Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Tectyl™ MULTIPURPOSE WATERBASED

Version number: GHS 1.0 Date of compilation: 2024-05-20

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

1.1 Product identifier

Trade name	**Tectyl™ MULTIPURPOSE WATERBASED**
Registration number (REACH)	not relevant (mixture)
Unique formula identifier (UFI)	8X2C-6CSJ-K008-PT73
Article number	TE25037

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

Relevant identified uses: Corrosion inhibitor

1.3 Details of the supplier of the safety data sheet

CorPro GmbH
Frankfurter Straße 63 - 69
65760 Eschborn
Germany

Telephone: 00496173 9373-0
e-mail: info@corpro.gmbh
Website: www.corpro.gmbh

1.4 Emergency telephone number

Emergency information service: +32 3575 5555
24 hours emergency information
-

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.3	aerosols	1	Aerosol 1	H222,H229
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4S	skin sensitisation	1	Skin Sens. 1	H317

For full text of abbreviations: see SECTION 16.

2.2 Label elements

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

- Signal word: danger
- Pictograms

GHS02, GHS07

- Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

- Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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

Tactile warning of danger: yes

- Hazardous ingredients for labelling: Cobalt bis(2-ethylhexanoate), 2-Butoxyethanol

2.3 Other hazards

Results of PBT and vPvB assessment

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

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 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
Dimethyl ether	CAS No 115-10-6 EC No 204-065-8 Index No 603-019-00-8 REACH Reg. No 01-2119472128-37-xxxx	50 – < 75	Flam. Gas 1A / H220 Press. Gas C / H280	

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
2-Butoxyethanol	CAS No 111-76-2 EC No 203-905-0 Index No 603-014-00-0 REACH Reg. No 01-2119475108-36-xxxx	10 – < 25	Acute Tox. 4 / H302 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319	
Butan-2-ol	CAS No 78-92-2 EC No 201-158-5 Index No 603-127-00-5 REACH Reg. No 01-2119475146-36-xxxx	1 – < 5	Flam. Liq. 3 / H226 Eye Irrit. 2 / H319 STOT SE 3 / H335 STOT SE 3 / H336	
1-butoxypropan-2-ol	CAS No 5131-66-8 EC No 225-878-4 Index No 603-052-00-8	1 – < 5	Flam. Liq. 3 / H226 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319	
Ammonia	CAS No 1336-21-6 EC No 215-647-6 Index No 007-001-01-2	< 1	Acute Tox. 4 / H302 Skin Corr. 1A / H314 Eye Dam. 1 / H318 STOT SE 3 / H335 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411	
Cobalt bis(2-ethylhex-anoate)	CAS No 136-52-7 EC No 205-250-6	< 1	Eye Irrit. 2 / H319 Skin Sens. 1A / H317 Repr. 1B / H360F Aquatic Acute 1 / H400 Aquatic Chronic 3 / H412	

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
2-Butoxyethanol	-	-	1,414 $^{mg}/_{kg}$ 11 $^{mg}/_{l}$/4h	oral inhalation: vapour
1-butoxypropan-2-ol	Skin Irrit. 2; H315: C ≥ 20 % Eye Irrit. 2; H319: C ≥ 20 %	-	-	
Ammonia	-	-	500 $^{mg}/_{kg}$	oral

Remarks

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. If skin irritation or rash occurs: Get medical advice/attention.

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. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. If symptoms persist: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NOx), 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.

Special protective equipment for firefighters

Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Provision of sufficient ventilation. Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Eliminate all ignition sources if safe to do so.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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. Use only in well-ventilated areas. Handle and open container with care. Prevent from heating up above 50 °C/122 °F.

- 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 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.

- Flammability hazards

Do not spray on an open flame or other ignition source. Protect from sunlight.

Control of effects

Do not pierce or burn, even after use.

