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

Trade name: 985 Soldering Flux
Relevant identified uses of the substance or mixture and uses advised against
Soldering Flux
Professional use of solder

1.3 Details of the supplier of the safety data sheet
This Safety Data Sheet has been updated in accordance with the Globally Harmonized System (GHS).
Manufacturer/Supplier:
Kester Inc.
800 West Thordale Avenue
Itasca, IL 60143
Tel 00+1 + 630 616 4000

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

Further information obtainable from: Product Compliance: EHS_Kester@kester.com
1.4 Emergency telephone number:
TRANSPORT EMERGENCY Phone: CHEMTREC (800) 424-9300  (Outside US & Canada): 00+1 +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. Liqu. 2 H225 Highly flammable liquid and vapour.

GHS08 health hazard
Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
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  GHS08

Signal word Danger

(Continued on page 2)
Trade name: 985 Soldering Flux

(Hazard statements)
H225 Highly flammable liquid and vapour.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

(Precautionary statements)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves / eye protection.
P303+P361+P333 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Chemical components:

<table>
<thead>
<tr>
<th>CAS: 67-63-0</th>
<th>Isopropanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 200-661-7</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td>Eye Irrit. 2, H319; STOT SE 3, H336</td>
</tr>
<tr>
<td></td>
<td>70-85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aliphatic hydrocarbon solvent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2, H304</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td>Aquatic Chronic 4, H413</td>
</tr>
<tr>
<td>5-10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aliphatic carboxylic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2, H302; Acute Tox. 4, H312; Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>Skin Sens. 1; H317</td>
</tr>
<tr>
<td>1.0-3.0%</td>
</tr>
</tbody>
</table>

CAS: 65997-05-9 Rosin
| 70-85% |

Additional information:
This solder 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.
SAFETY DATA SHEET (SDS)
according to 1907/2006/EC, Article 31

Trade name: 985 Soldering Flux

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

(Continued from page 2)

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents: CO2, 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 In case of fire, the following can be released:
5.3 Advice for firefighters
Protective equipment: Wear self-contained respiratory protective device.

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 product to reach sewage system or any water course.
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.
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: 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.
(Continued on page 4)
8.1 Control parameters

<table>
<thead>
<tr>
<th>Ingredients with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>67-63-0 Isopropanol</strong></td>
</tr>
<tr>
<td>PEL Short-term value: 1225 mg/m³, 500 ppm</td>
</tr>
<tr>
<td>Long-term value: 980 mg/m³, 400 ppm</td>
</tr>
<tr>
<td>TWA Short-term value: 1250 mg/m³, 500 ppm</td>
</tr>
<tr>
<td>Long-term value: 980 mg/m³, 400 ppm</td>
</tr>
<tr>
<td>WEL Short-term value: 1250 mg/m³, 500 ppm</td>
</tr>
<tr>
<td>Long-term value: 999 mg/m³, 400 ppm</td>
</tr>
</tbody>
</table>

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.

**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

Face Shield with Safety Glasses when refilling.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**General Information**

**Appearance:**
Form: Liquid
Colour: Light yellow
Odour: Mild

**pH-value at 20 °C:**
3

**Change in condition**
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 82 °C
Flash point: 18 °C
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

Harmful if swallowed, in contact with skin or if inhaled.

LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>Substance Type</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0 Isopropanol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>5045 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>12800 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>30 mg/l (rat)</td>
<td></td>
</tr>
<tr>
<td>Aliphatic hydrocarbon solvent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>&gt; 5000 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>&gt; 2000 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>&gt; 5.2 mg/l (rat)</td>
<td></td>
</tr>
<tr>
<td>Aliphatic carboxylic acid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>2260 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

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.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

SECTION 14: Transport information

14.1 UN-Number
IMDG, IATA
14.2 UN proper shipping name
ADR, IMDG, IATA
14.3 Transport hazard class(es)
ADR, IMDG, IATA

Class
3 Flammable liquids.
Label
3
14.4 Packing group
ADR, IMDG, IATA
14.5 Environmental hazards:
Marine pollutant:
No
14.6 Special precautions for user
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable.

(Continued on page 7)
Trade name: 985 Soldering Flux

Transport/Additional information:

ADR
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Minimum net quantity per inner packaging: 30 ml
Minimum net quantity per outer packaging: 500 ml

Transport category 2
Tunnel restriction code D/E

IMDG
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Minimum net quantity per inner packaging: 30 ml
Minimum net quantity per outer packaging: 500 ml

UN "Model Regulation":
UN1219, 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.

Hazard pictograms

GHS02 GHS07 GHS08

Signal word Danger
Hazard statements
H225 Highly flammable liquid and vapour.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves / eye protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.

(Continued on page 8)
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 MSDS: 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
LDS0: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

* Data compared to the previous version altered.