

Material Safety Data Sheet

According to 91/155 EC

Printing date 10.07.2003

Reviewed on 10.07.2003

1 Identification of the substance/preparation and of the company/undertaking**Product details****Trade name: 2441**

Application of the substance / the preparation Soldering flux

Manufacturer/Supplier:Kester
515 E. Touhy Ave.
Des Plaines, IL 60018Tel.(847) 297-1600
Fax.(847) 390-9338**Further information obtainable from:**

MSDS Coordinator:

Tel. (847) 699-5755

Information in case of emergency:



CHEMTREC 24-Hour Emergency Response Telephone Number:

(800) 424-9300

CHEMTREC 24-Hour Emergency Response Telephone Number (Outside US and Canada):

(703) 527-3887

2 Composition/information on ingredients**Chemical characterization****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 10035-10-6 EINECS: 233-113-0	hydrogen bromide	 C; R 35-37	≤ 2.5%
CAS: 7647-01-0 EINECS: 231-595-7	hydrogen chloride	 C; R 34-37	≤ 2.5%

3 Hazards identification**Hazard description:**

C Corrosive

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 34 Causes burns.

R 36/38 Irritating to eyes and skin.

4 First-aid measures**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.

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After swallowing: *Drink plenty of water and provide fresh air. Call for a doctor immediately.*

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5 Fire-fighting measures**Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***Special hazards caused by the substance, its products of combustion or resulting gases:***In case of fire, the following can be released:**Carbon monoxide (CO)**Carbon dioxide (CO₂)**Aliphatic aldehydes***Protective equipment:** *Wear self-contained respiratory protective device.***6 Accidental release measures****Person-related safety precautions:** *Ensure adequate ventilation***Measures for environmental protection:***Dilute with plenty of water.**Do not allow to enter sewers/ surface or ground water.***Measures for cleaning/collecting:***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.***7 Handling and storage****Handling:****Information for safe handling:** *Ensure good ventilation/exhaustion at the workplace.***Information about fire - and explosion protection:** *Keep respiratory protective device available.***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:** *Store in cool, dry conditions in well sealed receptacles.***8 Exposure controls/personal protection****Additional information about design of technical facilities:** *No further data; see item 7.***Ingredients with limit values that require monitoring at the workplace:****10035-10-6 hydrogen bromide**OES Short-term value: 10 mg/m³, 3 ppm
IOELV**7647-01-0 hydrogen chloride**OES Short-term value: 8 mg/m³, 5 ppm
Long-term value: 2 mg/m³, 1 ppm
gas and aerosol mists; ILV

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Additional information:*PEL = Permissible Exposure Limit (OSHA)**REL= Recommended Exposure Limit (NIOSH)**TLV= Threshold Limit Value (ACGIH)**OSHA= Occupational Safety and Health Administration**ACGIH= American Conference of Governmental Industrial Hygienists**NIOSH= National Institute for Occupational Safety and Health***Personal protective equipment:****General protective and hygienic measures:***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.**Store protective clothing separately.***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:***Tightly sealed goggles**Safety glasses***9 Physical and chemical properties****General Information**

Form:	<i>Liquid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Mild</i>

Change in condition*Melting point/Melting range: Undetermined.**Boiling point/Boiling range: 123°C***Flash point:** 257°C

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Danger of explosion: *Product does not present an explosion hazard.***Vapour pressure at 20°C:** *19 mm Hg***Density at 20°C:** *1.134 g/cm³***Solubility in / Miscibility with water:** *Fully miscible.***pH-value at 20°C:** *< 1.0***10 Stability and reactivity****Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.***Materials to be avoided:** *Strong acids, strong oxidizers.***Dangerous reactions** *No dangerous reactions known.***Dangerous decomposition products:***Carbon monoxide and carbon dioxide**Aldehyde***11 Toxicological information****Acute toxicity:****Primary irritant effect:***on the skin: Possible local irritation by contact with flux or fumes.**on the eye: Smoke during soldering can cause eye irritation.***Sensitization:** *No sensitizing effects known.***Additional toxicological information:***The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:**Corrosive**Irritant**Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.***12 Ecological information****General notes:***Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.**Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*

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13 Disposal considerations**Product:****Recommendation***Must not be disposed together with household garbage. Do not allow product to reach sewage system.***European waste catalogue**

16 10 01 aqueous liquid wastes containing dangerous substances

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:** 3264**Packaging group:** II**Hazard label** 8**Description of goods:** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROGEN BROMIDE, HYDROCHLORIC ACID)**Maritime transport IMDG:****Marine pollutant:** No**15 Regulatory information****Code letter and hazard designation of product:**

C Corrosive

Risk phrases:

34 Causes burns.

36/38 Irritating to eyes and skin.

Safety phrases:

2 Keep out of the reach of children.

25 Avoid contact with eyes.

46 If swallowed, seek medical advice immediately and show this container or label.

56 Dispose of this material and its container to hazardous or special waste collection point.

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National regulations:**Technical instructions (air):**

Class	Share in %
Water	12.5
II	2.2

Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.**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.

Relevant R-phrases

34 Causes burns.

35 Causes severe burns.

37 Irritating to respiratory system.

Department issuing MSDS: Product Safety**Contact:** Heather Holich, MSDS Coordinator

Tel. (847)699-5755