er	TWA [ppm]	TWA [mg/ m ³]	STEL [ppm]	STEL [mg/ m ³]	Source
AT	ethylben- zene	100-41-4	MAK	100	440			GKV
AT	n-butyl acetate	123-86-4	MAK	50	241			GKV
AT	xylene	1330-20-7	MAK	50	221	100	442	GKV
AT	acetone	67-64-1	MAK	500	1.200	2.000	4.800	GKV
AT	isobutanol	78-83-1	MAK	50	150	200	600	GKV
AT	Methyl acetate	79-20-9	MAK	200	610			GKV
CH	ethylben- zene	100-41-4	MAK	50	220	50	220	SUVA
CH	n-butyl acetate	123-86-4	MAK	50	240	150	720	SUVA
CH	xylene	1330-20-7	MAK	50	220	100	440	SUVA
CH	acetone	67-64-1	MAK	500	1.200	1.000	2.400	SUVA
CH	isobutanol	78-83-1	MAK	50	150	50	150	SUVA
CH	Methyl acetate	79-20-9	MAK	100	310	400	1.240	SUVA

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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
DE			AGW		150		300	TRGS 900
DE	ethylbenzene	100-41-4	AGW	20	88	40	176	TRGS 900
DE	n-butyl acetate	123-86-4	MAK	100	480	200	960	DFG
DE	n-butyl acetate	123-86-4	AGW	62	300	124	600	TRGS 900
DE	xylene	1330-20-7	MAK	50	220	100	440	DFG
DE	xylene	1330-20-7	AGW	50	220	100	440	TRGS 900
DE	acetone	67-64-1	MAK	500	1.200	1.000	2.400	DFG
DE	acetone	67-64-1	AGW	500	1.200	1.000	2.400	TRGS 900
DE	isobutanol	78-83-1	AGW	100	310	100	310	TRGS 900
DE	Methyl acetate	79-20-9	MAK	100	310	400	1.240	DFG
DE	Methyl acetate	79-20-9	AGW	200	620	400	1.240	TRGS 900
EU	ethylbenzene	100-41-4	IOELV	100	442	200	884	2000/39/EC
EU	n-butyl acetate	123-86-4	IOELV	50	241	150	723	2019/1831/EU
EU	xylene	1330-20-7	IOELV	50	221	100	442	2000/39/EC
EU	acetone	67-64-1	IOELV	500	1.210			2000/39/EC

Notation

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)

Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
AT	xylene	methylhippuric acids		BGW	1,5 g/l	VGÜ
AT	xylene	xylene		BGW	1 mg/l	VGÜ
CH	ethylbenzene	mandelic acid, benzoyl-formic acid	crea	BAT	600 mg/g	SUVA
CH	xylene, mixture of isomers	methylhippuric acids		BAT	2 g/l	SUVA
CH	acetone	acetone		BAT	80 mg/l	SUVA

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Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
DE	ethylbenzene	mandelic acid, benzoyl-formic acid		BAT	250 mg/l	DFG
DE	ethylbenzene	mandelic acid, benzoyl-formic acid	crea	BLV	250 mg/g	TRGS 903
DE	xylene, mixture of isomers	methylhippuric acids		BAT	2.000 mg/l	DFG
DE	xylene, mixture of isomers	methylhippuric acids		BLV	2.000 mg/l	TRGS 903
DE	Aceton	Aceton		BAT	50 mg/l	DFG
DE	Aceton	Aceton		BAT (BAR)	2,5 mg/l	DFG
DE	acetone	acetone		BLV	80 mg/l	TRGS 903

Notation

crea creatinine

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Methyl acetate	79-20-9	DNEL	300 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Methyl acetate	79-20-9	DNEL	3.777 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Methyl acetate	79-20-9	DNEL	620 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Methyl acetate	79-20-9	DNEL	43 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
acetone	67-64-1	DNEL	1.210 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
acetone	67-64-1	DNEL	2.420 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
acetone	67-64-1	DNEL	186 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	2.035 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		DNEL	773 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
xylene	1330-20-7	DNEL	289 mg/m ³	human, inhalatory	worker (industry)	acute - local effects