Protect against external exposure, such as

frost

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- 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)

Country	Name of agent	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]
EU	2-butoxyethanol	IOELV	20	98	50	246		
EU	dimethyl ether	IOELV	1,000	1,920				

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

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-Butoxyethanol	111-76-2	DNEL	98 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
2-Butoxyethanol	111-76-2	DNEL	1,091 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
2-Butoxyethanol	111-76-2	DNEL	246 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Butan-2-ol	78-92-2	DNEL	600 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Butan-2-ol	78-92-2	DNEL	405 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
1-butoxypropan-2-ol	5131-66-8	DNEL	147 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
1-butoxypropan-2-ol	5131-66-8	DNEL	52 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Cobalt bis(2-ethylhexanoate)	136-52-7	DNEL	235.1 µg/m³	human, inhalatory	worker (industry)	chronic - local effects

Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Dimethyl ether	115-10-6	PNEC	0.155 mg/l	aquatic organisms	freshwater	short-term (single instance)
Dimethyl ether	115-10-6	PNEC	0.016 mg/l	aquatic organisms	marine water	short-term (single instance)
Dimethyl ether	115-10-6	PNEC	160 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Dimethyl ether	115-10-6	PNEC	0.681 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Dimethyl ether	115-10-6	PNEC	0.069 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Dimethyl ether	115-10-6	PNEC	0.045 mg/kg	terrestrial organisms	soil	short-term (single instance)
2-Butoxyethanol	111-76-2	PNEC	8.8 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-Butoxyethanol	111-76-2	PNEC	0.88 mg/l	aquatic organisms	marine water	short-term (single instance)
2-Butoxyethanol	111-76-2	PNEC	463 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-Butoxyethanol	111-76-2	PNEC	34.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-Butoxyethanol	111-76-2	PNEC	3.46 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2-Butoxyethanol	111-76-2	PNEC	2.33 mg/kg	terrestrial organisms	soil	short-term (single instance)
Butan-2-ol	78-92-2	PNEC	47.1 mg/l	aquatic organisms	freshwater	short-term (single instance)
Butan-2-ol	78-92-2	PNEC	47.1 mg/l	aquatic organisms	marine water	short-term (single instance)
Butan-2-ol	78-92-2	PNEC	761 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Butan-2-ol	78-92-2	PNEC	196.2 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Butan-2-ol	78-92-2	PNEC	196.2 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Butan-2-ol	78-92-2	PNEC	11.58 mg/kg	terrestrial organisms	soil	short-term (single instance)
1-butoxypropan-2-ol	5131-66-8	PNEC	0.525 mg/l	aquatic organisms	freshwater	short-term (single instance)
1-butoxypropan-2-ol	5131-66-8	PNEC	0.052 mg/l	aquatic organisms	marine water	short-term (single instance)
1-butoxypropan-2-ol	5131-66-8	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
1-butoxypropan-2-ol	5131-66-8	PNEC	2.36 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
1-butoxypropan-2-ol	5131-66-8	PNEC	0.236 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
1-butoxypropan-2-ol	5131-66-8	PNEC	0.16 mg/kg	terrestrial organisms	soil	short-term (single instance)
Cobalt bis(2-ethylhexanoate)	136-52-7	PNEC	1.06 µg/l	aquatic organisms	freshwater	short-term (single instance)
Cobalt bis(2-ethylhexanoate)	136-52-7	PNEC	2.36 µg/l	aquatic organisms	marine water	short-term (single instance)
Cobalt bis(2-ethylhexanoate)	136-52-7	PNEC	0.37 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Cobalt bis(2-ethyl-hexanoate)	136-52-7	PNEC	53.8 $^{mg}/_{kg}$	aquatic organ-isms	freshwater sedi-ment	short-term (single instance)
Cobalt bis(2-ethyl-hexanoate)	136-52-7	PNEC	69.8 $^{mg}/_{kg}$	aquatic organ-isms	marine sediment	short-term (single instance)
Cobalt bis(2-ethyl-hexanoate)	136-52-7	PNEC	10.9 $^{mg}/_{kg}$	terrestrial organ-isms	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

In the case of wanting to use the gloves again, clean them before taking off and air them well.

- Type of material

IIR: isobutene-isoprene (butyl) rubber

- 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. Adequate particulate filter (EN 143).

