

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.11.2011

Revision: 4

Revision: 25.11.2011

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

- **Date of issue:** 30.05.2011
- **Product identifier**
- **Trade name:** Flux 327 327-B 327-SEL
- **Article number(s):** bz002
- **Synonym(s):** Flussmittel 327 327-B 327-SEL
- **Relevant identified uses of the substance or mixture and uses advised against:** no data available
- **Application of the substance / the mixture:** Flux for soft soldering
- **Details of the supplier of the safety data sheet**
- **Manufacturer / Supplier:**
Balver Zinn
Josef Jost GmbH & Co.KG
Blintroper Weg 11
D-58802 Balve · Germany
Phone: +49 2375 915 – 0
Fax: +49 2375 915 – 114
E-Mail: Info@BalverZinn.com
- **Manufacturer:**
Cobar Europe BV
Aluminiumstraat 2
NL-4823 AL Breda · Netherlands
Phone: +31 76 5445566
Fax: +31 76 5445577
E-Mail: Info@Cobar.com
- **E-mail address of the competent person responsible for the Safety Data Sheet:** kontakt@trabaserio.eu
- **Informing department:** Technical Support of the Supplier
- **Emergency telephone number:** Giftnotruf Berlin +49 30 / 30686 790 - Helpdesk in German and English

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36: Irritating to eyes.



F; Highly flammable

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R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

Has a narcotizing effect.

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

In the gas volume of sealed packages vapours of flammable solvents, especially at action of heat, may accumulate. Keep away fire and ignition sources.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

· **Code letter and hazard designation of product:**



Xi Irritant

F Highly flammable

· **Risk phrases:**

11 Highly flammable.

36 Irritating to eyes.

67 Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

7 Keep container tightly closed.

16 Keep away from sources of ignition - No smoking.

24/25 Avoid contact with skin and eyes.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 67-63-0 EINECS: 200-661-7 Index number: 603-117-00-0	Propan-2-ol Xi R36; F R11 R67 Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	25 - 50%
CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5	Ethyl alcohol F R11 Flam. Liq. 2, H225	25 - 50%

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CAS: 687-47-8 EINECS: 211-694-1 Index number: 607-129-00-7	Ethyl-(S)-lactate  Xi R37-41 R10  Flam. Liq. 3, H226  Eye Dam. 1, H318  STOT SE 3, H335	1 - 10%
CAS: 110-15-6 EINECS: 203-740-4	Succinic acid  Xi R36  Acute Tox. 3, H311  Eye Irrit. 2, H319	0 - 5%
CAS: 2687-94-7 ELINCS: 403-700-8 Index number: 613-098-00-0	1-Octyl-2-pyrrolidone  C R34;  N R51/53  Skin Corr. 1B, H314  Aquatic Chronic 2, H411	≤ 0.25%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X	Methanol  T R23/24/25-39/23/24/25;  F R11  Flam. Liq. 2, H225  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  STOT SE 1, H370	≤ 2.5%

· **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing contaminated by the product.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness bring patient into stable side position for transport.

· **After skin contact:**

Rinse with plenty of water.

After prolonged skin contact defatting of skin possible, use skin protecting agent after prolonged skin contact.

If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting - Danger of chemical pneumonia.

Seek medical treatment.

· **Information for doctor:** Treat symptomatically.

· **Most important symptoms and effects, both acute and delayed**

Sickness

Headache

Dazed

Dizziness

Unconsciousness

Gastric or intestinal trouble

· **Danger:** Danger of pulmonary oedema.

· **Indication of any immediate medical attention and special treatment needed**

May cause drowsiness or dizziness.

Subsequent observation for pneumonia and pulmonary oedema.

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5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
Carbon dioxide (CO₂), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards arising from the substance or mixture:**
Danger of bursting
Can be released in case of fire:
Flammable gases/vapours
Irritant gases/vapours
Carbon monoxide (CO) and Carbon dioxide (CO₂)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:**



Wear self-contained breathing apparatus.

