1 Identification

Trade name: TSF-6750 Tacky Soldering Flux
Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Kester Inc.
800 West Thornsdale 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
Wujian Economic Development Zone
Suzhou, Jiangsu 215200 China
Tel +86 512 82060808

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

Information department: Product Compliance: EHS_Kester@kester.com
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 Hazard(s) identification

Classification of the substance or mixture

Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Acute 3 H402 Harmful to aquatic life.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Label elements
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)
Trade name: TSF-6750 Tacky Soldering Flux

Hazard pictograms

GHS07  GHS08

Signal word Warning

Hazard-determining components of labeling:
2-Phenoxyethanol
Modified Rosin
Heterocyclic derivative

Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P270 Do not eat, drink or smoke when using this product.
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 water.
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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)

Health = 2
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *2
Fire = 1
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

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>
<tbody>
<tr>
<td>CAS: 122-99-6</td>
<td>2-Phenoxyethanol</td>
<td>% Acute Tox. 4, H302; Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

(Contd. of page 1)
Trade name: TSF-6750 Tacky Soldering Flux

<table>
<thead>
<tr>
<th>Trade Secret</th>
<th>Modified Rosin</th>
<th>Skin Sens. 1, H317</th>
<th>10-25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>Heterocyclic derivative</td>
<td>Acute Tox. 3, H301, Rep. 2, H361, Aquatic Chronic 2, H411, Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335, Aquatic Acute 2, H401</td>
<td>3-5%</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Proprietary solvent</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2B, H320</td>
<td>3-5%</td>
</tr>
<tr>
<td>CAS: 75-75-2</td>
<td>Alkyl Sulfonic acid</td>
<td>Skin Corr. 1B, H314; Eye Dam. 1, H318</td>
<td>1-3%</td>
</tr>
</tbody>
</table>

4 First-aid measures

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: 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.

Information for doctors:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture In case of fire, the following can be released:

Advice for firefighters

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation

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

Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13.

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

PAC-1:

<table>
<thead>
<tr>
<th>CAS: 122-99-6</th>
<th>2-Phenoxyethanol</th>
<th>1.5 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterocyclic derivative</td>
<td>0.97 mg/m³</td>
<td></td>
</tr>
<tr>
<td>CAS: 75-75-2</td>
<td>Alkyl Sulfonic acid</td>
<td>0.99 mg/m³</td>
</tr>
</tbody>
</table>

PAC-2:

| CAS: 122-99-6 | 2-Phenoxyethanol | 16 ppm |

(Contd. on page 4)
Trade name: TSF-6750 Tacky Soldering Flux

(Contd. of page 3)

<table>
<thead>
<tr>
<th>CAS</th>
<th>Heterocyclic derivative</th>
<th>11 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 75-75-2</td>
<td>Alkyl Sulfonic acid</td>
<td>11 mg/m³</td>
</tr>
</tbody>
</table>

PAC-3:

<table>
<thead>
<tr>
<th>CAS</th>
<th>2-Phenoxyethanol</th>
<th>97 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 122-99-6</td>
<td>Heterocyclic derivative</td>
<td>64 mg/m³</td>
</tr>
<tr>
<td>CAS: 75-75-2</td>
<td>Alkyl Sulfonic acid</td>
<td>65 mg/m³</td>
</tr>
</tbody>
</table>

7 Handling and storage

Handling:
Precautions for safe handling: Prevent formation of dust.
Information about protection against explosions and fires: No special measures required.

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.
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.

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

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:
When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
Filter AX
Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.

(Contd. on page 5)
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

Information on basic physical and chemical properties

General Information

Appearance:
- Form: Viscous
- Color: Colorless
- Odor: Mild

pH-value: Not applicable.

Change in condition
- Melting point/Melting range: Undetermined.
- Boiling point/Boiling range: 244 °C (471.2 °F)

Flash point: 121 °C (249.8 °F)

Flammability (solid, gaseous): Not determined.

Ignition temperature: 535 °C (995 °F)

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Vapor pressure: Not applicable.

Density: Not determined.

Vapor density: Not applicable.

Solubility in / Miscibility with Water: Insoluble.

Solvent content:
- Organic solvents: 36.9 %
- Solids content: 61.5 %

(Contd. on page 6)
10 Stability and reactivity

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

11 Toxicological information

Information on toxicological effects
Acute toxicity:

LD/LC50 values that are relevant for classification:
CAS: 122-99-6 2-Phenoxyethanol
Oral: LD50 1,260 mg/kg (rat)
Dermal: LD50 5,000 mg/kg (rabbit)

Modified Rosin
Oral: LD50 >4,000 mg/kg (rat)
Dermal: LD50 >2,500 mg/kg (rabbit)

Heterocyclic derivative
Oral: LD50 100 mg/kg (ATE)

Primary irritant effect:
on the skin: No irritant effect.
on the eye: Irritating effect.
Sensitization:
Sensitization possible through inhalation.
Sensitization possible through skin contact.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

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

Toxicity:
Aquatic toxicity: No further relevant information available.
Ecotoxicological effects:
Remark: Harmful to fish.
Additional ecological information:
General notes:
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

13 Disposal considerations

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

UN-Number
DOT, ADR, ADN, IMDG, IATA Not applicable
UN proper shipping name
DOT, ADR, ADN Not applicable
IMDG, IATA Not applicable

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

Class Not applicable
Packing group
DOT, IMDG, IATA Not applicable

Special precautions for user Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

15 Regulatory information

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.
Safety Data Sheet
acc. to OSHA HCS 29CFR1910.1200

Printing Date 10/27/2017
Reviewed on 10/27/2017
Version number 8

Trade name: TSF-6750 Tacky Soldering Flux

(Contd. of page 7)

<table>
<thead>
<tr>
<th>SARA (Superfund Amendments and Reauthorization Act)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 355 (extremely hazardous substances):</td>
</tr>
<tr>
<td>None of the ingredient is listed.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Section 313 (Specific toxic chemical listings):</td>
</tr>
<tr>
<td>CAS: 122-99-6 2-Phenoxyethanol</td>
</tr>
<tr>
<td>Proprietary solvent</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>TSCA new (21st Century Act) (Substances not listed)</td>
</tr>
<tr>
<td>California Proposition 65</td>
</tr>
<tr>
<td>Chemicals known to cause cancer:</td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity:</td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Carcinogenic categories</td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td>NIOSH-Ca (National Institute for Occupational Safety and Health)</td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>CANADA:</td>
</tr>
<tr>
<td>Workplace Hazardous Materials Identification (WHMIS):</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</td>
</tr>
<tr>
<td>Hazard pictograms</td>
</tr>
</tbody>
</table>

![GHS07 GHS08]

Signal word Warning

| Hazard-determining components of labeling: |
| 2-Phenoxyethanol                          |
| Modified Rosin                           |
| Heterocyclic derivative                  |

Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protection 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 water.

(Contd. on page 9)
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 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@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
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
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
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 1
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Dam. 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
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
Aquatic Acute 5: Hazardous to the aquatic environment - acute aquatic hazard – Category 3
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

* Data compared to the previous version altered.