

Safety Data Sheet

according to Regulation (EC) No 1907/2006

396-BS; 396-BSG

Revision date: 14.05.2019

Product code: 950413

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

396-BS; 396-BSG

Further trade names

This MSDS covers the following products:

- 396-BS
- 396-BSG

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Fluxes for soft soldering

Uses advised against

any non-intended use.

1.3. Details of the supplier of the safety data sheet**Manufacturer**

Company name:	Cobar Europe BV	
Street:	Aluminiumstraat 2	
Place:	NL-4823 AL Breda	
Telephone:	+31 76 5445566	Telefax: +31 76 5445577
e-mail:	info@Cobar.com	

Supplier

Company name:	Balver Zinn Josef Jost GmbH & Co. KG	
Street:	Blintroper Weg 11	
Place:	D-58802 Balve	
Telephone:	+49 2375 915-0	Telefax: +49 2375 915-114
Responsible Department:	cia@BalverZinn.com	

1.4. Emergency telephone number: Chemtrec: +44(0) 870-8200418**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Reproductive toxicity: Repr. 1B

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye irritation.

May damage the unborn child.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one

Signal word: Danger

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Pictograms:



Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H360D May damage the unborn child.

Precautionary statements

P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
In use, may form flammable/explosive vapour-air mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
64-17-5	ethanol, ethyl alcohol			20 - < 25 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			15 - < 20 %
	200-661-7	603-117-00-0	01-2119457558-25	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one			< 1 %
	220-250-6	616-208-00-5	01-2119472138-36	
	Repr. 1B, Eye Dam. 1; H360D H318			
3234-02-4	2,3-dibromo-2-butene-1,4-diol			< 1 %
	221-779-5			
	Acute Tox. 3, Eye Irrit. 2; H301 H319			
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides			< 0.1 %
	274-846-6		01-2119974110-47	
	Acute Tox. 4, Skin Corr. 1B, Aquatic Acute 1 (M-Factor = 10), Aquatic Chronic 2; H302 H314 H400 H411			

Full text of H and EUH statements: see section 16.

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article

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SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Change contaminated clothing.

First aider: Pay attention to self-protection!

After inhalation

Remove person to fresh air and keep comfortable for breathing. Call a physician immediately.

After contact with skin

Take off immediately all contaminated clothing. Wash with plenty of water. Call a physician immediately.

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting.

Never give anything by mouth to an unconscious person or a person with cramps. Call a physician immediately.

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

refer to chapter 2 and 11.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam.

In case of major fire and large quantities: Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Gas/vapours, irritant. Carbon monoxide Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use water spray jet to protect personnel and to cool endangered containers.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

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

Avoid exposure. Do not breathe gas/vapour/aerosol. Avoid contact with skin, eyes and clothes.

Wear personal protection equipment. (See section 8.)

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

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6.2. Environmental precautions

Do not allow to enter into surface water or drains. Cover drains. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Ventilate affected area.

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Technical ventilation of workplace

Avoid exposure - obtain special instructions before use.

Do not breathe gas/vapour/aerosol. Avoid contact with skin, eyes and clothes.

Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges.

Flammable vapours can accumulate in head space of closed systems. In use, may form flammable/explosive vapour-air mixture. Heating causes rise in pressure with risk of bursting.

Further information on handling

General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Protect against direct sunlight.

Ensure adequate ventilation of the storage area.

Make sure spills can be contained (e.g. sump pallets or kerbed areas).

Hints on joint storage

Do not store together with: Gas. Explosives. Flammable solids. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances and mixtures which, in contact with water, emit flammable gases.

Oxidizing liquids. Oxidizing solids. Ammonium nitrate and preparations containing ammonium nitrate.

Self-reactive substances and mixtures. Organic peroxides. Non-combustible toxic substances. Radioactive substances. Infectious substances.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Protect against: UV-radiation/sunlight. heat. Humidity frost.

storage temperature: refer to specifications.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
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64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol, ethyl alcohol			
Worker DNEL, acute		inhalation	local	1900 mg/m ³
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	950 mg/m ³
Consumer DNEL, acute		inhalation	local	950 mg/m ³
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	114 mg/m ³
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			
Worker DNEL, long-term		inhalation	systemic	500 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	89 mg/m ³
Worker DNEL, long-term		dermal	systemic	888 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	26 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	319 mg/kg bw/day
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one			
Worker DNEL, long-term		inhalation	systemic	16,75 mg/m ³
Worker DNEL, long-term		inhalation	local	10,05 mg/m ³
Worker DNEL, long-term		dermal	systemic	4 mg/kg bw/day
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides			
Worker DNEL, long-term		inhalation	systemic	0,18 mg/m ³
Worker DNEL, long-term		dermal	systemic	0,26 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,5 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,16 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,16 mg/kg bw/day

