SAFETY DATA SHEET
SUPERIOR AFCW SN63/PB37
DATE REVISED: August 21, 2018

SECTION 1 -- IDENTIFICATION
Product Name/Part number: Superior AFCW SN63/PB37
Recommended use: Tin-Lead-Silver Solder
Manufacturer: Superior Flux & Mfg. Co.
6615 Parkland Blvd
Cleveland OH, 44139
Emergency Contact: CHEMTREC
Emergency Phone: 1-800-424-9300
For other info: (440) 349-3000

SECTION 2 – HAZARD(S) IDENTIFICATION
Classification of the substance or mixture
GHS Classification in accordance with OSHA HCS (29 CFR 1910)
Acute toxicity, Oral (Category 4) H302
Eye irritation (Category 2A) H319
Specific target organ toxicity – Single exposure, Respiratory system (Category 3) H335
Carcinogenicity (Category 2) H351
Reproductive toxicity (Category 2) H361
Specific target organ toxicity – Repeated exposure (Category 2) H373
Acute aquatic toxicity (Category 1) H400
Chronic aquatic toxicity (Category 1) H410

GHS Label Elements, including precautionary statements
Pictogram(s):

Signal Word: Warning
Hazard Statement(s)
H302 Harmful if swallowed
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H351 Suspected of causing cancer
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure
**H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Warning: Contains lead.

**May be omitted from label due to presence of stricter or more specific hazard statement.

Precautionary statement(s)
P260 Do not breathe dust or fumes.
P264 Wash skin thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment
P280 Wear protective gloves, protective clothing, eye protection, and face protection.
P301+P312+P330 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice or attention
P337+P313 If eye irritation persists: Get medical attention
P391 Collect spillage
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up
P501 Dispose of contents and/or container to an approved waste disposal plant.

Hazards not otherwise classified or not covered by GHS: None

SECTION 3 – COMPOSITION INFORMATION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin (Sn)</td>
<td>7440-31-5</td>
<td>59-65</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>7439-92-1</td>
<td>34-45</td>
</tr>
</tbody>
</table>

Unlisted percentages are non-hazardous stabilizers, and water.

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

General advice: Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention

Eyes: Flush with water for at least 15 minutes to remove irritant. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.

Skin: Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

Ingestion: If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.

Potential Health Effects:

**Eye contact:** Contact with powdered metal alloy or fumes from molten metal may cause irritation. Severe eye damage may result from hot molten metal being splashed into the eyes. Wear safety glasses and face shield when working with molten metal.

**Ingestion:** May cause irritation. May be harmful

**Inhalation:** Inhalation of fumes or dust may cause local irritation to the respiratory system. Inhalation of dust or fumes may be harmful.

**Skin contact:** Normal handling should not cause any adverse health effects. May cause skin irritation. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal.

SDS. Superior AFCW SN63/PB37. Page 2 of 7
Chronic:  
**TIN** – Has been shown to increase incidence of sarcoma in animal tests.
**LEAD** – Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systemic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain, and damage to the nervous system, blood system and kidneys.
**SILVER** – Chronic skin contact or ingestion of silver dusts, salts or fumes can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

SECTION 5 – FIREFIGHTING MEASURES
**Suitable Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions.
**Advice for firefighters:** Use NIOSH/MSHA – approved self-contained breathing apparatus and full protective clothing if involved in fire.
**Further information** **DO NOT USE WATER ON MOLTEN METAL. LARGE FIRES MAY BE FLOODED WITH WATER FROM A DISTANCE.**

SECTION 6 - ACCIDENTAL RELEASE MEASURES
**Personal Precautions and Equipment and emergency procedures:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
See section 8 for personal protection.

**Methods and materials for containment and cleaning up** Contain spill. If molten, cool to allow metal to solidify. If a solid metal, wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment. DO NOT SWEEP. Use a vacuum, place in barrels and return to process if applicable. Otherwise, dispose of alloy following all Federal, State, and local regulations. In the EU refer to the Special Waste Regulations. Metal may have reclaim value.
**For disposal, see section 13.**
SECTION 7 - HANDLING AND STORAGE

**Precautions for safe handling:** Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Only dry metals should be added to molten bath. If working with molten metals, or exposed to fume or dust, use appropriate personal protective equipment.

!!! WET OR MOIST INGOT(S) WILL PRESENT AN EXPLOSION HAZARD WHEN SUBMERGED IN MOLTEN SOLDER. AVOID FIRE/EXPLOSION RISKS – ALWAYS PREHEAT INGOT BEFORE CHARGING INTO FURNACE. !!!