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Relevant DNELs of components of the mixture						
Name of sub-stance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
xylene	1330-20-7	DNEL	289 mg/m ³	human, inhalat-ory	worker (industry)	acute - systemic effects
xylene	1330-20-7	DNEL	180 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
xylene	1330-20-7	DNEL	77 mg/m ³	human, inhalat-ory	worker (industry)	chronic - systemic effects
n-butyl acetate	123-86-4	DNEL	600 mg/m ³	human, inhalat-ory	worker (industry)	acute - local ef-fects
n-butyl acetate	123-86-4	DNEL	600 mg/m ³	human, inhalat-ory	worker (industry)	acute - systemic effects
n-butyl acetate	123-86-4	DNEL	300 mg/m ³	human, inhalat-ory	worker (industry)	chronic - local ef-fects
n-butyl acetate	123-86-4	DNEL	300 mg/m ³	human, inhalat-ory	worker (industry)	chronic - systemic effects
ethylbenzene	100-41-4	DNEL	293 mg/m ³	human, inhalat-ory	worker (industry)	acute - local ef-fects
ethylbenzene	100-41-4	DNEL	180 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
ethylbenzene	100-41-4	DNEL	77 mg/m ³	human, inhalat-ory	worker (industry)	chronic - systemic effects
isobutanol	78-83-1	DNEL	310 mg/m ³	human, inhalat-ory	worker (industry)	chronic - local ef-fects

Relevant PNECs of components of the mixture						
Name of sub-stance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
acetone	67-64-1	PNEC	21 mg/l	aquatic organ-isms	water	intermittent re-lease
acetone	67-64-1	PNEC	10,6 mg/l	aquatic organ-isms	freshwater	short-term (single instance)
acetone	67-64-1	PNEC	1,06 mg/l	aquatic organ-isms	marine water	short-term (single instance)
acetone	67-64-1	PNEC	100 mg/l	aquatic organ-isms	sewage treatment plant (STP)	short-term (single instance)
acetone	67-64-1	PNEC	30,4 mg/kg	aquatic organ-isms	freshwater sedi-ment	short-term (single instance)
acetone	67-64-1	PNEC	3,04 mg/kg	aquatic organ-isms	marine sediment	short-term (single instance)
acetone	67-64-1	PNEC	29,5 mg/kg	terrestrial organ-isms	soil	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
xylene	1330-20-7	PNEC	0,327 mg/l	aquatic organisms	freshwater	short-term (single instance)
xylene	1330-20-7	PNEC	0,327 mg/l	aquatic organisms	marine water	short-term (single instance)
xylene	1330-20-7	PNEC	6,58 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
xylene	1330-20-7	PNEC	12,46 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
xylene	1330-20-7	PNEC	2,31 mg/kg	terrestrial organisms	soil	short-term (single instance)
xylene	1330-20-7	PNEC	0,327 mg/l	aquatic organisms	water	intermittent release
xylene	1330-20-7	PNEC	12,46 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	0,18 mg/l	aquatic organisms	freshwater	short-term (single instance)
n-butyl acetate	123-86-4	PNEC		aquatic organisms	freshwater	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	0,018 mg/l	aquatic organisms	marine water	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	35,6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	0,981 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	0,0981 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	0,0903 mg/kg	terrestrial organisms	soil	short-term (single instance)
n-butyl acetate	123-86-4	PNEC	0,36 mg/l	aquatic organisms	water	intermittent release
ethylbenzene	100-41-4	PNEC	0,1 mg/l	aquatic organisms	water	intermittent release
ethylbenzene	100-41-4	PNEC	0,1 mg/l	aquatic organisms	freshwater	short-term (single instance)
ethylbenzene	100-41-4	PNEC	0,01 mg/l	aquatic organisms	marine water	short-term (single instance)
ethylbenzene	100-41-4	PNEC	9,6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
ethylbenzene	100-41-4	PNEC	13,7 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
ethylbenzene	100-41-4	PNEC	1,37 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
ethylbenzene	100-41-4	PNEC	2,68 mg/kg	terrestrial organisms	soil	short-term (single instance)
isobutanol	78-83-1	PNEC	11 mg/l	aquatic organisms	water	intermittent release
isobutanol	78-83-1	PNEC	0,4 mg/l	aquatic organisms	freshwater	short-term (single instance)
isobutanol	78-83-1	PNEC	0,04 mg/l	aquatic organisms	marine water	short-term (single instance)
isobutanol	78-83-1	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
isobutanol	78-83-1	PNEC	1,56 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
isobutanol	78-83-1	PNEC	0,156 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
isobutanol	78-83-1	PNEC	0,076 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- type of material

