



## Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2023

Reviewed on 03/28/2023

### 1 Identification

· **Product identifier**

· **Trade name:** Flux EF350

Flux EF350 UV

Flux 500-3431

· **Application of the substance / the mixture** Soldering flux

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Stannol GmbH & Co. KG  
Haberstrasse 24  
D-42551 Velbert

+49 (0) 2051 3120 332  
sdb@stannol.de

· **Information department:** Product Safety Department

· **Emergency telephone number:**

8:00 am - 5:00 pm (CET) +49 (0) 2051 3120 332

+1 (307) 899 3845

### 2 Hazard(s) identification

· **Classification of the substance or mixture**

Flammable Liquids 2

H225 Highly flammable liquid and vapor.

Eye Irritation 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

propan-2-ol

· **Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Wear protective gloves/protective clothing/eye protection/face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 0

- **Other hazards**

Inhalation of vapors that are released during the soldering process should be avoided. Flux fumes will irritate nose, throat and lungs and may cause allergic reaction (asthma) after prolonged or repeated exposure. Therefore, we recommend the usage of fume extractions with appropriate filters.

Always wash your hands carefully with soap and water after handling the product before eating, drinking and smoking. Keep out of reach of children.

- **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      propan-2-ol  
EINECS: 200-661-7

CAS: 124-04-9      adipic acid  
EINECS: 204-673-3

CAS: 122-99-6      2-phenoxyethanol  
EINECS: 204-589-7

CAS: 64-18-6      formic acid  
EINECS: 200-579-1

### 4 First-aid measures

- **Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **For safety reasons unsuitable extinguishing agents:** Water with full jet

- **Special hazards arising from the substance or mixture** No further relevant information available.

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- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Wear protective clothing.

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

CAS: 67-63-0 propan-2-ol 400 ppm

CAS: 122-99-6 2-phenoxyethanol 1.5 ppm

CAS: 64-18-6 formic acid 3 ppm

- **PAC-2:**

CAS: 67-63-0 propan-2-ol 2000\* ppm

CAS: 122-99-6 2-phenoxyethanol 16 ppm

CAS: 64-18-6 formic acid 25 ppm

- **PAC-3:**

CAS: 67-63-0 propan-2-ol 12000\*\* ppm

CAS: 122-99-6 2-phenoxyethanol 97 ppm

CAS: 64-18-6 formic acid 250 ppm

### 7 Handling and storage

- **Handling:**

- **Precautions for safe handling** No special precautions are necessary if used correctly.

- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Store at room temperature

Store in a cool location.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

Store receptacle in a well ventilated area.

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

- **Storage class:** 3

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- **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 section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the remaining constituent has no known exposure limits.  
**CAS: 67-63-0 propan-2-ol**  
PEL (USA) Long-term value: 980 mg/m<sup>3</sup>, 400 ppm  
REL (USA) Short-term value: 1225 mg/m<sup>3</sup>, 500 ppm  
Long-term value: 980 mg/m<sup>3</sup>, 400 ppm  
TLV (USA) Short-term value: 400 ppm  
Long-term value: 200 ppm  
BEI, A4  
**CAS: 124-04-9 adipic acid**  
TLV (USA) Long-term value: 5 mg/m<sup>3</sup>  
**CAS: 64-18-6 formic acid**  
PEL (USA) Long-term value: 9 mg/m<sup>3</sup>, 5 ppm  
REL (USA) Long-term value: 9 mg/m<sup>3</sup>, 5 ppm  
TLV (USA) Short-term value: 10 ppm  
Long-term value: 5 ppm  
IOELV (EU) Long-term value: 9 mg/m<sup>3</sup>, 5 ppm
- **Ingredients with biological limit values:**  
**CAS: 67-63-0 propan-2-ol**  
BEI (USA) 40 mg/L  
Medium: urine  
Time: end of shift at end of workweek  
Parameter: Acetone (background, nonspecific)
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
Not necessary if room is well-ventilated.  
Use suitable respiratory protective device in case of insufficient ventilation.  
Filter A
- **Protection of hands:**



Protective gloves

Solvent resistant gloves  
Rubber gloves

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Synthetic gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

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**

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses

### 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:

Fluid

Color:

According to product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

**Melting point/Melting range:**

Undetermined.

**Boiling point/Boiling range:**

82 °C (179.6 °F)

· **Flash point:**

12 °C (53.6 °F)

· **Flammability (solid, gaseous):**

Highly flammable.

· **Decomposition temperature:**

Not determined.

· **Ignition temperature:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

**Lower:**

Not determined.

**Upper:**

Not determined.

· **Vapor pressure:**

Not determined.

· **Density at 20 °C (68 °F):**

0.811 g/cm<sup>3</sup> (6.7678 lbs/gal)

· **Relative density**

Not determined.

· **Vapor density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with**

**Water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

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- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 92.1 %
  - Water:** 4.0 %
  - VOC content:** 92.11 %  
747.0 g/l / 6.23 lb/gal
- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
  - CAS: 67-63-0 propan-2-ol**
  - Oral LD50 5,045 mg/kg (rat)
  - Dermal LD50 12,800 mg/kg (rabbit)
  - Inhalative LC50/4 h 30 mg/l (rat)
- **Primary irritant effect:**
  - on the skin:** No irritant effect.
  - on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**

CAS: 67-63-0 propan-2-ol
- **NTP (National Toxicology Program)**

None of the ingredients is listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

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- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

### 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1219
- **UN proper shipping name**
- **DOT** Isopropanol
- **IMDG, IATA** ISOPROPANOL (ISOPROPYL ALCOHOL)
- **Transport hazard class(es)**
- **DOT**



- **Class** 3 Flammable liquids
- **Label** 3
- **IMDG, IATA**



- **Class** 3 Flammable liquids
- **Label** 3
- **Packing group**
- **DOT, IMDG, IATA** II
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Warning: Flammable liquids
- **Hazard identification number (Kemler code):** 33

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- **EMS Number:** F-E,S-D
- **Stowage Category** B
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations** On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L
- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml
- **UN "Model Regulation":** UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **Sara**
- **Section 355 (extremely hazardous substances):**  
None of the ingredients is listed.
- **Section 313 (Specific toxic chemical listings):**  
CAS: 67-63-0 propan-2-ol  
CAS: 122-99-6 2-phenoxyethanol  
CAS: 64-18-6 formic acid
- **TSCA (Toxic Substances Control Act):**  
CAS: 67-63-0 propan-2-ol ACTIVE  
CAS: 124-04-9 adipic acid ACTIVE  
CAS: 122-99-6 2-phenoxyethanol ACTIVE  
CAS: 110-94-1 glutaric acid ACTIVE  
CAS: 64-18-6 formic acid ACTIVE  
CAS: 65997-05-9 Rosin, polymerized ACTIVE  
CAS: 26635-93-8 Oleylaminethoxylat ACTIVE
- **Hazardous Air Pollutants**  
None of the ingredients is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:**  
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for females:**  
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for males:**  
None of the ingredients is listed.
- **Chemicals known to cause developmental toxicity:**  
None of the ingredients is listed.

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- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)**  
None of the ingredients is listed.
- **TLV (Threshold Limit Value)**  
CAS: 67-63-0 propan-2-ol A4
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**  
None of the ingredients is listed.
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
propan-2-ol
- **Hazard statements**  
Highly flammable liquid and vapor.  
Causes serious eye irritation.  
May cause drowsiness or dizziness.
- **Precautionary statements**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product Safety Department
- **Contact:** Hr. Dörr
- **Date of preparation / last revision** 03/28/2023
- **Abbreviations and acronyms:**  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value

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PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEL: Biological Exposure Limit  
Flammable Liquids 2: Flammable liquids – Category 2  
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A  
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

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