1 PRODUCT AND COMPANY IDENTIFICATION

Trade name: 985M Soldering Flux

Article number: C3-00-985M

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 Thorsdale Avenue
Itasca, IL 60143 USA
Tel (630) 616-4000
Tel International 00 1 630 616-4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Heng Qiao Road
Wujiang Economic Development Zone
Suzhou, Jiangsu 215200 China
Tel +86 512 82060808

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

Information department: 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

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 vapor.

GHS07

Eye Irrit. 2A  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 labeled according to the CLP regulation.

(Contd. on page 2)
### 3 COMPOSITION OF MIXTURE

**Description:** Mixture of the substances listed below with nonhazardous additions.
SAFETY DATA SHEET (SDS)
According to 1907/2006/EC, Article 31

Trade name: 985M Soldering Flux

(Contd. of page 2)

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>% Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 67-63-0</td>
<td>Isopropanol</td>
<td>85-100%</td>
</tr>
<tr>
<td></td>
<td>☞ Flam. Liq. 2, H225</td>
<td></td>
</tr>
<tr>
<td>EINECS: 200-661-7</td>
<td>Eye Irrit. 2A, H319; STOT SE 3, H336</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☞ Aliphatic hydrocarbon solvent</td>
<td>5&lt;10%</td>
</tr>
<tr>
<td></td>
<td>☞ Asp. Tox. 1, H304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☞ Skin Irrit. 2, H315</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aquatic Chronic 4, H413</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proprietary Organic Acids</td>
<td>1.0-3.0%</td>
</tr>
<tr>
<td></td>
<td>☞ Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Irrit. 2A, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Halogenated organic diol</td>
<td>1.0-3.0%</td>
</tr>
<tr>
<td></td>
<td>☞ Acute Tox. 4, H302; Eye Irrit. 2A, H319; Skin Sens. 1B, H317</td>
<td></td>
</tr>
</tbody>
</table>

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.

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

5 FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, 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

5.2 Special hazards arising from the substance or mixture
Nitrogen oxides (NOx)
In case of fire, the following can be released:

5.3 Advice for firefighters
Protective equipment: No special measures required.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unproctected 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:
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.

(Contd. on page 4)
7 HANDLING AND STORAGE

7.1 Precautions for safe handling Prevent formation of aerosols.
Information about protection against explosions and fires:
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 receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
7.3 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.

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

CAS: 67-63-0 Isopropanol

<table>
<thead>
<tr>
<th>Control parameter</th>
<th>Long-term value</th>
<th>Short-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>980 mg/m³, 400 ppm</td>
<td>1225 mg/m³, 500 ppm</td>
</tr>
<tr>
<td>REL</td>
<td>980 mg/m³, 400 ppm</td>
<td>984 mg/m³, 400 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>980 mg/m³, 400 ppm</td>
<td>492 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>BEI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional information:
PEL = Permissible Exposure Limit (OSHA)
TLV= Threshold Limit Value (ACGIH)
OSHA= Occupational Safety and Health Administration
ACGIH= American Conference of Governmental Industrial Hygienists

(Contd. page 5)
8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
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.
Breathing equipment:
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

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Color: Light yellow
Odor: Alcohol-like
pH-value: 3

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 82 °C (180 °F)

Flash point: < 23 °C (< 73 °F)
Ignition temperature: 338 °C (640 °F)
Auto igniting: Product is not selfigniting.
Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

Explosion limits:
Lower: 2.0 Vol %
Upper: 12.0 Vol %

(Contd. of page 4)
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: No further relevant information available.
10.6 Hazardous decomposition products: No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

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

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAS: 67-63-0 Isopropanol</strong></td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
<tr>
<td>Aliphatic hydrocarbon solvent</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
</tbody>
</table>

Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Causes serious eye irritation.
Sensitization: May cause an allergic skin reaction.
Additional toxicological information:

Carcinogenic categories
IARC (International Agency for Research on Cancer)
CAS: 67-63-0 Isopropanol 3

NTP (National Toxicology Program)
None of the ingredients is listed.
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.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Recommendation:
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 TRANSPORT INFORMATION

14.1 UN-Number
DOT, ADR, IMDG, IATA
14.2 UN proper shipping name
DOT
ADR
IMDG, IATA
14.3 Transport hazard class(es)
DOT
Class
Label
ADR, IMDG, IATA
Class
Label
14.4 Packing group
IMDG, IATA

UN1219
Isopropanol mixture
1219 Isopropanol mixture
ISOPROPANOL (ISOPROPYL ALCOHOL) mixture
3 Flammable liquids
3
3 Flammable liquids
II
Trade name: 985M Soldering Flux

<table>
<thead>
<tr>
<th>Marine pollutant:</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.6 Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>F-E,S-D</td>
</tr>
<tr>
<td>Stowage Category</td>
<td>B</td>
</tr>
<tr>
<td>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Transport/Additional information:

<table>
<thead>
<tr>
<th>ADR</th>
<th>Code: E2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG</th>
<th>Limited quantities (LQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exected quantities (EQ)</th>
<th>Maximum net quantity per inner packaging: 30 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

| UN "Model Regulation": | UN 1219 ISOPROPANOL MIXTURE, 3, II |

15 REGULATORY INFORMATION

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

<table>
<thead>
<tr>
<th>China:</th>
<th>Inventory of Existing Chemical Substances in China (IECSC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea:</td>
<td>Korea Existing Chemicals List (ECL)</td>
</tr>
<tr>
<td>Europe:</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
</tr>
<tr>
<td>Japan:</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
</tr>
<tr>
<td>Philippines:</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
</tr>
<tr>
<td>USA:</td>
<td>TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances</td>
</tr>
</tbody>
</table>

USA The following information relates to product regulation specific to the USA.

SARA (Superfund Amendments and Reauthorization Act)

<table>
<thead>
<tr>
<th>Section 355 (extremely hazardous substances):</th>
<th>None of the ingredient is listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 313 (Specific toxic chemical listings):</td>
<td>CAS: 67-63-0 Isopropanol</td>
</tr>
<tr>
<td>Chemicals known to cause cancer:</td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity:</td>
<td>None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

Carcinogenic categories

| EPA (Environmental Protection Agency) | None of the ingredients is listed. |
| NIOSH-Ca (National Institute for Occupational Safety and Health) | None of the ingredients is listed. |

CANADA:

Workplace Hazardous Materials Identification (WHMIS):

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR) and the Safety Data Sheet (SDS) contains all of the information required by the CPR.
16 OTHER INFORMATION

Department issuing Safety Data Sheet (SDS): Product Compliance / EHS Department
Contact: EHS_Kester@kester.com
Date of preparation / last revision 12/21/2016 / 12
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
DOT: US Department of Transportation
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
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
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1

(Contd. on page 10)
Trade name: 985M Soldering Flux

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4
* Data compared to the previous version altered.