IIR: isobutene-isoprene (butyl) rubber, FKM: fluoro-elastomer

- breakthrough times of the glove material 0,4 mm

- other protection measures

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

Respiratory protection

[In case of inadequate ventilation] wear respiratory protection. Combination filtering device (EN 141).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state	liquid
Colour	not determined
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	56,05 °C
Evaporation rate	not determined
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	1 vol% - 8 vol%
Flash point	-17 °C
Auto-ignition temperature	>200 °C
pH (value)	not determined
Solubility(ies)	not determined

Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	240 hPa at 20 °C
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Density and/or relative density

Density	not determined
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
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9.2 Other information

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

Solid content	0 %
Temperature class (EU, acc. to ATEX)	T3 (maximum permissible surface temperature on the equipment: 200°C)

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

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

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 hazard classes as defined in Regulation (EC) No 1272/2008**

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

Acute toxicity

Shall not be classified as acutely toxic.

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Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
xylene	1330-20-7	dermal	1.100 mg/kg
xylene	1330-20-7	inhalation: vapour	11 mg/l/4h
ethylbenzene	100-41-4	inhalation: vapour	11 mg/l/4h

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Methyl acetate	79-20-9	oral	LD50	6.482 mg/kg	rat
Methyl acetate	79-20-9	dermal	LD50	>2.000 mg/kg	rat
acetone	67-64-1	inhalation: vapour	LC50	76 mg/l/4h	rat
acetone	67-64-1	oral	LD50	5.800 mg/kg	rat
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		inhalation: vapour	LC50	>25,2 mg/l/4h	rat
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		dermal	LD50	>2.800 – 3.100 mg/kg	rat
xylene	1330-20-7	oral	LD50	5.627 mg/kg	mouse
n-butyl acetate	123-86-4	oral	LD50	10.760 mg/kg	rat
n-butyl acetate	123-86-4	dermal	LD50	>14.112 mg/kg	rabbit
ethylbenzene	100-41-4	oral	LD50	3.500 mg/kg	rat
isobutanol	78-83-1	inhalation: vapour	LC50	24,6 mg/l/4h	rat
isobutanol	78-83-1	oral	LD50	3.350 mg/kg	rat
isobutanol	78-83-1	dermal	LD50	2.460 mg/kg	rabbit

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.

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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

Acc. to 1272/2008/EC: Harmful to aquatic life with long lasting effects.
Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 2, obviously hazardous to water (Germany)

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Methyl acetate	79-20-9	LC50	≤350 mg/l	fish	48 h
Methyl acetate	79-20-9	EC50	1.027 mg/l	aquatic invertebrates	48 h
Methyl acetate	79-20-9	ErC50	>120 mg/l	algae	72 h
acetone	67-64-1	EC50	8.800 mg/l	water flea (Daphnia)	48 h
acetone	67-64-1	LC50	8.120 mg/l	fish	96 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	12 mg/l	aquatic invertebrates	24 h
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		EC50	0,64 mg/l	aquatic invertebrates	48 h
n-butyl acetate	123-86-4	LC50	18 mg/l	fish	96 h
n-butyl acetate	123-86-4	EC50	18 mg/l	fish	96 h
n-butyl acetate	123-86-4	ErC50	335 mg/l	algae	24 h
ethylbenzene	100-41-4	LC50	7 mg/l	fish	24 h
ethylbenzene	100-41-4	EC50	2,4 mg/l	aquatic invertebrates	48 h
isobutanol	78-83-1	LC50	1.430 mg/l	fish	96 h

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Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
isobutanol	78-83-1	EC50	1.100 mg/l	aquatic invertebrates	48 h
isobutanol	78-83-1	ErC50	1.799 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Methyl acetate	79-20-9	EC50	6.000 mg/l	microorganisms	16 h
acetone	67-64-1	EC50	61,15 g/l	microorganisms	30 min
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		EL50	1,6 mg/l	aquatic invertebrates	21 d
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		EC50	0,23 mg/l	aquatic invertebrates	21 d
n-butyl acetate	123-86-4	EC50	34,2 mg/l	aquatic invertebrates	21 d
n-butyl acetate	123-86-4	LC50	43,5 mg/l	aquatic invertebrates	21 d
ethylbenzene	100-41-4	EC50	2,8 mg/l	aquatic invertebrates	24 h
ethylbenzene	100-41-4	LC50	3,6 mg/l	aquatic invertebrates	7 d

12.2 Persistence and degradability

Biodegradation

Data are not available.

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Methyl acetate	79-20-9	oxygen depletion	1 %	0 d		ECHA
acetone	67-64-1	biotic/abiotic	91 %	28 d		
acetone	67-64-1	carbon dioxide generation	90,9 %	28 d		ECHA
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane		oxygen depletion	83 %	16 d		ECHA
n-butyl acetate	123-86-4	oxygen depletion	80 %	5 d		ECHA

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Degradability of components of the mixture						
Name of sub-stance	CAS No	Process	Degradation rate	Time	Method	Source
isobutanol	78-83-1	oxygen depletion	70 – 80 %	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
acetone	67-64-1		-0,23	963,5
xylene	1330-20-7		3,16	
n-butyl acetate	123-86-4		2,3 (pH value: ~7, 25 °C)	
ethylbenzene	100-41-4	1	3,6 (pH value: 7,84, 20 °C)	
isobutanol	78-83-1		1 (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 $\geq 0,1\%$.

12.6 Endocrine disrupting properties

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

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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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.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 1993
IMDG-Code	UN 1993
ICAO-TI	UN 1993

14.2 UN proper shipping name

ADR/RID/ADN	FLAMMABLE LIQUID, N.O.S.
IMDG-Code	FLAMMABLE LIQUID, N.O.S.
ICAO-TI	Flammable liquid, n.o.s.
Technical name (Hazardous ingredients)	Aceton, Ethylbenzol

14.3 Transport hazard class(es)

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

14.4 Packing group

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

14.5 Environmental hazards

non-environmentally hazardous acc. 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

The cargo is not intended to be carried in bulk.

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	F1
Danger label(s)	3



Special provisions (SP)	274, 601, 640D
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

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Transport category (TC) 2
Tunnel restriction code (TRC) D/E
Hazard identification No 33

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant -
Danger label(s) 3



Special provisions (SP) 274
Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L
EmS F-E, S-E
Stowage category B

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

Danger label(s) 3



Special provisions (SP) A3
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)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	CAS No	Restriction	No
Universal-Verdünner	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
acetone	flammable / pyrophoric		R40	40
acetone	substances in tattoo inks and permanent make-up		R75	75
n-butyl acetate	flammable / pyrophoric		R40	40
isobutanol	flammable / pyrophoric		R40	40
isobutanol	substances in tattoo inks and permanent make-up		R75	75
xylene	flammable / pyrophoric		R40	40

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Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction	No
xylene	substances in tattoo inks and permanent make-up		R75	75

Legend

R3

- 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 ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
- Articles not complying with paragraph 1 shall not be placed on the market.
- 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.
- 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).
- 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:
 - 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";
 - 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';
 - 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

- 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:
 - metallic glitter intended mainly for decoration,
 - artificial snow and frost,
 - 'whoopie' cushions,
 - silly string aerosols,
 - imitation excrement,
 - horns for parties,
 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs.
- 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'.
- 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).
- The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

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Legend

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 sensitizer 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:
 - (i) 0,1 % by weight, if the substance is used solely as a pH regulator;
 - (ii) 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 by 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.