PNEC values

CAS No	Substance	Value
64-17-5	ethanol, ethyl alcohol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Marine water (intermittent releases)		2,75 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,72 mg/kg

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Micro-organisms in sewage treatment plants (STP)	580 mg/l
Soil	0,63 mg/kg
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol
Freshwater	140,9 mg/l
Marine water	140,9 mg/l
Micro-organisms in sewage treatment plants (STP)	2251 mg/l
Freshwater sediment	552 mg/kg
Marine sediment	552 mg/kg
Soil	28 mg/kg
Secondary poisoning	160 mg/kg
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one
Freshwater	0,25 mg/l
Marine water	0,025 mg/l
Micro-organisms in sewage treatment plants (STP)	10 mg/l
Freshwater sediment	1,91 mg/kg
Marine sediment	0,191 mg/kg
Soil	0,235 mg/kg
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides
Freshwater	0,0121 mg/l
Marine water	0,00121 mg/l
Freshwater sediment	61,4 mg/kg
Marine sediment	6,14 mg/kg
Micro-organisms in sewage treatment plants (STP)	1,09 mg/l
Soil	30,6 mg/kg

8.2. Exposure controls



Appropriate engineering controls

Technical ventilation of workplace
Process within closed systems.

Protective and hygiene measures

The usual precautions for handling chemicals should be considered.

Keep away from food, drink and animal feedingstuffs.

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Protect skin by using skin protective cream. Take off contaminated clothing. Wash contaminated clothing before reuse. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from work clothing.

Eye/face protection

Recommended eye protection brand: Tightly sealed safety glasses. (DIN EN 166)

Hand protection

Wear suitable gloves.

Suitable material: Butyl rubber.

Thickness of glove material: 0,5 mm

penetration time (maximum wearing period): 120 min.

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The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

In the case of wanting to use the gloves again, clean them before taking off and air them well. Before using check leak tightness / impermeability.

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.

Skin protection

Wear suitable protective clothing.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

exceeding exposure limit values

Insufficient ventilation.

Release of: product

Suitable respiratory protective equipment: Combination filtering device (EN 14387) - Type: AP3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

This material and its container must be disposed of in a safe way.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid.
Colour: colourless
Odour: alcoholic.

Test method

pH-Value: not determined

Changes in the physical state

Melting point: not applicable

Initial boiling point and boiling range: Ethanol: 78 °C

Flash point: 0-<21 °C

Explosive properties

In use, may form flammable/explosive vapour-air mixture. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

Lower explosion limits: not determined

Upper explosion limits: not determined

Ignition temperature: not determined

Decomposition temperature: not determined

Oxidizing properties

none.

Vapour pressure: not determined
(at 20 °C)

Density: 0,941-0,945 g/cm³ N/A

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Water solubility: miscible.

Solubility in other solvents

not determined

Viscosity / dynamic: (at 20 °C) not determined

Viscosity / kinematic: (at 20 °C) not determined

Flow time: not determined

Vapour density: not determined

9.2. Other information

Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat. moisture.
In use may form flammable/explosive vapour-air mixture.
Heating causes rise in pressure with risk of bursting.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong. Strong acid. strong alkalis.

10.6. Hazardous decomposition products

Can be released in case of fire: Gas/vapours, irritant. Carbon monoxide Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol, ethyl alcohol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	ECHA Dossier	
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	

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	dermal	LD50 mg/kg	>5000	Rabbit	ECHA Dossier	
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one					
	oral	LD50 mg/kg	3200	Rat	ECHA Dossier	
	dermal	LD50 mg/kg	>2000	Rat (OECD 402)	ECHA Dossier	
	inhalation (4 h) aerosol	LC50	>5,1 mg/l	Rat (OECD 403)	ECHA Dossier	
3234-02-4	2,3-dibromo-2-butene-1,4-diol					
	oral	LD50 mg/kg	< 300	Rat	SDS external	
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides					
	oral	LD50 mg/kg	(1710)	Rat	ECHA Dossier	

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child. (N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Isopropyl alcohol. (CAS-No.: 67-63-0):

In-vitro mutagenicity: No experimental indications of mutagenicity in-vitro exist.

Carcinogenicity :

Exposure time: 24 month

Species: Fischer 344 Rat.

Method: OECD Guideline 451

Result: NOEL = 5000 ppm

Literature information: ECHA Dossier

Ethanol. (CAS-No.: 64-17-5):

In-vitro mutagenicity: No experimental indications of mutagenicity in-vitro exist.

Reproductive toxicity:

Exposure time: 18 weeks

Species: CD-1 Mouse.

Method: OECD Guideline 416

Result: NOAEL = 20700 mg/kg/day

Developmental toxicity/teratogenicity:

Exposure time: 19d

Species: Sprague-Dawley Rat.

Method: OECD Guideline 414

Result: NOAEL = 16000 ppm (maternal toxicity)

Result: NOAEL >= 20000 ppm (teratogenicity)

Literature information: ECHA Dossier

N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one (CAS-No.: 2687-91-4):

In-vitro mutagenicity: No experimental indications of mutagenicity in-vitro exist.

Developmental toxicity/teratogenicity:

Exposure time: 28d

Species: Himalayan Rabbit.

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Method: OECD Guideline 414
Result: NOAEL = 60 mg/kg(bw)/day
Literature information: ECHA Dossier

Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides (CAS-No.: 70750-47-9):
In vitro mutagenicity/genotoxicity: No experimental indications of mutagenicity in-vitro exist.

Reproductive toxicity:

Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction /
Developmental Toxicity Screening Test)

Species: Wistar Rat.

Exposure time: 28d

Result: NOAEL = 25 mg/kg(bw)/day

Developmental toxicity/teratogenicity:

Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction /
Developmental Toxicity Screening Test)

Species: Wistar Rat.

Exposure time: 28d

Result: NOAEL = 25 mg/kg(bw)/day

Literature information: ECHA Dossier

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Isopropyl alcohol. (CAS-No.: 67-63-0):

Chronic inhalative toxicity

Exposure time: 24 month

Species: Fischer 344 Rat.

Method: OECD Guideline 451

Result: NOAEC = 5000 ppm

Literature information: ECHA Dossier

Ethanol. (CAS-No.: 64-17-5):

Subchronic oral toxicity

Exposure time: 90d

Species: Sprague-Dawley Rat.

Method: OECD Guideline 408

Result: NOAEL = 1280 mg/kg

Literature information: ECHA Dossier

N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one (CAS-No.: 2687-91-4):

Subchronic oral toxicity:

Exposure time: 90d

Species: Wistar Rat.

Method: OECD Guideline 409

Result: NOAEL = 100 mg/kg(bw)/day

Subacute inhalative toxicity:

Exposure time: 28d

Species: Wistar Rat.

Method: OECD Guideline 412

Result: NOAEC = 80 mg/m³

Literature information: ECHA Dossier

Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides (CAS-No.: 70750-47-9):

Subacute oral toxicity:

Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction /

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Developmental Toxicity Screening Test)

Species: Wistar Rat.

Exposure time: 28d

Result: NOAEL = 25 mg/kg(bw)/day

Literature information: ECHA Dossier

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

Further information

Solvent:

Symptoms: Depression of the central nervous system. Liver and kidney damage. drowsiness. vomiting.

Nausea. Dizziness. unconsciousness. Impaired consciousness. Intoxication. erythema (redness)

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
64-17-5	ethanol, ethyl alcohol					
	Acute fish toxicity	LC50 mg/l	14200	96 h	Pimephales promelas	ECHA Dossier
	Acute algae toxicity	ErC50	275 mg/l	72 h	Chlorella vulgaris	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	5012	48 h	Ceriodaphnia dubia	ECHA Dossier
	Crustacea toxicity	NOEC mg/l	(9,6)	9 d	Daphnia magna	ECHA Dossier
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 mg/l	9640	96 h	Pimephales promelas	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	1800		Scenedesmus quadricauda	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>10000	48 h	Daphnia magna (24h)	ECHA Dossier
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one					
	Acute fish toxicity	LC50 mg/l	>464	96 h	Danio rerio (OECD 203)	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	>101	72 h	Desmodesmus subspicatus (OECD 201)	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>104	48 h	Daphnia magna (OECD 202)	ECHA Dossier
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides					
	Acute fish toxicity	LC50 mg/l	>1-10	96 h	Danio rerio	MSDS external.
	Acute algae toxicity	ErC50 0,1 mg/l	>0,01-	72 h	Pseudokirchnerella subcapitata	MSDS external.
	Acute crustacea toxicity	EC50 mg/l	0,468	48 h	Daphnia magna	ECHA Dossier
	Crustacea toxicity	NOEC 0,1 mg/l	>0,01-	21 d	Daphnia magna	MSDS external.
	Acute bacteria toxicity	(9 mg/l)		3 h	Activated sludge	ECHA Dossier