Environmental exposure controls

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid, solid, gaseous (spray aerosol)
Colour	transparent
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	flammable aerosol in accordance with GHS cri-teria
Lower and upper explosion limit	3.3 vol% - 26.2 vol%
Flash point	<0 °C
Auto-ignition temperature	226 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant

pH (value)	not determined
Kinematic viscosity	not relevant

Solubility(ies)

Water solubility	not miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available

Vapour pressure	not determined

Density and/or relative density

Density	0.835 $^{g}/_{cm^3}$ at 20 °C
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (aerosol)

9.2 Other information

Information with regard to physical hazard classes

Aerosols

- Components (flammable)	<65 %

Other safety characteristics

Propellant content	<60 %
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.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Vapours may form explosive mixtures with air.

10.4 Conditions to avoid

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

Hints to prevent fire or explosion

Protect from sunlight.

10.5 Incompatible materials

Acids, Bases, Oxidisers, Aluminium compound, Amine, Halogenated spent solvents, Lithium compound, Peroxides, Ammonia (NH3), Chlorine, Chlorate

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

Harmful if swallowed. Harmful if inhaled.

- Acute toxicity estimate (ATE)

Oral 1,831 $^{mg}/_{kg}$
Inhalation: vapour 14.91 $^{mg}/_{l}$/4h

Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
2-Butoxyethanol	111-76-2	oral	1,414 $^{mg}/_{kg}$
2-Butoxyethanol	111-76-2	inhalation: vapour	11 $^{mg}/_{l}$/4h
Ammonia	1336-21-6	oral	500 $^{mg}/_{kg}$

Acute toxicity of components

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Dimethyl ether	115-10-6	inhalation: gas	LC50	164,000 ppmV/4h	rat
2-Butoxyethanol	111-76-2	oral	LD50	1,414 $^{mg}/_{kg}$	guinea pig
Butan-2-ol	78-92-2	oral	LD50	2,054 $^{mg}/_{kg}$	rat
Butan-2-ol	78-92-2	dermal	LD50	>2,000 $^{mg}/_{kg}$	rat
1-butoxypropan-2-ol	5131-66-8	oral	LD50	3,300 $^{mg}/_{kg}$	rat
1-butoxypropan-2-ol	5131-66-8	dermal	LD50	>2,000 $^{mg}/_{kg}$	rat
Cobalt bis(2-ethylhexanoate)	136-52-7	oral	LD50	3,129 $^{mg}/_{kg}$	rat
Cobalt bis(2-ethylhexanoate)	136-52-7	dermal	LD50	5,690 $^{mg}/_{kg}$	guinea pig

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

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

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

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards
There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Dimethyl ether	115-10-6	LC50	>4.1 g/l	fish	96 h
Dimethyl ether	115-10-6	EC50	>4.4 g/l	aquatic invertebrates	48 h
2-Butoxyethanol	111-76-2	LC50	1,474 mg/l	fish	96 h
2-Butoxyethanol	111-76-2	EC50	1,550 mg/l	aquatic invertebrates	48 h
2-Butoxyethanol	111-76-2	ErC50	1,840 mg/l	algae	72 h
Butan-2-ol	78-92-2	LC50	2,993 mg/l	fish	96 h
Butan-2-ol	78-92-2	EC50	308 mg/l	aquatic invertebrates	48 h
Butan-2-ol	78-92-2	ErC50	2,029 mg/l	algae	96 h
1-butoxypropan-2-ol	5131-66-8	LC50	<1,000 mg/l	fish	96 h
1-butoxypropan-2-ol	5131-66-8	EC50	<320 mg/l	fish	96 h
Cobalt bis(2-ethylhex-anoate)	136-52-7	LC50	54.1 mg/l	fish	96 h
Cobalt bis(2-ethylhex-anoate)	136-52-7	EC50	2,618 µg/l	aquatic invertebrates	48 h
Cobalt bis(2-ethylhex-anoate)	136-52-7	ErC50	71,314 µg/l	algae	96 h

Aquatic toxicity (chronic) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2-Butoxyethanol	111-76-2	EC50	297 mg/l	aquatic invertebrates	21 d
1-butoxypropan-2-ol	5131-66-8	EC50	>1,000 mg/l	microorganisms	3 h