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Legend

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

none of the ingredients are listed

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
P5c	flammable liquids (cat. 2, 3)	5.000 50.000	51)

Notation

51) flammable liquids, categories 2 or 3 not covered by P5a and P5b

Industrial Emissions Directive (IED)

VOC content	100 %
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Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

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

Pollutant release and transfer registers (PRTR)			
Name of substance	CAS No	Remarks	Threshold for releases to air (kg/year)
xylene	1330-20-7	(17) (11)	

Legend

(11) Single pollutants are to be reported if the threshold for BTEX (the sum parameter of benzene, toluene, ethyl benzene, xylenes) is exceeded

(17) Total mass of xylene (ortho-xylene, meta-xylene, para-xylene)

Water Framework Directive (WFD)

none of the ingredients are listed

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Austria)

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Ordinance on combustible liquids (VbF)

- VbF (group and hazard class) AI (combustible liquids of group A, hazard class I)

National regulations (Germany)

Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK 2 obviously hazardous to water
(water hazard class)

Technical instructions on air quality control (Germany)

Number	Group of substances	Class	Conc.	Mass flow	Mass concentration	Notation
5.2.5	organic substances		≥ 25 wt%	0,5 kg/h	50 mg/m ³	3)

Notation

3) a total mass flow of 0.50 kg/h or a total mass concentration of 50 mg/m³, each of which to be indicated as total carbon, shall not be exceeded (except organic particulate matter)

National regulations Switzerland

Ordinance on the incentive tax on volatile organic compounds (VOCV)

VOC content (object of taxation): 42 %

National inventories

REACH (Europe)

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)
2.3	Other hazards: of no significance	Other hazards
2.3		Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.
3.2		Description of the mixture: change in the listing (table)
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)
8.1		Biological limit values: change in the listing (table)
8.2	Protective gloves Splash protection	
8.2	Type of material: nitrile	

Safety Data Sheet

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

amended by 2020/878/EU

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Section	Former entry (text/value)	Actual entry (text/value)
8.2		Breakthrough times of the glove material: 0,4 mm
8.2	Respiratory protection: In case of inadequate ventilation wear respiratory protection.	Respiratory protection: [In case of inadequate ventilation] wear respiratory protection. Combination filtering device (EN 141).
11.1		Acute toxicity of components of the mixture: change in the listing (table)
12.1	Toxicity: Acc. to 1272/2008/EC: Harmful to aquatic life with long lasting effects. Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 1, slightly hazardous to water (Germany)	Toxicity: Acc. to 1272/2008/EC: Harmful to aquatic life with long lasting effects. Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 2, obviously hazardous to water (Germany)
12.5	Results of PBT and vPvB assessment: Data are not available.	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 $\geq 0,1\%$.
12.6	Endocrine disrupting properties: Information on this property is not available.	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.
15.1	Wassergefährdungsklasse, WGK (water hazard class): 1 slightly hazardous to water	Wassergefährdungsklasse, WGK (water hazard class): 2 obviously hazardous to water

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
2019/1831/EU	Commission Directive establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 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 relatif au transport international des marchandises dangereuses par route (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 (ADR/RID/ADN)
AGW	Workplace exposure limit
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)

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Abbr.	Descriptions of used abbreviations
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DFG	Deutsche Forschungsgemeinschaft MAK-und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim
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)
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
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
GKV	Grenzwerteverordnung
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
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
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
log KOW	n-Octanol/water

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Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
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)
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
SUVA	Grenzwerte am Arbeitsplatz, Suva
SVHC	Substance of Very High Concern
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)
TRGS 903	Biologische Grenzwerte (TRGS 903)
TWA	Time-weighted average
VbF	Ordinance on combustible liquids (Austria)
VGÜ	Verordnung über die Gesundheitsüberwachung am Arbeitsplatz (VGÜ)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

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 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.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

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