1 PRODUCT AND COMPANY IDENTIFICATION

Trade name: TSF-8808
Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the preparation: Tacky Soldering flux

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Kester Inc.
800 West Thormdale 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 Gernlinden 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

⚠️ GHS07

Skin Irrit. 2  H315 Causes skin irritation.
Skin Sens. 1  H317 May cause an allergic skin reaction.

Eye Irrit. 2B  H320 Causes eye irritation.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labeled according to the CLP regulation.

Hazard pictograms

⚠️ GHS07

Signal word Warning

Hazard-determining components of labeling:
Organic acid

(Contd. on page 2)
Trade name: TSF-8808

(Hcontd. of page 1)

Hazard statements
H315+H320 Causes skin and eye irritation.
H317 May cause an allergic skin reaction.

Precautionary statements
P280 Wear protective gloves / eye protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.
P302+P352 IF ON SKIN: Wash with plenty of water.
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.

Hazard description:
WHMIS Symbols

Classification system:
NFPA ratings (scale 0 - 4)

Health = 1
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 1
Fire = 1
Reactivity = 0

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 COMPOSITION OF MIXTURE

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

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>% Range</th>
</tr>
</thead>
</table>
| Trade Secret | Proprietary Solvent             | Skin Irrit. 2, H315  
                        |        | Eye Irrit. 2B, H320  |
|          |                                 | 10-25%  |
| Trade Secret | Organic acid                  | Acute Tox. 4, H302; Eye Irrit. 2A, H319; Skin Sens. 1, H317 |
|          |                                 | 3.0-5.0% |
| Trade Secret | Proprietary Amine             | Skin Irrit. 2, H315  
                        |        | Eye Irrit. 2B, H320  |
|          |                                 | 3.0-5.0% |
| Trade Secret | Proprietary Acid              | Eye Irrit. 2A, H319  |
|          |                                 | 1.0-3.0% |

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.
Trade name: TSF-8808

(Contd. of page 2)

## 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.

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: No special measures required.

## 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures 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:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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.

Protective Action Criteria for Chemicals

<table>
<thead>
<tr>
<th>PAC-1: Proprietary Solvent</th>
<th>3.8 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Amine</td>
<td>34 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2: Proprietary Solvent</th>
<th>42 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Amine</td>
<td>370 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3: Proprietary Solvent</th>
<th>250 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Amine</td>
<td>2,200 mg/m³</td>
</tr>
</tbody>
</table>

## 7 HANDLING AND STORAGE

7.1 Precautions for safe handling No special measures required.

Information about protection against explosions and fires: No special measures required.

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: None.

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

(Contd. on page 4)
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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

8.2 Exposure controls
Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.

Breathing equipment:
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:

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: Pasty
Color: Opaque
Odor: Mild

pH-value at 20 °C (68 °F): 4.5

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 100 °C (212 °F)
Flash point: > 100 °C (> 212 °F)
Auto igniting: Product is not selfigniting.
Danger of explosion: Product does not present an explosion hazard.
Density at 20 °C (68 °F): 1.2 g/cm³ (10.014 lbs/gal)
Solubility in / Miscibility with Water: Fully miscible.
Solvent content:
   Organic solvents: 0.0 %
Solids content: 24.0 %

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.

11 TOXICOLOGICAL INFORMATION

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

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

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

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

12 ECOLOGICAL INFORMATION

12.1 Toxicity
Aquatic toxicity: No further relevant information available.
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.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 TRANSPORT INFORMATION

14.1 UN-Number
DOT, ADR, ADN, IMDG, IATA: Not applicable

14.2 UN proper shipping name
DOT, ADR, ADN, IMDG, IATA: Not applicable

14.3 Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA: Not applicable

Class: Not applicable

14.4 Packing group
DOT, IMDG, IATA: Not applicable

Marine pollutant: No

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

UN "Model Regulation": Not applicable

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

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

SARA (Superfund Amendments and Reauthorization Act)
Section 355 (extremely hazardous substances):
None of the ingredient is listed.
SAFETY DATA SHEET (SDS)
According to 1907/2006/EC, Article 31

Printing Date 03/31/2017 Version number 17 Reviewed on 03/31/2017

Trade name: TSF-8808

Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.

Chemicals known to cause cancer:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity:
None of the ingredients is listed.

Carcinogenic categories
EPA (Environmental Protection Agency)
Proprietary Solvent Non-hazardous

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

CANADA:
Not classified.
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.

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labeled according to the CLP regulation.

Hazard pictograms

Signal word Warning

Hazard-determining components of labeling:
Organic acid

Hazard statements
H315+H320 Causes skin and eye irritation.
H317 May cause an allergic skin reaction.

Precautionary statements
P280 Wear protective gloves / eye protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
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P302+P352 IF ON SKIN: Wash with plenty of water.
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.

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

16 OTHER INFORMATION

(Contd. on page 8)
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 Material Safety Data Sheet 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 Material Safety Data Sheet as a source for hazard information.

**Department issuing Safety Data Sheet (SDS):** Product Compliance / EHS Department  
**Contact:** EHS_Kester@keser.com  
**Date of preparation / last revision:** 03/31/2017 / 16

**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)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organisation  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
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)  
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  
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  
Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B  
Skin Sens. 1: Skin sensitisation – Category 1

*Data compared to the previous version altered.*