Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/27/2009 Reviewed on 01/27/2009

1 Identification of substance

Product details

Trade name: **44 CORE**
Application of the substance / the preparation: Flux cored solder

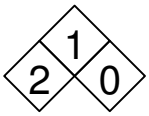
Manufacturer/Supplier:
Kester
800 W. Thorndale Ave.
Itasca, IL 60143
Tel.(847) 297-1600
Fax.(847) 390-9338

Information department:

2 Hazards identification

WHMIS Hazard Symbols
D1B - Toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects

Information pertaining to particular dangers for man and environment:
The product has to be labelled due to the calculation procedure of international guidelines.
Harmful by inhalation and if swallowed.
Danger of cumulative effects.
May cause sensitisation by skin contact.
Possible risk of impaired fertility.
Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.
NFPA ratings (scale 0 - 4)



Health = 2
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	*2
FIRE	1
REACTIVITY	0

*Health = *2*
Fire = 1
Reactivity = 0

GHS label elements

Warning

3.7/2 - Suspected of damaging fertility or the unborn child.

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Warning

3.1/4 - Harmful if swallowed.
3.1/4 - Harmful if inhaled.
3.4/1 - May cause an allergic skin reaction.
Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see label).
Rinse mouth.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Storage:
Store locked up.
Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/Data on components

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

Dangerous components:			
7440-31-5	*tin*		*0-100%*
7439-92-1	*lead*	*Danger: 3.1.O/3, 3.1.I/4* *Warning: 3.7/2*	*0-100%*
7440-50-8	*copper*		*0-100%*
7440-36-0	*antimony*		*0-100%*
7440-69-9	*bismuth*		*0-100%*
7440-22-4	*silver*		*0-100%*
7440-66-6	*zinc*		*0-100%*
8050-09-7	*Rosin*	*Warning: 3.4.S/1*	*2.5-10%*

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

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

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.*
After swallowing: *Seek immediate medical advice.*

5 Fire fighting measures

Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards caused by the material, 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.*
Additional information *Flux in cored solder may ignite when the solder melts in a fire.*

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.
Dispose contaminated material as waste according to item 13.

7 Handling and storage

Handling:
Information for safe handling:
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires: *No special measures required.*

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: *None.*

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8 Exposure controls and personal protection

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

Components with limit values that require monitoring at the workplace:

7440-31-5 tin

PEL	2 mg/m³ Metal
REL	2 mg/m³ Tin, Metal
TLV	2 mg/m³

8050-09-7 Rosin

PEL	(Colophony)
TLV	SEN; (L)

7440-50-8 copper

PEL	0.1*;1** mg/m³ *fume **dusts & mists
REL	0.1*;1** mg/m³ *Copper fume, as Cu **Copper dusts & mists, as Cu
TLV	0.2*, 1** mg/m³ *fume; ** dusts&mists, as Cu

7439-92-1 lead

PEL	0.05* mg/m³ as Pb
REL	<0.1* mg/m³ as Pb; *Blood Pb <0.06 mg/100 g whole blood
TLV	0.05 mg/m³ as Pb; BEI

7440-36-0 antimony

PEL	0.5 mg/m³
REL	0.5 mg/m³ as Sb
TLV	0.5 mg/m³ as Sb

7440-22-4 silver

PEL	0.01 mg/m³
REL	0.01 mg/m³
TLV	0.1 mg/m³

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

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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.
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.
Protection of hands:

Protective gloves

Material of gloves:
Nitrile rubber, NBR
Natural rubber, NR
Cloth gloves
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:	*Solid*
Color:	*Silver grey*
Odor:	*Mild*

Change in condition
Melting point/Melting range: *> 100 °C (> 212 °F)*
Boiling point/Boiling range: *Undetermined.*

Flash point: *Not applicable.*

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

Density at 20 °C (68 °F): *> 7 g/cm³*

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Solubility in / Miscibility with
Water: *Not miscible or difficult to mix.*

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 products of decomposition:
When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes and acids.
Carbon monoxide and carbon dioxide

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:		
7440-36-0 antimony		
Oral	*LD50*	*7000 mg/kg (rat)*
7440-69-9 bismuth		
Oral	*LD50*	*5000 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.
through inhalation:
Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.
through ingestion: May be harmful if swallowed.
Sensitization:
Sensitization possible through skin contact.
Sensitization possible through inhalation.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

12 Ecological information

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

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13 Disposal considerations

Product:
Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

Uncleaned packagings:
Recommendation: *Disposal must be made according to official regulations.*

14 Transport information

DOT regulations:
Hazard class: -
Not regulated.

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.
UN "Model Regulation": -
Environmental hazards: *Marine pollutant*

Transport/Additional information: *Not dangerous according to the above specifications.*

15 Regulations

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.

Section 313 (Specific toxic chemical listings):	
7439-92-1	*lead*
7440-36-0	*antimony*
7440-50-8	*copper*

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7440-22-4	*silver*

TSCA (Toxic Substances Control Act):

All ingredients are listed or exempt from listing.

California Proposition 65

Chemicals known to cause cancer:
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
Chemicals known to cause reproductive toxicity:
WARNING: This product contains a chemical(s) known to the State of California to cause birth defects and/or other reproductive harm.

Carcinogenicity categories

EPA (Environmental Protection Agency)		
7439-92-1	*lead*	*B2*
IARC (International Agency for Research on Cancer)		
7439-92-1	*lead*	*2B*

NTP (National Toxicology Program)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

CANADA: The following information relates to product regulation specific to Canada.

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 MSDS contains all of the information required by the CPR.

EUROPEAN UNION

The following information relates to product regulation specific to the directives of the European Union.

Risk phrases:

Harmful by inhalation and if swallowed.
Danger of cumulative effects.
May cause sensitisation by skin contact.
Possible risk of impaired fertility.

Safety phrases:

Avoid exposure - obtain special instructions before use.
Keep locked up and out of the reach of children.
Avoid contact with skin.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
Wear suitable gloves and eye/face protection.
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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Special labeling of certain preparations:
Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.

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 responsibilty 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.

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: Reglement internationale concernent le transport des merchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
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)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent