

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 1 of 17

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

Flux for soft soldering

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:	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:+49 (0) 700 24 112 112 (Contract-ID:BZW)
from USA/Canada pls call 011 49 700 24 112 112**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 Dam. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye damage.

May cause drowsiness or dizziness.

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

propan-2-ol; isopropyl alcohol; isopropanol

ethyl (S)-2-hydroxypropionate

succinic acid

Signal word: Danger**Pictograms:**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 2 of 17

Hazard statements

H225	Highly flammable liquid and vapour.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P370+P378	In case of fire: Use sand, extinguishing powder or alcohol-resistant foam to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.

Special labelling of certain mixtures

EUH208	Contains Resin acids and Rosin acids, fumarated, esters with glycerol. May produce an allergic reaction.
--------	--

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			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			40 - < 45 %
	200-661-7	603-117-00-0	01-2119457558-25	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			
64-17-5	ethanol, ethyl alcohol			35 - < 40 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
687-47-8	ethyl (S)-2-hydroxypropionate			5 - < 7 %
	211-694-1	607-129-00-7	01-2119516234-49	
	Flam. Liq. 3, Eye Dam. 1, STOT SE 3; H226 H318 H335			
110-15-6	succinic acid			1 - < 3 %
	203-740-4		01-2119896114-34	
	Eye Dam. 1; H318			
97489-11-7	Resin acids and Rosin acids, fumarated, esters with glycerol			0.5 - < 1 %
	307-051-0		01-2119965167-29	
	Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 4; H319 H317 H413			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
67-63-0	200-661-7	propan-2-ol; isopropyl alcohol; isopropanol	40 - < 45 %

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 3 of 17

	dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg	
64-17-5	200-578-6 ethanol, ethyl alcohol	35 - < 40 %
	inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = >5000 mg/kg Eye Irrit. 2; H319: >= 50 - 100	
687-47-8	211-694-1 ethyl (S)-2-hydroxypropionate	5 - < 7 %
	inhalation: LC50 = 5,4 mg/l (dusts or mists); oral: LD50 = >2000 mg/kg	
110-15-6	203-740-4 succinic acid	1 - < 3 %
	oral: LD50 = 2260 mg/kg	
97489-11-7	307-051-0 Resin acids and Rosin acids, fumarated, esters with glycerol	0.5 - < 1 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg	

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

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. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

After contact with skin

Take off immediately all contaminated clothing. Wash with plenty of water. In case of skin irritation, seek medical treatment.

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 drunken in little sips (dilution effect). Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps. In all cases of doubt, or when symptoms persist, seek medical advice.

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).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 4 of 17

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.

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

Wear personal protection equipment. (See section 8.)

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**

Provide adequate ventilation as well as local exhaustion at critical locations.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 5 of 17

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
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
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			
Consumer DNEL, long-term		inhalation	systemic	89 mg/m ³
Worker DNEL, long-term		inhalation	systemic	500 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
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
687-47-8	ethyl (S)-2-hydroxypropionate			
Worker DNEL, long-term		inhalation	local	3,2 mg/m ³
Worker DNEL, long-term		inhalation	systemic	1,6 mg/m ³
110-15-6	succinic acid			
Consumer DNEL, acute		inhalation	systemic	10 mg/m ³
Worker DNEL, acute		inhalation	systemic	10 mg/m ³
Worker DNEL, long-term		inhalation	systemic	10 mg/m ³
Consumer DNEL, long-term		inhalation	local	10 mg/m ³
Consumer DNEL, acute		dermal	systemic	67 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	10 mg/m ³
Consumer DNEL, acute		inhalation	local	10 mg/m ³

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 6 of 17

Worker DNEL, long-term	inhalation	local	10 mg/m ³
Worker DNEL, acute	inhalation	local	10 mg/m ³
Worker DNEL, acute	dermal	systemic	67 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	43 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	67 mg/kg bw/day
Consumer DNEL, long-term	dermal	systemic	43 mg/kg bw/day
Worker DNEL, long-term	dermal	systemic	71 mg/kg bw/day
97489-11-7	Resin acids and Rosin acids, fumarated, esters with glycerol		
Worker DNEL, long-term	dermal	systemic	4 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	9 mg/m ³
Consumer DNEL, long-term	dermal	systemic	2,5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	2,5 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	29 mg/m ³