For precautions, see section 2.

**Conditions for safe storage, including any incompatibilities** Store product in a cool, dry area away from incompatible materials.

For full precaution statements see Section 2

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

**OSHA Permissible Exposure Limit (PEL):** 0.05 mg/m³

**ACGIH Threshold Limit Value (TLV):** 0.05 mg/m³

**General Precautions:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

**Engineering Controls:** Use local exhaust ventilation to maintain air concentrations of dust, vapors and fumes below occupational exposure standards.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate, use an authority approved or compliant marked air-purifying respirator with a fume/dust chemical cartridge is recommended under circumstances where airborne concentrations are expected to be elevated. Use respirators and components tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

**Protective Gloves:** Handle with gloves. (Nitrile Rubber recommended) Gloves must be inspected prior to use. Use proper glove removal techniques (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good lab practices. Wash and dry hands after handling.

**Eye Protection:** Chemical safety glasses or goggles, and face shield with molten metal. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (USA) or EN 166 (EU)

**Body Protection:** Impervious clothing and leather or vinyl gloves. Heat resistant gloves if handling hot metal. Safety boots. Personal protective equipment is recommended when working with molten metal to avoid burns.

**Control of environmental exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
### SECTION 9 - PHYSICAL AND CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Silver grey metal</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point/Freezing point</td>
<td>183°C / 361.4 °F</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (Solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>Upper explosion limit: Not applicable</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>Lower explosion limit: Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density (Water = 1)</td>
<td>8.6-9.0</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### SECTION 10 - STABILITY AND REACTIVITY

**Reactivity:** No data available  
**Stability:** Product is stable under recommended storage conditions  
**Possibility of hazardous reactions:** No data available  
**Conditions to Avoid:** Excessive heat, exposure to moisture  
**Incompatible Material:** Avoid contact with mineral acids.  
**Hazardous Decomposition Products** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.

*In the event of fire: See Section 5*
SECTION 11 - TOXICOLOGICAL INFORMATION
Carcinogenicity
- National Toxicity Program (NTP): No
- Occupational Safety & Health Administration (OSHA): No
- U.N. International Agency for Research on Cancer (IARC): Yes

Lead and Lead compounds are listed as possible carcinogens.

LD50: Not established  LC50: Not established

Other:
Chronic Toxicity: Lead can cause potential harm to the developing fetus.

SECTION 12 - ECOLOGICAL INFORMATION
Toxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other adverse effects
Avoid release to environment
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS
Waste treatment methods
Product
Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. Otherwise, dispose of in accordance with all Federal, State, and Local environmental regulations. In Europe follow the Special Waste Regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

SECTION 14 - TRANSPORTATION
D.O.T. (USA) Not regulated

Solid metal
- Not hazardous for shipping
- Marine pollutant: No.

Powder form
DOT/IATA/IMDG only if it meets or exceeds the reportable quantity (RQ) in a single package.
Reportable Quantity (RQ) for Lead – 10 lbs
- If over RQ -

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Contains lead)
Identification Number: UN3077
Hazard Class(es): 9
Packing Group: III
Marine Pollutant? No
SECTION 15 - REGULATORY INFORMATION

SARA 302 Components  No Chemicals in this material are subject to the reporting requirement of SARA Title III, Section 302.

SARA 313 Components  Lead – CAS No. 7439-92-1
                      Silver – CAS No. 7440-22-4

EPA Genetic Toxicology Program  Lead – CAS No. 7439-92-1
California Prop. 65 Components  WARNING: This product contains chemical(s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm). [Lead]

SECTION 16 - OTHER INFORMATION

Further information:
Judgments as to the suitability of information herein or the purchaser's purposes are necessarily the purchaser's responsibility. The above information does not represent any guarantee of the properties of the product. It is believed to be correct, but does not purport to be all inclusive and should be used only as a guide. Reasonable care has been taken in the preparation of this material, and is based on the present state of our knowledge.

Superior Flux & Mfg. Co. shall not be held liable for any damage resulting from handling or from contact with the above product. There are NO WARRANTIES, NO REPRESENTATIONS AND NO RESPONSIBILITY AS TO THE ACCURACY OR THE SUITABILITY OF THIS INFORMATION FOR ANY PURCHASER’S USE OR FOR ANY CONSEQUENCE TO USE.

Preparation information
Superior Flux & Mfg. Co.
440-349-3000

Ref used: Indium Corporation of America SDS for Lead-bearing alloys