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12.2. Persistence and degradability

CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
64-17-5	ethanol, ethyl alcohol				
	other guideline	84%	20	ECHA Dossier	
	Biodegradable.				
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	EU Method C.5/ EU Method C.6	53%	5	ECHA Dossier	
	Easily biodegradable (concerning to the criteria of the OECD)				
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one				
	OECD 301A / ISO 7827 / EEC 92/69 annex V, C.4-A	90-100%	28	ECHA Dossier	
	Product is biodegradable.				
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides				
	OECD 301D/ EEC 92/69/V, C.4-E	64%	28	ECHA Dossier	
	Readily biodegradable (according to OECD criteria).				

12.3. Bioaccumulative potential**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
64-17-5	ethanol, ethyl alcohol	-0,31
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	0,05
2687-91-4	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one	-0,2
3234-02-4	2,3-dibromo-2-butene-1,4-diol	0,062
70750-47-9	Quaternary ammonium compounds, C12-18-alkylbis(hydroxyethyl)methyl, chlorides	-0,12

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to EAKV:

Waste disposal number of waste from residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

Waste disposal number of used product

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing hazardous substances; hazardous waste

Waste disposal number of contaminated packaging

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150202 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; absorbents, filter materials, wiping cloths and protective clothing; absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
Recommended cleaning agent: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1987
14.2. UN proper shipping name: ALCOHOLS, N.O.S. (Ethanol. / Isopropyl alcohol.)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Classification code: F1
Special Provisions: 274 601 640D
Limited quantity: 1 L
Excepted quantity: E2
Transport category: 2
Hazard No: 33
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number: UN 1987
14.2. UN proper shipping name: ALCOHOLS, N.O.S. (Ethanol. / Isopropyl alcohol.)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Classification code: F1
Special Provisions: 274 601 640D
Limited quantity: 1 L
Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number: UN 1987
14.2. UN proper shipping name: ALCOHOLS, N.O.S. (Ethanol. / Isopropyl alcohol.)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



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Marine pollutant: NO
Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1987
14.2. UN proper shipping name: ALCOHOLS, N.O.S. (Ethanol. / Isopropyl alcohol.)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Special Provisions: A3 A180
Limited quantity Passenger: 1 L
Passenger LQ: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

See section 8.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not relevant.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 30: N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one

Entry 40: ethanol, ethyl alcohol

2010/75/EU (VOC): < 41,155 % (387,269 g/l) (calculated)

2004/42/EC (VOC): < 40,755 % (383,505 g/l) (calculated)

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

Additional information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

REACH 1907/2006 Appendix XVII, No: 3, 30, 40

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - clearly water contaminating

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Additional information

Observe technical data sheet.

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

ethanol, ethyl alcohol

propan-2-ol; isopropyl alcohol; isopropanol

SECTION 16: Other information

Changes

Rev. 1.00; 25.02.2015, Initial release

Rev. 1.01; 27.04.2015; Documentation of changes: chapter: 2, 6, 7, 16.

Rev. 1.02; 25.04.2016; Documentation of changes: chapter: 3, 8, 11, 12, 15, 16.

Rev. 1.10; 23.11.2016, Indication of changes - chapter: 1, 4, 6, 7, 8, 15, 16.

Rev. 1.20; 18.02.2019, Indication of changes - chapter: 2, 3, 11, 12, 14, 15, 16.

Rev. 2.00; 14.05.2019, Indication of changes - chapter: 2-16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

SARA: Superfund Amendments and Reauthorization Act

SVHC: substance of very high concern

TRGS Technische Regeln fuerGefahrstoffe

TSCA: Toxic Substances Control Act

VOC: Volatile Organic Compounds

VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe

WGK: Wassergefaehrdungsklasse

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method
Repr. 1B; H360D	Calculation method

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Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H360D	May damage the unborn child.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Further Information

Classification according EC regulation 1272/2008 (CLP): - Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data. and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)