PNEC values

CAS No	Substance	Value
Environmental compartment		Value
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	
Marine sediment		552 mg/kg
Micro-organisms in sewage treatment plants (STP)		2251 mg/l
Soil		28 mg/kg
Freshwater		140,9 mg/l
Freshwater sediment		552 mg/kg
Marine water		140,9 mg/l
Secondary poisoning		160 mg/kg
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
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg
687-47-8	ethyl (S)-2-hydroxypropionate	
Micro-organisms in sewage treatment plants (STP)		0,4 mg/l
110-15-6	succinic acid	
Freshwater		0,1 mg/l
Marine water		0,01 mg/l
Marine sediment		0,0079 mg/kg
Soil		0,0177 mg/kg
Freshwater sediment		0,079 mg/kg
Micro-organisms in sewage treatment plants (STP)		3 mg/l

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 7 of 17

97489-11-7	Resin acids and Rosin acids, fumarated, esters with glycerol	
Freshwater		0,1 mg/l
Marine water		0,01 mg/l
Freshwater sediment		1,55 mg/kg
Marine sediment		0,155 mg/kg
Micro-organisms in sewage treatment plants (STP)		1,26 mg/l
Soil		0,249 mg/kg

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

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. Take off contaminated clothing. 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. (BS/EN 166)

Hand protection

Wear suitable gloves. (BS EN 374)

Suitable material: Butyl rubber.

Thickness of glove material: 0,5 mm

penetration time (maximum wearing period): 120 min.

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 (D).

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

Suitable respiratory protective equipment: gas filtering equipment (EN 141). Type: A

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.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 8 of 17

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

Test method

pH-Value: not determined

Changes in the physical state

Melting point: not applicable
Boiling point or initial boiling point and boiling range: Ethanol: 78 °C
Sublimation point: not determined
Softening point: not determined
Pour point: not determined
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
Auto-ignition temperature: not determined
Decomposition temperature: not determined

Oxidizing properties

none.

Vapour pressure: not determined
(at 20 °C)

Density: 0,838 g/cm³ N/A

Water solubility: miscible.

Solubility in other solvents

not determined

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

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

Flow time: not determined

Relative vapour density: not determined

Evaporation rate: 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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 9 of 17

The mixture 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 (Base)

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
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >5000 mg/kg	Rabbit	ECHA Dossier	
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	
687-47-8	ethyl (S)-2-hydroxypropionate				
	oral	LD50 >2000 mg/kg	Rat. (OECD 401)	ECHA Dossier	
	inhalation (4 h) aerosol	LC50 5,4 mg/l	Rat. (OECD 403)	ECHA Dossier	
110-15-6	succinic acid				
	oral	LD50 2260 mg/kg	Rat.	RTECS	
97489-11-7	Resin acids and Rosin acids, fumarated, esters with glycerol				
	oral	LD50 >2000 mg/kg	Rat. (OECD 401)	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rat. (OECD 402)	ECHA Dossier	

Irritation and corrosivity

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

Sensitising effects

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 10 of 17

Contains Resin acids and Rosin acids, fumarated, esters with glycerol. May produce an allergic reaction.
May cause sensitisation especially in sensitive humans.

Carcinogenic/mutagenic/toxic effects for reproduction

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

succinic acid (CAS-No.: 110-15-6):

Carcinogenicity :

Exposure time: ~728d

Species: Fischer 344 Rat.

Method: OECD Guideline 451

Result: NOAEL = 2% (20g/L) ~1000 mg/kg

Literature information: ECHA Dossier

N-(n-octyl)-2-pyrrolidone (CAS-No.: 2687-94-7):

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

Literature information: ECHA Dossier

ethyl (S)-2-hydroxypropionate (CAS-No.: 2687-47-8):

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

Developmental toxicity/teratogenicity:

Exposure time: 15d

Species: Rat. (CrI:CD@SD)BR presumed pregnant rats)

Method: TSCA test guideline

Result: NOAEL = >1551 - <3619 mg/kg/day (maternal toxicity); = 3619 mg/kg/day (developmental toxicity)

