

1. Identification

Product identifier **Worthington Universal Babbitt or Tin/Lead/Antimony Solder**

Other means of identification

SDS number WC030

Product code Varies

Recommended use Bearing repair and soldering.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Worthington Cylinder Corporation

Address 200 Old Wilson Bridge Road
Columbus, OH 43085
United States

Email: cylinders@worthingtonindustries.com

Telephone Number: 866-928-2657

CHEMTREC - 24 HOURS:

Within US and Canada 800-424-9300

Outside US and Canada +1 703-741-5970 (collect calls accepted)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

| | |
|---|--|
| Germ cell mutagenicity | Category 2 |
| Carcinogenicity | Category 2 |
| Reproductive toxicity | Category 1A |
| Specific target organ toxicity, repeated exposure | Category 1 (blood, kidney, nervous system) |

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs (blood, kidney, nervous system) through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

| Chemical name | CAS number | % |
|---------------|------------|--------|
| Lead | 7439-92-1 | 75-98 |
| Antimony | 7440-36-0 | 1 - 15 |
| Tin | 7440-31-5 | 1- 10 |

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

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| Inhalation | Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. |
| Skin contact | Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. If skin rash or an allergic skin reaction develops, get medical attention. |
| Eye contact | Rinse immediately with plenty of water for at least 15 minutes. Remove any contact lenses. Get medical attention if irritation develops or persists. |
| Ingestion | Immediately rinse mouth and drink a cupful of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Only induce vomiting at the instruction of medical personnel. Get medical attention immediately. |
| Most important symptoms/effects, acute and delayed | Dust and fumes may irritate eyes, skin and upper respiratory tract. Contact with molten material may cause thermal burns. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. Exposure may aggravate pre-existing lungs, diseases of the blood and blood forming organs, kidneys, nervous, and possibly reproductive systems. Symptoms may be delayed. |
| General information | Show this safety data sheet to the doctor in attendance. |

5. Fire-fighting measures

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| Suitable extinguishing media | Extinguish with foam, carbon dioxide or dry powder. |
| Unsuitable extinguishing media | Do not use water or halogenated extinguishing media. |
| Specific hazards arising from the chemical | Fire or high temperatures create: Metal oxides. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do it without risk. |
| General fire hazards | Solid metal is not flammable; however, finely divided metallic dust or powder may form an explosive mixture with air. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Avoid inhalation of dust from the spilled material. Wear protective clothing as described in Section 8 of this SDS. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. |
| Methods and materials for containment and cleaning up | For a dry material spill, use a HEPA (high efficiency particle air) vacuum to collect material and place in a sealable container for disposal. Avoid dust formation. Recover and recycle, if practical. Keep out of water supplies and sewers. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Do not contaminate water. If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). |

7. Handling and storage

Precautions for safe handling

Wear appropriate personal protective equipment (See Section 8). Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Avoid inhalation of dust and fumes. Avoid contact with skin and eyes. Do not get this material on clothing. Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Avoid release to the environment. Follow special national provisions related to work with lead and its compounds. Pregnant women should not work with the product, if there is the least risk of lead exposure.

Any surface that comes in contact with molten metal must be preheated or specially coated and rust free. Inadvertent contaminants to product such as moisture, ice, snow, grease, or oil can cause an explosion when charged to a molten metal bath or metal furnace (preheating metal will remove moisture from product).

Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Store in a closed container away from incompatible materials. Keep out of reach of children. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

| Components | Type | Value |
|----------------------|------|------------------------|
| Lead (CAS 7439-92-1) | TWA | 0.05 mg/m ³ |

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|--------------------------|------|-----------------------|
| Antimony (CAS 7440-36-0) | PEL | 0.5 mg/m ³ |
| Tin (CAS 7440-31-5) | PEL | 2 mg/m ³ |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|--------------------------|------|------------------------|
| Antimony (CAS 7440-36-0) | TWA | 0.5 mg/m ³ |
| Lead (CAS 7439-92-1) | TWA | 0.05 mg/m ³ |
| Tin (CAS 7440-31-5) | TWA | 2 mg/m ³ |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|--------------------------|------|------------------------|
| Antimony (CAS 7440-36-0) | TWA | 0.5 mg/m ³ |
| Lead (CAS 7439-92-1) | TWA | 0.05 mg/m ³ |
| Tin (CAS 7440-31-5) | TWA | 2 mg/m ³ |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Determinant | Specimen | Sampling Time |
|----------------------|----------|-------------|----------|---------------|
| Lead (CAS 7439-92-1) | 300 µg/l | Lead | Blood | * |

* - For sampling details, please see the source document.

Exposure guidelines

No exposure standards allocated.

Appropriate engineering controls

Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust. Keep melting/soldering temperatures as low as possible to minimize the generation of fume. Shower, hand and eye washing facilities near the workplace are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Wear a face shield when working with molten material.