- **Additional information:**
Cool endangered containers with water spray jet.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
If without risk possible, move drums with material away from dangerous area.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
Use breathing protection against the effects of fumes/dust/aerosol.
Avoid skin and eye contact.
Remove all ignition sources.
Wear protective clothing and keep away unprotected persons.
- **Environmental precautions:**
Damp down gases/fumes/haze with water spray jet.
Do not allow to enter drainage system, surface or ground water.
Inform respective authorities in case product reaches water or sewage system.
Do not allow to enter the ground/soil.
If material reaches soil inform authorities responsible for such cases.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Do not inhale vapours/aerosols.
Make sure that all applicable workplace limits are observed.

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Avoid skin and eye contact.
Open and handle container with care.
Avoid splashes or spray in enclosed areas.
Keep away from heat and direct sunlight.

- **Information about protection against explosions and fires:**
Protect against electrostatic charges.



Keep ignition sources away - Do not smoke.

Fumes can combine with air to form an explosive mixture.
Flammable mixtures may be formed in empty containers.
Use explosion-proof apparatus / fittings and spark-proof tools.
Have fire extinguishing equipment ready in case of nearby fire.
Keep breathing equipment ready.
Handle only outside or in explosion protected rooms.

- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Observe all local and national regulations for storage of water polluting products.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
Store container in a well ventilated position.
Keep container tightly sealed.
Store in a cool place. Heat will increase pressure and may lead to the container exploding.
Store only outside or in explosion proof rooms.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with critical values that require monitoring at the workplace:**

67-63-0 Propan-2-ol

WEL (Great Britain)	Short-term value: 1250 mg/m ³ , 500 ppm Long-term value: 999 mg/m ³ , 400 ppm
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64-17-5 Ethyl alcohol

WEL (Great Britain)	Long-term value: 1920 mg/m ³ , 1000 ppm
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67-56-1 Methanol

WEL (Great Britain)	Short-term value: 333 mg/m ³ , 250 ppm Long-term value: 266 mg/m ³ , 200 ppm Sk
IOELV (European Union)	Long-term value: 260 mg/m ³ , 200 ppm Skin

- **DNELs** no data available
- **PNECs** no data available
- **Additional information:** The lists that were valid during the compilation were used as basis.

- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and food.
Instantly remove any contaminated garments.
Do not carry cleaning cloths impregnated with the product in trouser pockets.

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- Do not eat, drink or smoke while working.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Be sure to clean skin thoroughly after work and before breaks.
Apply solvent resistant clothing before beginning work.
- **Breathing equipment:** Use breathing protection in case of insufficient ventilation.
 - **Recommended filter device for short term use:** Filter A
 - **Protection of hands:**



Solvent resistant gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Check the permeability prior to each renewed use of the glove.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
To avoid skin problems reduce the wearing of gloves to the required minimum.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

Protective gloves should be replaced at first signs of wear.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed safety glasses

- **Body protection:**

Solvent resistant protective clothing
Antistatic protective clothing.
Protective clothing should be selected specifically for the working place.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: liquid
Colour: yellowish
clear

- **Smell:** like alcohol

- **Odour threshold:** not determined

- **pH-value:** not determined

- **Change in condition**

Melting point/Melting range: not applicable

Boiling point/Boiling range: ≥ 78 °C

- **Flash point:** 13.5°C (COC)

- **Inflammability (solid, gaseous)** Highly flammable.

