

1 PRODUCT AND COMPANY IDENTIFICATION

Trade name: 44 Flux-Cored Wire Sn63Pb37; Sn60Pb40; Sn50Pb50; Sn40Pb60
Relevant identified uses of the substance or mixture and uses advised against
 Solder
 Professional use of lead solder

Details of the supplier of the safety data sheet

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

Manufacturer/Supplier:

Kester Inc.
 800 West Thorndale Ave.
 Itasca, IL 60143
 Tel (630) 616-4000

Kester Components Pte Ltd
 500 Chai Chee Lane
 Singapore 469024
 Tel: 65-64491133

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 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 Health hazard

Resp. Sens. 1B H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
 Skin Sens. 1B H317 May cause an allergic skin reaction.

Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

Label elements

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

LEAD (Pb)
 Rosin

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According to 1907/2006/EC, Article 31

Printing Date 06/03/2014

Version number 18

Reviewed on 06/03/2014

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Hazard statements

H302 Harmful if swallowed.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H317 May cause an allergic skin reaction.
 H361 Suspected of damaging fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 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 OF MIXTURE

Chemical characterization: Mixtures**Description:** Mixture: consisting of the following components.

CAS No.	Description	% Range	
CAS: 7440-31-5 EINECS: 231-141-8	TIN (Sn)	40-65%	
CAS: 7439-92-1 EINECS: 231-100-4	LEAD (Pb)	⚠ Repr. 2, H361; STOT RE 2, H373 ⚠ Acute Tox. 4, H302 Aquatic Chronic 4, H413	35-60%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin	⚠ Resp. Sens. 1B, H334 ⚠ Skin Sens. 1B, H317	1.0-2.5%

Additional information:

Flux in core is typically 1-3% by weight.
 Composition and weight percent of solder alloys varies widely and can be determined by product label.
 This solder 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:** 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.

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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.

5 FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing powder, no water.

Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Nitrogen oxides (NO_x)

Carbon dioxide (CO₂)

Advice for firefighters

Protective equipment:

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

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.

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 Ensure good ventilation/exhaustion at the workplace.

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:

7440-31-5 TIN (Sn)

PEL	Long-term value: 2 mg/m ³ metal
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REL	Long-term value: 2 mg/m ³
TLV	Long-term value: 2 mg/m ³ metal
7439-92-1 LEAD (Pb)	
PEL	Long-term value: 0.05* mg/m ³ *see 29 CFR 1910.1025
REL	Long-term value: 0.05* mg/m ³ *8-hr TWA, excl. lead arsenate; See PocketGuideApp.C
TLV	Long-term value: 0.05* mg/m ³ *and inorganic compounds, as Pb; BEI
8050-09-7 Rosin	
TLV	(SEN); L NIC-DSEN, RSEN

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.

Breathing equipment:

Exposure Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation to control airborne levels below recommended exposure limits.

When ventilation is not sufficient to remove airborne levels from the breathing zone, a NIOSH safety approved respirator or self-contained breathing apparatus should be worn. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

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



Face Shield with Safety Glasses when refilling.

9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**General Information****Appearance:**

Form: Metal in wire, ribbon, or preformed shapes with a core of flux

Color: Silver grey

Odor: uncharacteristic

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pH-value: Not applicable.

Change in condition
Melting point/Melting range: 183 - 238 °C (361 - 460 °F)

Flash point: Undetermined.

Flammability (solid, gaseous): Not determined.

Auto igniting: Product is not selfigniting.

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

Vapor pressure: Not applicable.

Density at 20 °C (68 °F): 8.4 - 9.3 g/cm³ (70.098 - 77.60 lbs/gal)
Vapour density: Not applicable.

Solubility in / Miscibility with
Water: Insoluble.

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: No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

8050-09-7 Rosin

Oral	LD50	2.2 mg/kg (mouse)
		3.0 mg/kg (rat)

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

through inhalation:

Vapors during use may irritate mucous membranes and respiratory system. High concentrations can cause headache, dizziness, and nausea.

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)

7439-92-1	LEAD (Pb)	2B
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NTP (National Toxicology Program)

7439-92-1	LEAD (Pb)	R
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OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No further relevant information available.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

13 DISPOSAL CONSIDERATIONS

Waste treatment methods

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

UN-Number

Not regulated

DOT, ADR

Not regulated

UN proper shipping name

Not regulated

IMDG, IATA

Not regulated

Transport hazard class(es)

DOT, ADR, IMDG, IATA

Class

Not regulated.

Packing group

Not regulated

Marine pollutant:

No

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

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 (Pb)

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TSCA (Toxic Substances Control Act): Kester certifies that all components listed below for the subject finished product are on the TSCA Inventory of Chemical Substances and are not subject to any chemical specific regulation under TSCA Section 12(b) export notification requirements delineated at 40 CFR part 707, subpart D.

All ingredients are listed or exempt from listing.

California Proposition 65

Chemicals known to cause cancer:

LEAD (Pb)

Chemicals known to cause reproductive toxicity:

LEAD (Pb)

Carcinogenic categories

EPA (Environmental Protection Agency)

7439-92-1 | LEAD (Pb)

B2

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

None of the ingredients is listed.

CANADA: Not classified.

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

LEAD (Pb)

Rosin

Hazard statements

H302 Harmful if swallowed.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

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Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

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 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.

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Department issuing Safety Data Sheet (SDS): Product Compliance / EHS Department**Contact:** EHS_Kester@kester.com**Date of preparation / last revision** 06/03/2014 / 17**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**GHS: Globally Harmonized System of Classification and Labelling of Chemicals**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)**Acute Tox. 4: Acute toxicity, Hazard Category 4**Resp. Sens. 1B: Sensitisation - Respirat., Hazard Category 1B**Skin Sens. 1B: Sensitisation - Skin, Hazard Category 1B**Repr. 2: Reproductive toxicity, Hazard Category 2**STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2**Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4**** Data compared to the previous version altered.**

USA