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

Product identifier

**Trade name:** SP-30 (2 OZ. container) ORM-D Consumer Commodity Exemption

**Relevant identified uses of the substance or mixture and uses advised against:** Soldering Flux

Application of the substance / the preparation Soldering flux

Details of the supplier of the safety data sheet

This Safety Data Sheet has been updated in accordance with the Global Harmonized System (GHS).

**Manufacturer/Supplier:**

Kester
800 West Throndale Ave.
Itasca, IL 60143
Tel (630) 616-4000
Fax (630) 616-4044

**Further information obtainable from:** SDS Coordinator (630) 616-6844

**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

**Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

- **GHS05 corrosion**
  - Skin Corr. 1B H314 Causes severe skin burns and eye damage.

- **GHS09 environment**
  - Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

- **GHS07**
  - Acute Tox. 4 H302 Harmful if swallowed.
  - STOT SE 3 H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

**Label elements**

**Labeling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

- GHS05
- GHS07
- GHS09

**Signal word Danger**

Hazard-determining components of labelling:
- zinc chloride
- ammonium chloride

**Hazard statements**

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.

(Continued on page 2)
SAFETY DATA SHEET (SDS)
according to 1907/2006/EC, Article 31


Trade name: SP-30 (2 OZ. container) ORM-D Consumer Commodity Exemption

(Continued from page 1)

H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P310 Immediately call a POISON CENTER or doctor/physician.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3 Composition/information on ingredients

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

Dangerous components:

<table>
<thead>
<tr>
<th>CAS:</th>
<th>EINECS:</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>8009-03-8</td>
<td>232-373-2</td>
<td>Petrolatum</td>
<td>50-100%</td>
</tr>
<tr>
<td>7646-85-7</td>
<td>231-592-0</td>
<td>zinc chloride</td>
<td>10-25%</td>
</tr>
<tr>
<td>12125-02-9</td>
<td>235-186-4</td>
<td>ammonium chloride</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>7783-08-5</td>
<td>231-791-2</td>
<td>water, distilled, conductivity or of similar purity</td>
<td>2.5-10%</td>
</tr>
</tbody>
</table>

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

4 First aid measures

Description of first aid measures
General information:  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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. Then consult a doctor.

After swallowing: Seek immediate medical advice.

Information for doctor:  
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.

(Continued on page 3)
5 Firefighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, sand, extinguishing powder. Do not use water.
Use fire extinguishing methods suitable to surrounding conditions.
Special hazards arising from the substance or mixture
Hydrogen chloride (HCl)
In case of fire, the following can be released:
Advice for firefighters
Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
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.
Ensure adequate ventilation.
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.

7 Handling and storage

Handling:
Precautions for safe handling Thorough dedusting.
Information about fire - and explosion protection: No special measures required.

Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep container tightly sealed.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

(Continued on page 4)
Control parameters

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>7646-85-7 zinc chloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL (Great Britain)</td>
</tr>
<tr>
<td>PEL (USA)</td>
</tr>
<tr>
<td>REL (USA)</td>
</tr>
<tr>
<td>TLV (USA)</td>
</tr>
<tr>
<td>OEL (China)</td>
</tr>
<tr>
<td>TLV (Taiwan)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12125-02-9 ammonium chloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL (Great Britain)</td>
</tr>
<tr>
<td>REL (USA)</td>
</tr>
<tr>
<td>TLV (USA)</td>
</tr>
<tr>
<td>OEL (China)</td>
</tr>
<tr>
<td>TLV (Taiwan)</td>
</tr>
</tbody>
</table>

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

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Pasty
Colour: Amber coloured
Odour: Mild

pH-value: Not applicable.

Change in condition
Melting point/Melting range: 49°C (120 °F)
Undetermined.

Flash point: > 100°C (> 212 °F)

Flammability (solid, gaseous): Not determined.

Self-igniting: Product is not selfigniting.

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

Vapour pressure at 20°C (68 °F): 1 hPa (1 mm Hg)

Density at 20°C (68 °F): 1.05 g/cm³ (8.762 lbs/gal)
Vapour density Not applicable.

Solubility in / Miscibility with water: Partly miscible.

Solvent content:
Organic solvents: 0.0 %
Water: 7.7 %
Solids content: 92.3 %

10 Stability and reactivity

Reactivity
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: Hydrogen chloride (HCl)

11 Toxicological information

Information on toxicological effects
Acute toxicity:

LD/LC50 values relevant for classification:

7646-85-7 zinc chloride
Oral LD50 350 mg/kg (rat)

12125-02-9 ammonium chloride
Oral LD50 1650 mg/kg (rat)

Primary irritant effect:
on the skin:
Caustic effect on skin and mucous membranes.
Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: Sensitization possible through inhalation.

(Continued on page 6)
12 Ecological information

Toxicity
Acquatic toxicity: No further relevant information available.

Ecotoxicity

Remark: Toxic for fish

Ecotoxicity:

Remark:

Additional ecological information:

General notes:
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach sewage water or drainage ditch undiluted or unneutralized. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

13 Disposal considerations

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.

14 Transport information

Land transport ADR/RID (cross-border)

ADR/RID class: 8 Corrosive substances.
Danger code (Kemler): 80
UN-Number: 2331
Packaging group: III
Hazard label: 8
Special marking: Symbol (fish and tree)

UN proper shipping name: 2331 ZINC CHLORIDE, ANHYDROUS, mixture, ENVIRONMENTALLY HAZARDOUS
Tunnel restriction code: E

Maritime transport IMDG:

IMDG Class: 8
UN Number: 2331
Label: 8

Packaging group: III
EMS Number: F-A,S-B
Marine pollutant: Yes
Symbol (fish and tree)
Segregation groups: Acids, heavy metals and their salts (including their organometallic compounds)
Proper shipping name: ZINC CHLORIDE, ANHYDROUS, mixture

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 2331
Label: 8
Packaging group: III
Proper shipping name: ZINC CHLORIDE, ANHYDROUS, mixture
UN "Model Regulation": UN2331, ZINC CHLORIDE, ANHYDROUS, mixture, ENVIRONMENTALLY HAZARDOUS, 8, III
Environmental hazards: Product contains environmentally hazardous substances: zinc chloride
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
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms

GHS05 GHS07 GHS09

Signal word: Danger
Hazard-determining components of labelling:
zinc chloride
ammonium chloride
Hazard statements:
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
Precautionary statements:
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
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P310 Immediately call a POISON CENTER or doctor/physician.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

(Continued on page 8)
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.

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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
NFPA: National Fire Protection Association (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent