

**SAFETY DATA SHEET**

SDS Name: DuraKapp™ ASTM B23 Lead-based Babbitts

SDS Number: 508

GHS SDS Date: 01/01/2025

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**SECTION I: PRODUCT AND COMPANY INFORMATION**

Product Name: DuraKapp™ ASTM B23 Lead-based Babbitts

Composition:

Element	CAS Number	ECHA Number
Tin	7440-31-5	231-141-8
Lead	7439-92-1	231-100-4
Antimony	7440-36-0	231-146-5

Company Identification: Kapp Alloy and Wire, 1 Klein Street / PO Box 1188, Oil City, PA 16301

Contact: Telephone: 800-327-6533 OR 814-676-0613, Email: [info@kappalloy.com](mailto:info@kappalloy.com)**SECTION II: HAZARD INFORMATION****Classification of the mixture according to Regulation (EC) No. 1272/2008 and OSHA 29 CFR 1910**

Acute toxicity, oral and respiratory (Category 4)

Germ cell mutagenicity (Category 1B)

Carcinogenicity (Category 2)

Reproductive toxicity (Category 1B))

Specific target organ toxicity – repeated exposure (Category 2)

Acute aquatic toxicity (Category 2)

Chronic aquatic toxicity (Category 2)



GHS08 Health Hazard

H340 – May cause genetic defects.

H350 – May cause cancer.

H361 - May damage fertility or the unborn child.

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

H401 – Toxic to aquatic life.

H413 – May cause long lasting harmful effects to aquatic life.



GHS07

H302 + H332 - Harmful if swallowed or if inhaled.



GHS07



GHS08

Label Elements: Hazard Pictograms

Signal Word: **Danger**

Hazard-determining components of labeling: LEAD (Pb)

Hazard Statements:

H302 - Harmful if swallowed.

H332 – Harmful if inhaled.

H340 – May cause genetic defects.

H350 – May cause cancer.

H361 – May damage fertility or the unborn child.

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

H401 – Toxic to aquatic life.

H413 – May cause long lasting harmful effects to aquatic life.

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### Precautionary Statements:

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe dust/fumes.
- P261 - Avoid breathing dust/fumes/gas/mist/vapors/spray.
- P263 - Avoid contact during pregnancy/while nursing.
- P264 - Wash thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P273 - Avoid release to the environment
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312+P330 **IF SWALLOWED:** Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
- P305+P351+P338 – **IF IN EYES:** Flush with water for at least 15 minutes to remove irritant. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a physician.
- P304+P340+312 – **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+P352 **IF ON SKIN:** Wash thoroughly with soap and water to remove any residue. If a rash develops, call a physician.
- P308+313 - If exposed: Call a POISON CENTER or doctor/physician.
- P314 - Get medical advice/attention if you feel unwell.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with local/national/international regulations.

### PRIMARY ROUTES OF ENTRY

- Inhalation: fumes
- Ingestion: Solid metals – not edible; highly unlikely
- Skin Absorption: N/A

### POTENTIAL HEALTH EFFECTS

EYES: Moderately irritating to the eyes. Tearing and redness.

SKIN: May cause slight skin irritation.

### INHALATION and INGESTION:

#### ACUTE OVEREXPOSURE

- Flu-like symptoms (nausea, constipation, headache, dizziness) - self-limiting, usually disappear within 24 hours after removal from product exposure.
- Proposition 65 Warning: THIS PRODUCT CONTAINS LEAD, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. More information at [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### SEVERE SHORT-TERM OVEREXPOSURE

- May lead to central nervous system disorders, characterized by drowsiness, seizures, coma death. It should be recognized that exposure of this magnitude in an industrial environment is extremely unlikely.

#### CHRONIC OVEREXPOSURE (symptoms and effects)

- TIN: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure may result in "stannosis" a mild form of pneumoconiosis.
- LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic 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. Exposure to metal fumes may cause irritation to the respiratory system. Long term exposure by inhalation to metal fumes may cause illness such as metal fume fever. Exposure to lead fume may cause harm. Sign of overexposure is anemia.
- Systemic poisoning with symptoms of metallic taste, anemia, insomnia, weakness, constipation, abdominal pain, gastrointestinal disorders, joint and muscle pain and muscular weakness. May cause damage to the blood forming, nervous, kidneys and reproductive systems. Damage may include reduced fertility in both men and women, damage to the fetus of exposed pregnant women, anemia, muscular weakness and kidney dysfunction.

#### MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE TO LEAD:

- Diseases of the blood and blood forming organs, kidneys, nervous and reproductive systems.

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**SECTION III: COMPOSITION / INGREDIENTS**

\*(Hazardous components 1% or greater; Carcinogens 0.1% or greater)

Component	CAS Number	OSHA PEL	ACGIH TLV	Density	% (optional)
				lbs/in <sup>3</sup> & g/cm <sup>3</sup>	
Tin (Sn)	7440-31-5	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	.264 & 7.30	10
Antimony (Sb)	7440-36-0	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	.240 & 6.64	15
Lead (Pb)*	7439-92-1	.05 mg/m <sup>3</sup> (Dust&Fume)	.15 mg/m <sup>3</sup> (Dust&Fume)	.4049 & 11.332	75

\*The OSHA standard limit for occupational exposure to lead as referenced in CFR Title 29, Part 1910.1025 is 50 micrograms/cubic meter based on an eight hour time-weighted average. This standard states that, when the air of work-rooms contains regularly not more than 50 micrograms of inorganic lead and its inorganic compounds per cubic meter of air, as measured by prescribed methods, cases of lead intoxication will not occur. No other hazardous material is present in concentrations greater than 1% (0.1% for Carcinogens)

**SECTION IV: FIRST AID MEASURES**

Ingestion: Drink large quantities of water - induce vomiting.  
Call a physician at once; advise of chemical composition (section III).

Skin: Wash thoroughly with water to remove any residue. If a rash develops, call a physician.

Inhalation: Terminate exposure and remove to fresh air. Call physician; advise of chemical composition (section III).

Eyes: Flush with water for at least 15 minutes to remove irritant. Remove contact lenses, if easily done. Consult a physician.

**SECTION V: FIRE FIGHTING MEASURES**

Flash point & Methods Used: N/A  
 Auto Ignition Temperature: N/A  
 Flammability Limits: (in air, % by volume) LEL: N/A and UEL: N/A  
 Extinguisher Media: CO<sub>2</sub> or dry chemical extinguisher.

**DO NOT USE WATER ON MOLTEN METAL: LARGE FIRES MAY BE FLOODED WITH WATER FROM A SAFE DISTANCE**

Special Fire Fighting Procedures Use NIOSH/MSHA -approved self-contained breathing apparatus and full protective clothing if involved in fire.

Unusual Fire and Explosion Hazards Finely divided dust may form explosive mixture with air.

**NEVER DROP WATER OR LIQUIDS INTO MOLTEN SOLDER.  
 \*Do not plunge damp or wet solder bars/pieces into molten solder**

**SECTION VI: ACCIDENTAL RELEASE MEASURES**

Steps to be taken if material is spilled or released:  
 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, avoid generation of dust. Ventilation required. Use a vacuum, place in barrels and return to process if applicable. Otherwise, dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations. Metal has reclaim value.

**SECTION VII: HANDLING AND STORAGE**

Precautions to be taken in handling and storage:

- Dry storage; ambient temperature

Other Precaution / Special Handling:

- 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.**

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**SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Respiratory Protection:** An authority approved or compliant marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or if in powder form. Avoid inhalation of lead dust. Additional respiratory protection maybe required based on the work conditions.

**Eye Protection:** Approved safety glasses/welding goggles, appropriate to your procedure, should be worn.

**Ventilation:** Local Exhaust: YES; Mechanical: YES Special: Conform to your regulatory statutes.

**Engineering Controls:** Exhaust ventilation is required to control any air contaminants containing lead. Control concentration of all components so that their permissible exposure limits are not exceeded.

**Skin:** Gloves-leather or impervious (vinyl) type. Heat resistant gloves if handling hot metal. Safety type boots. Personal protective equipment is recommended when working with molten metal to avoid burns.

**Work/Hygienic Practices:** Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area. Follow standard lead work practices as established under governmental regulations.

**Other:** \*Conform to all local, state, federal regulations.

See also: 29 CFR 1910.132 - 29 CFR 1910.140. *Personal Protective Equipment*  
29 CFR 1910.251 - 29 CFR 1910.257. *Welding, Cutting and Brazing*

**SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES**

**Boiling Point:** >2200 °F/>1204 °C  
**Melting Point:** 464-514°F (240-268°C)  
**Vapor Pressure (mm Hg.):** **LEAD ONLY: Health Significance ONLY >500°C**  
**Vapor Density (AIR = 1):** N/A  
**Density:** .3695 lbs./cu.in. and/or 10.236 g/ml  
**Solubility in Water:** 0 (solid)  
**Evaporation Rate (Butyl Acetate = 1):** N/A  
**Appearance and Odor:** Lustrous, silver metal; odorless / various shapes and sizes.