Aquatic toxicity (chronic) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Cobalt bis(2-ethylhexanoate)	136-52-7	LC50	41,625 µg/l	fish	28 d
Cobalt bis(2-ethylhexanoate)	136-52-7	EC50	82.2 µg/l	aquatic invertebrates	21 d

12.2 Persistence and degradability

Degradability of components

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Dimethyl ether	115-10-6	oxygen depletion	5 %	28 d		ECHA
2-Butoxyethanol	111-76-2	carbon dioxide generation	18.3 %	3 d		ECHA
Butan-2-ol	78-92-2	oxygen depletion	86 %	5 d		ECHA
1-butoxypropan-2-ol	5131-66-8	DOC removal	10.4 %	7 d		ECHA
1-butoxypropan-2-ol	5131-66-8	carbon dioxide generation	67 – 68 %	7 d		ECHA
Cobalt bis(2-ethylhexanoate)	136-52-7	carbon dioxide generation	60 %	10 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Dimethyl ether	115-10-6		0.07 (pH value: 7, 25 °C)	
2-Butoxyethanol	111-76-2		0.81 (pH value: 7, 25 °C)	
Butan-2-ol	78-92-2			0.8635
1-butoxypropan-2-ol	5131-66-8		1.2 (pH value: 7, 20 °C)	
Cobalt bis(2-ethylhexanoate)	136-52-7	23		

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 at a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

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

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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.

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	UN 1950
IMDG-Code	UN 1950
ICAO-TI	UN 1950

14.2 UN proper shipping name

ADR	AEROSOLS
IMDG-Code	AEROSOLS
ICAO-TI	Aerosols, flammable

14.3 Transport hazard class(es)

ADR	2 (2.1)
IMDG-Code	2.1
ICAO-TI	2.1

14.4 Packing group

not assigned

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

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

Classification code	5F
Danger label(s)	2.1

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

Tunnel restriction code (TRC)	D

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	-
Danger label(s)	2.1

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

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

Danger label(s)	2.1

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

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction	No
Cobalt bis(2-ethylhexanoate)	substances in tattoo inks and permanent make-up		R75	75
2-Butoxyethanol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
2-Butoxyethanol	substances in tattoo inks and permanent make-up		R75	75
Dimethyl ether	flammable / pyrophoric		R40	40
Butan-2-ol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
Butan-2-ol	flammable / pyrophoric		R40	40
Butan-2-ol	substances in tattoo inks and permanent make-up		R75	75
1-butoxypropan-2-ol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
1-butoxypropan-2-ol	flammable / pyrophoric		R40	40
1-butoxypropan-2-ol	substances in tattoo inks and permanent make-up		R75	75

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction	No
Ammonia	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
Ammonia	substances in tattoo inks and permanent make-up		R75	75

Legend

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
— can be used as fuel in decorative oil lamps for supply to the general public, and
— present an aspiration hazard and are labelled with H304.
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage”;
(b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: ‘Just a sip of grill lighter fluid may lead to life threatening lung damage’;
(c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.’;

R40 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
- metallic glitter intended mainly for decoration,
- artificial snow and frost,
- ‘whoopee’ cushions,
- silly string aerosols,
- imitation excrement,
- horns for parties,
- decorative flakes and foams,
- artificial cobwebs,
- stink bombs.
2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
‘For professional users only’.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

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 sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
(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.
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.

Legend

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

Deco-Paint Directive

VOC content	<80 %

Industrial Emissions Directive (IED)

VOC content	<80 %

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)

none of the ingredients are listed

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	CAS No	Listed in	Remarks
Cobalt bis(2-ethylhexanoate)		a)	
Ammonia		a)	

Legend

a) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

National inventories

Country	Inventory	Status
EU	REACH Reg.	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

Legend

REACH Reg. REACH registered substances
TSCA Toxic Substance Control Act

15.2 Chemical safety assessment

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

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
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
Aquatic Chronic	Hazardous to the aquatic environment - chronic 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)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
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)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
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. Gas	Flammable gas
Flam. Liq.	Flammable liquid
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

Abbr.	Descriptions of used abbreviations
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
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
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.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). 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)

Code	Text
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

Code	Text
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
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.
H360F	May damage fertility.
H400	Very toxic to aquatic life.
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.