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 11 of 17

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

May cause drowsiness or dizziness. (propan-2-ol; isopropyl alcohol; isopropanol)

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

succinic acid (CAS-No.: 110-15-6):

Subchronic oral toxicity:
Exposure time: 90d
Species: Fischer 344 Rat.
Method: OECD Guideline 408
Result: NOAEL = 860 - 990 mg/kg
Literature information: ECHA Dossier

ethyl (S)-2-hydroxypropionate (CAS-No.: 2687-47-8):

Subacute inhalative toxicity
Exposure time: 28d
Species: Wistar Rat.
Method: OECD Guideline 412
Result: NOAEC = 200 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 /
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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 12 of 17

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
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
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
687-47-8	ethyl (S)-2-hydroxypropionate					
	Acute fish toxicity	LC50	320 mg/l	96 h	Danio rerio (OECD 203)	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	3500	72 h	Pseudokirchnerella subcapitata (OECD 201)	ECHA Dossier
	Acute crustacea toxicity	EC50	683 mg/l	48 h	Daphnia magna (OECD 202)	ECHA Dossier
110-15-6	succinic acid					
	Acute fish toxicity	LC50 mg/l	>100	96 h	Danio rerio (OECD 203)	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	>100	72 h	Pseudokirchnerella subcapitata (OECD 201)	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	Daphnia magna	ECHA Dossier
	Acute bacteria toxicity	(>300 mg/l)		3 h	Belebschlamm (OECD 209)	ECHA Dossier
97489-11-7	Resin acids and Rosin acids, fumarated, esters with glycerol					
	Acute algae toxicity	ErC50 mg/l	>100	72 h	Desmodesmus subspicatus (OECD 201)	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	Daphnia magna (OECD 202)	ECHA Dossier

12.2. Persistence and degradability

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 13 of 17

CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
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)				
64-17-5	ethanol, ethyl alcohol				
	other guideline:	84%	20	ECHA dossier	
	Biodegradable.				
687-47-8	ethyl (S)-2-hydroxypropionate				
	OECD 301D	>60%	28	MSDS extern.	
	Product is biodegradable.				
110-15-6	succinic acid				
	OECD 301E / EEC 92/69 annex V, C.4-B	96%	28	ECHA Dossier	
	Easily biodegradable (concerning to the criteria of the OECD)				

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

CAS No	Chemical name	Log Pow
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	0,05
64-17-5	ethanol, ethyl alcohol	-0,31
687-47-8	ethyl (S)-2-hydroxypropionate	0,06
110-15-6	succinic acid	-0,75

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****Disposal recommendations**

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, 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 (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

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

List of Wastes Code - used product

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

List of Wastes Code - contaminated packaging

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 14 of 17

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.

Do not empty into drains; dispose of this material and its container in a safe way.

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 15 of 17



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 3, Entry 40

2010/75/EU (VOC): 91,948 % (770,52 g/l)
2004/42/EC (VOC): 90,978 % (762,391 g/l)
Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)

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

REACH 1907/2006 Appendix XVII, No (mixture): 3, 40

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 16 of 17

Water hazard class (D): 1 - slightly hazardous to water

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:

propan-2-ol; isopropyl alcohol; isopropanol

ethanol, ethyl alcohol

SECTION 16: Other information**Changes**

Rev. 1.00; 24.02.2015, Initial release

Rev. 1.01; 25.04.2016; Documentation of changes: chapter: 3, 8, 11, 12, 15, 16.

Rev. 1.10; 23.11.2016, Indication of changes - chapter: 1, 16.

Rev. 2.00; 13.05.2019, Indication of changes - chapter: 2-16.

Rev. 3.0; 27.04.2021, Indication of changes - chapter: 1-16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

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)

h: hour

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 concentration

NLP: No-Longer Polymers

N/A: not applicable

OECD: Organisation for Economic Co-operation and Development

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)

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS: Technische Regeln für Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Flux for soft soldering

Revision date: 27.04.2021

Product code: 950305

Page 17 of 17

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 Dam. 1; H318	Calculation method
STOT SE 3; H336	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.
EUH208	Contains Resin acids and Rosin acids, fumarated, esters with glycerol. May produce an allergic reaction.

Further Information

Classification according to Regulation (EC) No 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.)