**SECTION X: STABILITY AND REACTIVITY**

**Stability:** Stable  
**Conditions to avoid:** None  
**Incompatibility (materials to avoid):** Strong Acids, Strong Alkalis  
**Hazardous Decomposition Products:** None; Hazardous Polymerization will not occur

**SECTION XI: TOXICOLOGY INFORMATION**

**Tin (Sn):** Elemental Tin is NOT generally considered to be toxic.  
**Lead (Pb):** Chronic exposure to high levels of airborne or ingested lead may result in anemia, insomnia, weakness, constipation, nausea, and abdominal pain. See Section II for more toxicology info.  
**Antimony (Sb):** NAIF

IT IS UNLIKELY THAT NORMAL EXPOSURE (USING APPROPRIATE PROTECTIVE EQUIPMENT) WOULD RESULT IN ILLNESS.

\*0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4= Extreme

	Health	Flammability	Reactivity	Special
<b>NFPA Rating</b>	1	0	0	0
<b>HMIS Rating</b>	1	0	0	0

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**SECTION XII: ECOLOGY INFORMATION**

Lead – Toxicity to fish – mortality LOEC – rainbow trout – 1.19 mg/l – 96h. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Bioaccumulation – Oncorhynchus kisutch – 2 weeks Bioconcentration factor (BCF): 12. Fresh fish: 0.44 mg/l LC50 96h/ 1.32 mg/l LC50 96h/water Flea: 600 ug/l EC50 = 48h Avoid release to environment. Bioconcentration factor: BCF 12 Very toxic to aquatic life with long lasting effects. This product will not biodegrade. 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 extremely small quantities leak into the ground.

**Results of PBT and vPvB assessment:** PBT: Not applicable; vPvB: Not applicable.

**SECTION XIII: DISPOSAL CONSIDERATION**

Waste Disposal Method

- 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. Dispose of according to federal, state, local, international, and OSHA regulations. In Europe follow the Special Waste Regulations. Avoid release to the environment.

**SECTION XIV: TRANSPORT INFORMATION****Ground - DOT Proper Shipping Name: Solder**

Not regulated for transport by US DOT.

**Air - IATA Proper Shipping Name: Solder**

Not regulated for air transport by IATA.

**SECTION XV: REGULATORY INFORMATION**

- This product contains the following toxic chemicals subjected to the reporting requirements of EPCRA of 1986 and 40 CFR 372

CHEMICAL NAME	CAS NO.	EC/List Number	CONCENTRATION
Lead	7439-92-1	231-100-4	75%

UNITED STATES

HCS Classification: Toxic Material, Irritating material, carcinogen, target organ effects.

U.S. Federal Regulations: All ingredients comply with applicable rules or orders under US TSCA.

All components are listed or exempted.

TSCA 6 proposed risk management: LEAD.

TSCA 8(b) inventory: LEAD

TSCA 12(b) annual export notification: LEAD

SARA 313

Substance Name

Form R - Reporting Requirements:

Lead

Supplier Notification:

Lead

California Prop. 65: This product contains a substance known to the State of California to cause cancer and birth defects or other reproductive harm. More information at [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

WHMIS (Canada): Class D-2A: Material causing other toxic effects (very toxic). CEPA DSL: Tin, Lead.

Reach Directive 1907/2006: Contains Lead, a Substance of Very High Concern (SVHC).

**SECTION XVI: OTHER INFORMATION**

This information must be included in all SDS that are copied and distributed for this material.

**GOOD HOUSEKEEPING PROCEDURES SHOULD BE MAINTAINED.  
PERSONNEL SHOULD WASH THOROUGHLY BEFORE SMOKING OR EATING  
FOOD AND DRINK SHOULD NOT BE CONSUMED, TOBACCO PRODUCTS USED, OR COSMETICS  
APPLIED IN AREAS WHERE EXPOSURES EXIST.**

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Please retain this sheet for your files. Kapp Alloy maintains a file of Safety Data Sheets (SDS) for each alloy produced in compliance with Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) & various right-to-know laws.

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