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· Ignition temperature:	≥ 400 °C
· Decomposition temperature:	not determined
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures is possible.
· Critical values for explosion:	
Lower:	~1.5 Vol %
Upper:	~15.0 Vol %
· Oxidizing properties	not classified as oxidising
· Vapour pressure at 20°C:	~59 mbar
· Density at 20°C	0.804 g/cm ³ (± 0,5%)
· Settled apparent density	not applicable
· Vapour density (AIR = 1)	not determined
· Evaporation rate	not determined
· Solubility in / Miscibility with	
Water:	soluble
· Alcohols:	highly soluble
· Organic solvents:	Miscible with many organic solvents
· Segregation coefficient (n-octanol/water):	no data available
· Viscosity:	
dynamic:	Not determined.
kinematic:	not determined
Organic solvents:	82.60 %
Water:	5.0 %
VOC (EU)	82.60 %
VOCV (CH)	82.60 %
Solids content:	7.2 %
· Other information	See technical data sheet.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:** Avoid impact, friction, heat, sparks, electrostatic charges.
- **Possibility of hazardous reactions**
- Danger of bursting
- Develops readily flammable gases / fumes
- Used empty containers may contain product gases which form explosive mixtures with air.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong oxidizing agents
- **Hazardous decomposition products:**
- Irritant gases/vapours
- Carbon monoxide (CO) and Carbon dioxide (CO₂)

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

67-63-0 Propan-2-ol

Oral	LD50	3600 mg/kg (mouse)
		4570 - 5045 mg/kg (rat)
		6410 mg/kg (rabbit)
	LDLo	3570 mg/kg (human)
Dermal	LD50	12800 - 13400 mg/kg (rabbit)
Inhalative	LC50/4 h	30 - 46.5 mg/l (rat)

687-47-8 Ethyl-(S)-lactate

Oral	LD50	2500 mg/kg (mouse)
Inhalative	LC50/8 h	> 5400 mg/m ³ (rat)

110-15-6 Succinic acid

Oral	LD50	2260 mg/kg (rat)
Dermal	LD50	1000 mg/kg (guinea pig)

64-17-5 Ethyl alcohol

Oral	LD50	5560 mg/kg (guinea pig)
		3450 mg/kg (mouse)
		7060 mg/kg (rat)
		6300 mg/kg (rabbit)
Dermal	LD50	> 2000 mg/kg (rat)
Inhalative	LC50/4 h	20000 mg/l (rat)

67-56-1 Methanol

Oral	LD50	5625 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)
Inhalative	LC50/4 h	6.4 mg/l (rat)

- **Primary irritant effect:**

- **on the skin:** Long or repeated contact can defat skin and may cause dermatitis.

- **on the eye:** Causes serious eye irritation.

- **Sensitization:** No sensitizing effect known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Irritant

Inhalation of concentrated vapours may lead to anaesthesia-like conditions and headache, dizziness, etc.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

67-63-0 Propan-2-ol

EC50/24 h	> 1000 mg/l (water flea (daphnia magna))
EC50/48 h	13299 mg/l (water flea (daphnia magna))
IC50/72 h	> 1000 mg/l (algae (scenedesmus subspicatus))
LC50/48 h	8970 mg/l (leuciscus idus)

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LC50/96 h	9640 mg/l (fathead minnow (<i>pimephales promelas</i>))
687-47-8 Ethyl-(S)-lactate	
EC50	2200 mg/l (algae)
EC50/48 h	683 mg/l (water flea (<i>daphnia magna</i>))
LC50/48 h	320 mg/l (fish)
110-15-6 Succinic acid	
EC50/48 h	374.2 mg/l (water flea (<i>daphnia magna</i>))
64-17-5 Ethyl alcohol	
EC5/16 h	6500 mg/l (<i>pseudomonas putida</i>)
EC50/48 h	≥ 9268 mg/l (water flea (<i>daphnia magna</i>))
LC50/24 h	> 100 mg/l (water flea (<i>daphnia magna</i>))
LC50/48 h	8140 mg/l (<i>leuciscus idus</i>)
67-56-1 Methanol	
EC50	~71000 mg/l (bacteriums)
EC50/24 h	> 10000 mg/l (water flea (<i>daphnia magna</i>))
LC50/96 h	15400 mg/l (bluegill (<i>lepomis macrochirus</i>))

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **Chemical Oxygen Demand (COD-value):** no data available
- **BOD5-value:** no data available
- **According to recipe contains the following heavy metals and compounds according to EC guideline NO. 76/464 EC:**
The product does not contain heavy metals.
- **General notes:**
The product contains materials that are harmful to the environment.
Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**



Disposal must be made according to official regulations.

