

Material Safety Data Sheet

According to 91/155 EC

Printing date 24.07.2003

Reviewed on 03.04.2003

1 Identification of the substance/preparation and of the company/undertaking**Product details****Trade name: 245 CORE**

Application of the substance / the preparation Flux cored solder

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:**

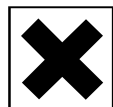
CAS: 7440-31-5 EINECS: 231-141-8	tin		0-100%
CAS: 7439-92-1 EINECS: 231-100-4	lead	Xn; R 20/22-33-62	0-100%
CAS: 7440-50-8 EINECS: 231-159-6	copper		0-100%
CAS: 7440-36-0 EINECS: 231-146-5	antimony		0-100%
CAS: 7440-69-9 EINECS: 231-177-4	bismuth		0-100%
CAS: 7440-22-4 EINECS: 231-131-3	silver		0-100%
CAS: 7440-66-6 EINECS: 231-175-3	Zinc		0-100%
CAS: 65997-06-0	Modified Rosin	Xn; R 42/43	2.5-10%

Additional information:

Composition and weight percent of solder alloys varies widely and can be determined by product label.

Flux in core is typically 1-3% by weight.

For the wording of the listed risk phrases refer to section 16.

3 Hazards identification**Hazard description:**

Xn Harmful

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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 20/22 Harmful by inhalation and if swallowed.

R 33 Danger of cumulative effects.

R 42/43 May cause sensitisation by inhalation and skin contact.

Contains lead. Should not be used on surfaces liable to be chewed or sucked by children

4 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.

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.*

After swallowing: *Induce vomiting, if person is conscious. Seek medical help.*

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

Melted solder above 1000°F will liberate toxic lead and/or antimony fumes.

Protective equipment: *Wear self-contained respiratory protective device.*

6 Accidental release measures

Person-related safety precautions: *Ensure adequate ventilation*

Measures for environmental protection: *Do not allow product to reach sewage system or any water course.*

Measures for cleaning/collecting:

Melted solder will solidify on cooling and can be scraped up. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

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.*

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Further information about storage conditions:

Store in dry conditions.

Exposure to sulfur or to high humidity will tarnish the solder surface.

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:****7440-31-5 tin**OES Short-term value: 4 mg/m³
Long-term value: 2 mg/m³**65997-06-0 Modified Rosin**OEL Short-term value: 3 mg/m³, NE ppm
Long-term value: NE mg/m³, NE ppm**7440-50-8 copper**OES Short-term value: 2** mg/m³
Long-term value: 0.2* 1** mg/m³
*fume **dusts and mists**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.

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

Cloth 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.

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Eye protection:*Tightly sealed goggles**Safety glasses***9 Physical and chemical properties****General Information**

Form: *Solid material*
Colour: *Silver grey*
Odour: *Odourless*

Change in condition**Melting point/Melting range:** *> 100°C***Flash point:** *Not applicable.***Danger of explosion:** *Product does not present an explosion hazard.***Density at 20°C:** *> 7 g/mL***Solubility in / Miscibility with water:** *Insoluble.***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:***When heated, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes, acids, and terpenes.***11 Toxicological information****Acute toxicity:****LD/LC50 values relevant for classification:****65997-06-0 Modified Rosin**Oral | LD50 | *> 4.000 mg/kg (Rat)***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:***Sensitization possible through inhalation.**Sensitization possible through skin contact.*

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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:

Harmful
Irritant

12 Ecological information

General notes: Do not allow product to reach ground water, water course or sewage system.

13 Disposal considerations**Product:****Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue 10 08 11

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID (cross-border)**

ADR/RID class: -
Not regulated.

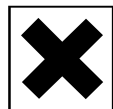
Maritime transport IMDG:

IMDG Class: -
Not regulated.

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -
Not regulated.

15 Regulatory information**Code letter and hazard designation of product:**

Xn Harmful

Hazard-determining components of labelling:

tin
lead
copper

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*antimony
silver***Risk phrases:**

- 20/22 Harmful by inhalation and if swallowed.
 33 Danger of cumulative effects.
 42/43 May cause sensitisation by inhalation and skin contact.

Safety phrases:

- 53 Avoid exposure - obtain special instructions before use.
 1/2 Keep locked up and out of the reach of children.
 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
 24 Avoid contact with skin.
 29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
 37/39 Wear suitable gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 63 In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Special labelling of certain preparations:

Contains lead. Should not be used on surfaces liable to be chewed or sucked by children

National regulations:

Waterhazard class: Water hazard class 2 (Self-assessment): 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

- 20/22 Harmful by inhalation and if swallowed.
 33 Danger of cumulative effects.
 42/43 May cause sensitisation by inhalation and skin contact.
 62 Possible risk of impaired fertility.

Department issuing MSDS: Product Safety

Contact: Heather Holich, MSDS Coordinator

Tel. (847)699-5755