

# SAFETY DATA SHEET (SDS)

according to 1907/2006/EC, Article 31

Printing Date: 21.08.2017

Version number 11

Revision: 21.08.2017

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

### 1.1 Trade name: 1544 Soldering Flux

**Article number:** C7-00-1544**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Kester Inc.  
800 West Thorndale Avenue  
Itasca, IL 60143  
Tel 00+1 + 630 616 4000

ITW Specialty Materials (Suzhou) Co., Ltd.  
Hengqiao Road, Wujiang Economic Development Zone  
Suzhou, Jiangsu Province, China 215200  
Tel +86 512 82060807

Kester GmbH  
Ganghofer Strasse 45  
D-82216 Gernlinden Germany  
Tel +49 (0) 8142 4785 0

**Further information obtainable from:** Product Compliance: EHS\_Kester@kester.com**1.4 Emergency telephone number:**

CHEMTREC 24-Hour Emergency Response Telephone Number : (800) 424-9300

CHEMTREC 24-Hour Emergency Response (Outside US &amp; Canada) Telephone Number : (703) 527-3887

## SECTION 2: Hazards identification

### 2.1 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.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

### 2.2 Label elements

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

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS02

GHS07

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**Signal word** Danger

**Hazard-determining components of labelling:**

sec-butanol  
ethanol  
Isopropanol  
methanol

**Hazard statements**

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

**Precautionary statements**

P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

For use in industrial installations only.  
Restricted to professional users.

**2.3 Other hazards**

**Results of PBT and vPvB assessment**

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

**SECTION 3: Composition/information on ingredients**

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

**Chemical components:**

|                                     |              |  |        |
|-------------------------------------|--------------|--|--------|
| CAS: 8050-09-7<br>EINECS: 232-475-7 | Rosin        | ⚠ Skin Sens. 1, H317   | 40-55% |
| CAS: 78-92-2<br>EINECS: 201-158-5   | sec-butanol  | ⚠ Flam. Liq. 3, H226<br>⚠ Eye Irrit. 2, H319; STOT SE 3, H335-H336 | 10-25% |
| CAS: 64-17-5<br>EINECS: 200-578-6   | ethanol      | ⚠ Flam. Liq. 2, H225   | 10-25% |
| CAS: 67-63-0<br>EINECS: 200-661-7   | Isopropanol  | ⚠ Flam. Liq. 2, H225<br>⚠ Eye Irrit. 2, H319; STOT SE 3, H336      | 1-3%   |
| Trade Secret                        | Organic Salt | ⚠ Acute Tox. 4, H302   | 1-3%   |
| CAS: 67-56-1<br>EINECS: 200-659-6   | methanol     | ⚠ Flam. Liq. 2, H225<br>⚠ Acute Tox. 2, H330<br>⚠ STOT SE 1, H370  | 1-3%   |

**SVHC**

This product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

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

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Follow general first aid procedures.

**After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:** Seek immediate medical advice.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

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

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

**5.2 Special hazards arising from the substance or mixture**

Nitrogen oxides (NO<sub>x</sub>)

In case of fire, the following can be released:

**5.3 Advice for firefighters**

**Protective equipment:** No special measures required.

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

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

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

**6.4 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.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling** Prevent formation of aerosols.

**Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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

**Storage:**

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

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

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

**Additional information about design of technical facilities:** No further data; see item 7.

**8.1 Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**CAS: 8050-09-7 Rosin**

|     |  |
|-----|--|
| WEL | Short-term value: 0.15 mg/m <sup>3</sup><br>Long-term value: 0.05 mg/m <sup>3</sup><br>Sen |
|-----|--|

**CAS: 78-92-2 sec-butanol**

|     |   |
|-----|---|
| WEL | Short-term value: 462 mg/m <sup>3</sup> , 150 ppm<br>Long-term value: 308 mg/m <sup>3</sup> , 100 ppm |
|-----|---|

**CAS: 64-17-5 ethanol**

|     |  |
|-----|--|
| WEL | Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm |
|-----|--|

**CAS: 67-63-0 Isopropanol**

|     |  |
|-----|--|
| PEL | Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm<br>Long-term value: 980 mg/m <sup>3</sup> , 400 ppm |
| TWA | Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm<br>Long-term value: 980 mg/m <sup>3</sup> , 400 ppm |
| WEL | Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm<br>Long-term value: 999 mg/m <sup>3</sup> , 400 ppm |

**CAS: 67-56-1 methanol**

|     |   |
|-----|---|
| WEL | Short-term value: 333 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 266 mg/m <sup>3</sup> , 200 ppm<br>Sk |
|-----|---|

**8.2 Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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 and skin.

**Respiratory protection:**

When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.

Not necessary if room is well-ventilated.

Use suitable respiratory protective device in case of insufficient ventilation.

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**Protection of hands:**



Protective gloves

**Material of gloves**

Nitrile rubber, NBR

Natural rubber, NR

**Penetration time of glove material**

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 with Side Shields Required

**SECTION 9: Physical and chemical properties**

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

**General Information**

**Appearance:**

**Form:** Liquid  
**Colour:** Amber coloured  
**Odour:** Alcohol-like

**pH-value:** Not determined.

**Change in condition**

**Melting point/freezing point:** Undetermined.

**Flash point:** < 23°C

**Ignition temperature:** 390°C

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

**Explosion limits:**

**Lower:** 1.7Vol %  
**Upper:** 15Vol %

**Vapour pressure at 20°C:** 59hPa

**Density at 20°C:** 0.93g/cm<sup>3</sup>

**Solubility in / Miscibility with**

**water:** Partly soluble.

**Solvent content:**

**Organic solvents:** 48.5%  
**Water:** 1.0%

**Solids content:** 50.5%

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**SECTION 10: Stability and reactivity**

- 10.1 Reactivity** No further relevant information available.
- 10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions** No dangerous reactions known.
- 10.4 Conditions to avoid** No further relevant information available.
- 10.5 Incompatible materials:** Strong acids, strong oxidizers.
- 10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**  
**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values relevant for classification:**

**CAS: 78-92-2 sec-butanol**

|      |      |                   |
|------|------|-------------------|
| Oral | LD50 | 6,480 mg/kg (rat) |
|------|------|-------------------|

**CAS: 64-17-5 ethanol**

|            |          |                   |
|------------|----------|-------------------|
| Oral       | LD50     | 7,060 mg/kg (rat) |
| Inhalative | LC50/4 h | 20,000 mg/l (rat) |

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

**Serious eye damage/irritation**  
Causes serious eye irritation.

**Respiratory or skin sensitisation**  
May cause an allergic skin reaction.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

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

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

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

**STOT-single exposure**  
May cause respiratory irritation. May cause drowsiness or dizziness.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

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

**SECTION 12: Ecological information**

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

**Additional ecological information:**

**General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**12.5 Results of PBT and vPvB assessment**

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

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Disposal must be made according to official regulations.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:**

**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

**14.1 UN-Number**

IMDG, IATA UN1987

**14.2 UN proper shipping name**

ADR 1987 ALCOHOLS, N.O.S. (ETHANOL (ETHYL ALCOHOL), BUTANOLS)

IMDG

IATA

14.3 Transport hazard class(es) ALCOHOLS, N.O.S. (ETHANOL, BUTANOLS)

ADR, IMDG, IATA



Class

3 Flammable liquids.

Label

3

**14.4 Packing group**

ADR, IMDG, IATA II

**14.5 Environmental hazards:**

Marine pollutant: Not applicable.

**14.6 Special precautions for user:** No

EMS Number: Not applicable.

Stowage Category: F-E,S-D

**14.7 Transport in bulk according to Annex II of Marpol**

and the IBC Code B

Transport/Additional information:

ADR

Limited quantities (LQ) 1L

Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml

IMDG

Limited quantities (LQ) 1L

Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN 1987 ALCOHOLS, N.O.S. (ETHANOL (ETHYL ALCOHOL), BUTANOLS), 3, II



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**SECTION 15: Regulatory information**

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

All ingredients are listed on the following Government Inventories:

- China: Inventory of Existing Chemical Substances in China (IECSC)
- Korea: Korea Existing Chemicals List (ECL)
- Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
- Japan: Inventory of Existing and New Chemical Substances (ENCS)
- Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS)
- USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

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

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**



GHS02 GHS07

**Signal word** Danger

**Hazard-determining components of labelling:**

- sec-butanol
- ethanol
- Isopropanol
- methanol

**Hazard statements**

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

**Precautionary statements**

- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

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The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Safety Data Sheet (SDS) relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Safety Data Sheet (SDS) as a source for hazard information.

**Department issuing SDS:** Product Compliance / EHS Department**Contact:** EHS\_Kester@kester.com**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)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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