- **Waste disposal key number:** According to local/national regulations.

- **European waste catalogue:**

07 07 04* other organic solvents, washing liquids and mother liquors

- **Uncleaned packagings:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

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· Recommended cleaning agent: Water

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14 Transport information

· UN-Number

· ADR, IMDG, IATA

UN1993

· UN proper shipping name

· ADR

UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL,
ETHANOL)

· IMDG, IATA

FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL, ETHANOL)

· Transport hazard class(es)

· ADR



· Class

3 (F1) Flammable liquids.

· Label

3

· IMDG, IATA



· Class

3 Flammable liquids.

· Label

3

· Packing group

· ADR, IMDG, IATA

II

· Environmental hazards:

Product contains environmentally hazardous substances: 1-Octyl-2-pyrrolidone

· Marine pollutant:

NO

· Special precautions for user:

Warning: Flammable liquids.

· Kehler Number:

33

· EMS Number:

F-E,S-E

· Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code:

Not applicable.

· Additional Transportinformation:

Transport by post may be prohibited or restricted.

· ADR

· Excepted quantities (EQ):

E2

· Limited quantities (LQ):

1L

· Transport category:

2

· Tunnel restriction code:

D/E

· Remarks:

Special provision 640D

· UN "Model Regulation":

UN1993, FLAMMABLE LIQUID, N.O.S., 3, II

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Designation according to EC guidelines:**
- **Code letter and hazard designation of product:**



Xi Irritant
F Highly flammable

- **Risk phrases:**
 - 11 Highly flammable.
 - 36 Irritating to eyes.
 - 67 Vapours may cause drowsiness and dizziness.
- **Safety phrases:**
 - 7 Keep container tightly closed.
 - 16 Keep away from sources of ignition - No smoking.
 - 24/25 Avoid contact with skin and eyes.
 - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- **National regulations**
- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
- **Decree to be applied in case of technical fault:**
 - Quantity limits according to „EC Seveso Directive“ should be observed.
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Other regulations, limitations and prohibitive regulations**
 - Observe restrictions on the marketing and use according to Annex XVII of Regulation (EC) No 1907/2006.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Reasons for changes:**
 - The Material Safety Data Sheet has been revised. Changes in the respective chapters are characterized in the left side edge by *.
- **Relevant phrases:**
 - H225 Highly flammable liquid and vapour.
 - H226 Flammable liquid and vapour.
 - H301 Toxic if swallowed.
 - H311 Toxic in contact with skin.
 - H314 Causes severe skin burns and eye damage.
 - H318 Causes serious eye damage.
 - H319 Causes serious eye irritation.
 - H331 Toxic if inhaled.
 - H335 May cause respiratory irritation.
 - H336 May cause drowsiness or dizziness.
 - H370 Causes damage to organs.
 - H411 Toxic to aquatic life with long lasting effects.
 - R10 Flammable.
 - R11 Highly flammable.
 - R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
 - R34 Causes burns.

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- R36 *Irritating to eyes.*
 R37 *Irritating to respiratory system.*
 R39/23/24/25 *Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.*
 R41 *Risk of serious damage to eyes.*
 R51/53 *Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
 R67 *Vapours may cause drowsiness and dizziness.*

· **Department issuing MSDS:**

TRABASERIO S.L.

C./Isabel II, N° 67, Pl. Baja A

E-07100 Sóller / Spain

Tel. & Fax: +34 971 63 34 64 · E-Mail: kontakt@trabaserio.eu

· **Abbreviations and acronyms:**

GGVSEB (Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt): Ordinance on the national and international carriage of dangerous goods by road, rail, and inland waterways

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.**

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