



CANFIELD TECHNOLOGIES, LLC



BOW ELECTRONIC SOLDERS

Safety Data Sheet

According to 1907-2006/EC, Article 31

Revised 01/06/2018

1. PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: 50Sn/50Pb Commercial Grade Paste

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 Name: Canfield Technologies/BOW Electronic Solders

Address: 1 Crossman Road, Sayreville, NJ 08872

General Phone Number: 732-316-2100

INFOTRAC 24 Hour Emergency Telephone Number: 1-800-535-5053

SDS Creation Date 6-Jan-15

SDS Revision Date: 6-Jan-18

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 RE2 **H373** May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 **H302** Harmful if swallowed.

Skin Sens. 1 **H317** May cause an allergic skin reaction.

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

Label elements

Labeling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS08 GHS07

Signal word Danger

Hazard-determining components of labeling:

Lead (Pb)

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.

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

P305+P351+P338 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

P402 Store in a dry place.

P501 Dispose of contents/container in according with local/regional/national regulations.

Hazard description:

VHMIS HAZARD Symbols

D2A-Very toxic material causing other toxic effects.



Classification system:

NFPA ratings (scale 0-4)



Health = 2
Fire = 1
Reactivity = 0



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: Mixtures of the substances listed below with nonhazardous additions.

CAS No.	Description		% Range
CAS: 7440-31-5	Tin (Sn)		49.5-51.5%
EINECS:231-141-8			
CAS: 7439-92-1	Lead (Pb)		Balance
EINECS: 231-100-4			
Flux Content :	N/A		20-25%
CAS: 7646-85-7	Zinc chloride		25-35%
EINECS: 231-592-0			
CAS: 12125-02-9			
EINECS: 235-186-4	Ammonium chloride		3-5%
CAS: 7732-18-5	Water		60-72%
EINECS: 231-791-2			

Additional information:

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

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

4. FIRST AID MEASURES

Description of first aid measures

After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

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.

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. FIREFIGHTER MEASURES

Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Nitrogen oxides (Nox)

Carbon dioxide (CO₂)

Advice for fire fighters

Protective equipment: 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.

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.

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 dusting.

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.

Store in dry conditions.

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

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: 2mg/m³

Metal

REL Long-term value: 2mg/m³

TLV Long-term value: 2mg/m³

Metal

7493-92-1 Lead (Pb)

PEL Long-term value: 0.05* mg/m³

*see 29 CFR 1910.1025

REL Long-term value: 0.05* mg/m³

* 8-hr TWA, excluding lead arsenate; see Pocket guide APP. C

TLV Long-term value: 0.05* mg/m³

*and inorganic compounds, as Pb; BEI

CAS: 7646-85-7 Zinc chloride

WEL Short-term value: 2mg/m³

Long-term value: 1mg/m³

CAS: 12125-02-9 Ammonium chloride

WEL Short-term value: 20mg/m³

Long-term value: 10mg/m³

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 and 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 to be observed.

Eye protection:**Face Shield and safety glasses****9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Paste
Color:	Silver grey
Odor:	Mild
pH-value:	Not determined.

Change in condition

Melting point/melting range:	183 - 238 °C (361- 460 °F)
Flammability (solid, gaseous):	Not determined.
Flash point :	Undetermined.
Auto igniting:	Product is not self igniting.
Vapor pressure:	Not applicable.
Danger of explosion:	Product does not present an explosion hazard.
Density at 20°C (68°F):	8.4 - 9.3 g/cm ³ (70.098 - 77.60 lbs/gal)
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 decompositions products:

Carbon monoxide and carbon dioxide

When heated to soldering temperatures, the solvents are evaporated and organic material may be release aliphatic aldehydes and acids.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD/LC50 values that are relevant for classification:

CAS: 7646-85-7 Zinc Chloride

Oral : LD50 350 mg/kg (rat)

CAS: 12125-02-9 Ammonium Chloride

Oral : LD50 1650 mg/kg (rat)

Primary irritant effects:

On the skin:

Irritant to skin and mucous membranes.

Possible local irritation by contact with flux or fumes.

On the eye:

Irritant effect.

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.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

Harmful

Carcinogenic categories

IARC (International Agency for Research on Cancer)

Lead (Pb) 7439-92-1

NTP (National Toxicology Program)

Lead (Pb) 7439-92-1

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.

Result 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 in accordance with official regulations.

Uncleaned packaging's

Recommendations: Disposal must be made in accordance with official regulations.

14. TRANSPORT INFORMATION

UN- NUMBER
IMDG, IATA UN1840
UN proper shipping name
ADR, IMDG, IATA UN1840, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ZINC CHLORIDE),8,III
Transport hazard class (es)
ADR, IMDG, IATA



Class 8 Corrosive substances.
Label 8
UN- NUMBER Not applicable.
DOT, ADN, Not applicable.
ADR, IMDG, IATA Not applicable.
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 regulation/ legislation specific for the substance or mixture

All ingredients are listed on the following Government Inventories:

China: Inventory of Existing Chemical Substances in China (IECSC)
Korea: Korea Existing Chemical List (ECL)
Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
Japan: Inventory of Existing and New Chemicals Chemical Substances (ENCS)
Philippines: Philippine Inventory of Chemicals Chemical Substances (PICCS)
USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

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 ingredients is listed

Section 313 (Specific toxic chemical listings):

Lead (Pb) 7439-92-1

TSCA (Toxic Substances Control Act): Canfield Technologies certifies that all components listed below for the subject finished product are on the TSCA Inventory of chemical Substance 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:

WARNING: This product contains a chemical (s) known to the State of California to cause cancer.

Lead (Pb)

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.

Lead (Pb)

Carcinogenic categories

EPA (Environmental Protection Agency)

Lead (Pb) 7439-92-1

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:

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 Safety Data Sheet (SDS) contains all of the information required by the CPR.

Labeling according to Regulation (EC) NO 1272/2008

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

Hazard pictograms



GHS07



GHS08

Signal word Danger

Hazard-determining components of labeling:

Lead (Pb)

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.
P270 Do not eat, drink or smoke when using this product.
P305+P351+P338 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P341 IF INHALED: if breathing is difficult, Remove person to fresh air and keep comfortable for breathing.
P402 Store in a dry place.
P501 Dispose of contents/container in according with local/regional/national 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. Bow and Canfield Technologies 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. This 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 Safety Data Sheet as a source for hazard information.

Abbreviations and acronyms:

- RID:** Regulations Concerning the International Transport of Dangerous Goods by Rail.
ICAO: International Civil Aviation Organization.
ADR: 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 Labeling of Chemicals.
NFPA: National Fire Protection Association (USA).
HMIS : Hazardous Materials Identification System (USA).
WHMIS: Workplace Hazardous Materials Information System (Canada).
Acute Tox. 4: Acute toxicity , Hazard Category 4
Skin Sens. 1: Sensitisation - Respirat., Hazard Category 1B
Carc. 2: Carcinogenicity, Hazard Category 2
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
Resp. Sens. 1B: Sensitisation- Respirat., Hazard Category 1B
CAS: Chemical Abstract Service (division of the American Chemical Society)

***Data compared to the previous version altered.**