

# SAFETY DATA SHEET (SDS)

according to 1907/2006/EC, Article 31

Printing Date: 06.09.2017

Version number 12

Revision: 06.09.2017

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

### 1.1 Trade name: 182 Soldering Flux

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Solder  
Professional use of solder

### 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 & 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 H336 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:**

Isopropanol  
Rosin

**Hazard statements**

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

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
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.  
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: 67-63-0 EINECS: 200-661-7	Isopropanol	 Flam. Liq. 2, H225  Eye Irrit. 2, H319; STOT SE 3, H336	70-85%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin	 Skin Sens. 1, H317	10-25%

**SVHC**

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

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**General information:** Follow general first aid procedures.

**After inhalation:** 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.

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**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:

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

Aliphatic aldehydes

**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

Keep away from ignition sources.

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Absorb with clay, diatomaceous earth, dry sand, or other inert material. Do not use combustible materials such as sawdust.

Place in a chemical waste container. Flush residual with water.

**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**

Store in cool, dry place in tightly closed receptacles.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**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:** Store away from oxidising agents.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

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**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: 67-63-0 Isopropanol**

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

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

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

**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

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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

**Form:** Liquid  
**Colour:** Amber coloured  
**Odour:** Mild

**pH-value:** Not determined.

**Change in condition**

**Melting point/freezing point:** Undetermined.  
**Initial boiling point and boiling range:** 82°C

**Flash point:** < 23°C

**Ignition temperature:** 399°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:** 2Vol %  
**Upper:** 12Vol %

**Vapour pressure at 20°C:** 43hPa

**Density at 20°C:** 0.85g/cm<sup>3</sup>

**Solubility in / Miscibility with water at 20°C:** 75%

**Solvent content:**

**Organic solvents:** 74.9%

**Solids content:** 25.1%

**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:**

Carbon monoxide and carbon dioxide

When heated, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes, acids, and terpenes.

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**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: 67-63-0 Isopropanol**

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:**

**Skin corrosion/irritation** Possible local irritation by contact with flux or fumes.

**Serious eye damage/irritation**

Smoke during soldering can cause eye 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 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.

**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

UN1219

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**14.2 UN proper shipping name**

**ADR  
IMDG, IATA**

1219 ISOPROPANOL (ISOPROPYL ALCOHOL) mixture  
Not regulated  
ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

**14.3 Transport hazard class(es)**

**ADR, IMDG, IATA**



**Class  
Label**

3 Flammable liquids.  
3

**14.4 Packing group  
ADR, IMDG, IATA**

II

**14.5 Environmental hazards:  
Marine pollutant:**

Not applicable.  
No

**14.6 Special precautions for user**

Not applicable.

**Danger code (Kemler):**

33

**EMS Number:**

F-E,S-D

**Stowage Category**

B

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

Not applicable.

**Transport/Additional information:**

**ADR**

**Limited quantities (LQ)  
Excepted quantities (EQ)**

1L  
Code: E2  
Maximum net quantity per inner packaging: 30 ml

**Transport category**

2

**Tunnel restriction code**

D/E

**IMDG**

**Limited quantities (LQ)  
Excepted quantities (EQ)**

1L  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**

UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) MIXTURE,  
3, II

**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.

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**Hazard pictograms**



GHS02 GHS07

**Signal word** Danger

**Hazard-determining components of labelling:**

Isopropanol  
Rosin

**Hazard statements**

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
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**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
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.  
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.

**Directive 2012/18/EU**

**Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t  
**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

**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**

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  
Branch Manager (Malaysia Only) Telephone No : 04-6414633

**Abbreviations and acronyms:**

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

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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  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
Skin Sens. 1: Skin sensitisation – Category 1  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

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