Skin protection

Hand protection

Wear protective gloves (i.e. latex, nitrile, neoprene).

Other

Chemical resistant clothing is recommended. Heat resistant/insulated gloves and clothing are recommended when working with molten material.

Respiratory protection Use a respirator when local exhaust or ventilation is not adequate to keep exposures below the OEL. In a confined space a supplied respirator may be required. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards Heat resistant/insulated gloves and clothing are recommended when working with molten material.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance Silver to silver-gray metallic metal.

Physical state Solid.

Form Wire, bar, ingot, pig, sheet, cake, rod, anodes, cast or extruded and ribbon.

Color Silver to gray.

Odor Odorless.

Odor threshold Not available.

pH Not applicable.

Melting point/freezing point 1166 °F (630 °C) (Antimony) / 622.4 °F (328 °C) (Lead)

Initial boiling point and boiling range Not available

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) Non flammable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Vapor pressure Not applicable.

Vapor density Not applicable.

Relative density 10.04 - 11.25

Solubility(ies)

Solubility (water) Not soluble in water.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not applicable.

Decomposition temperature Not available.

Viscosity Not applicable.

10. Stability and reactivity

Reactivity The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Contact with incompatible materials. Avoid molten metal contact with water.

Incompatible materials Strong acids. Bases. Strong oxidizing agents. Reducing agents. Hydrogen peroxide (H2O2). Active metals. Halogens. Nascent hydrogen.

Hazardous decomposition products Toxic metal oxides are emitted when heated above the melting point. Lead oxide fumes may be formed at elevated temperatures.

11. Toxicological information

Information on likely routes of exposure

Inhalation Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the mucous membranes and respiratory tract.

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| Skin contact | Dust may irritate skin. |
| Eye contact | Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the eye. |
| Ingestion | May cause discomfort if swallowed. |
| Symptoms related to the physical, chemical and toxicological characteristics | Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the eye, mucous membranes and respiratory tract. Contact with molten material may cause thermal burns. |
| Information on toxicological effects | |
| Acute toxicity | High concentrations of freshly formed fumes/dusts of metal oxides can produce symptoms of metal fume fever. When heated, the vapors/fumes given off may cause respiratory tract irritation. Overexposure to Lead may lead to central nervous system disorders, characterized by drowsiness, seizures, coma and death. It should be recognized that exposures of this magnitude in an industrial setting are extremely unlikely. Exposure to antimony and its compounds can cause gastrointestinal pain, cough, loss of appetite, itching, skin eruptions, and irritation of skin, eyes, nose and throat. Overexposure of Tin can cause irritation of the eyes, skin, mucous membranes, and respiratory system. |
| Skin corrosion/irritation | Dust may irritate skin. |
| Serious eye damage/eye irritation | Elevated temperatures or mechanical action may form dust and fumes which may be irritating to the eye. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | No sensitizing effects known. |
| Skin sensitization | No sensitizing effects known. |
| Germ cell mutagenicity | Suspected of causing genetic defects. |
| Carcinogenicity | Suspected of causing cancer. |
| IARC Monographs. Overall Evaluation of Carcinogenicity | |
| Lead (CAS 7439-92-1) | 2B Possibly carcinogenic to humans. |
| NTP Report on Carcinogens | |
| Lead (CAS 7439-92-1) | Reasonably Anticipated to be a Human Carcinogen. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| Not listed. | |
| Reproductive toxicity | May damage fertility or the unborn child. Lead is a teratogen. Elevated lead exposure of either parent before pregnancy may increase the chances of miscarriage or birth defects. Continuous exposure may result in decreased fertility. Exposure of the mother during pregnancy may cause birth defects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Causes damage to organs (blood, kidney, nervous system) through prolonged or repeated exposure. |
| Aspiration hazard | Not relevant, due to the form of the product. |
| Chronic effects | Prolonged and repeated overexposure to dust and fumes can lead to benign pneumoconiosis (stannosis). Overexposure to Lead can lead to systemic lead poisoning with symptoms of metallic taste, anemia, insomnia, weakness, constipation, abdominal pain, gastrointestinal disorders, joint and muscle pains, and muscular weakness, and 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 the exposed pregnant woman, anemia, muscular weakness and kidney dysfunction. Overexposure to Tin can result in benign pneumoconiosis (stannous). This form of pneumoconiosis produces progressive x-ray changes of the lungs as long as exposure exists, but there is no distinctive fibrosis, no evidence of disability and no special complicating factors. |
| Further information | Lead is accumulated in the body and may cause damage to the brain and nervous system after prolonged exposure. |
| 12. Ecological information | |
| Ecotoxicity | Alloys in massive forms present a limited hazard for the environment. |
| Persistence and degradability | The product is not biodegradable. |
| Bioaccumulative potential | No data available. |
| Mobility in soil | Alloys in massive forms are not mobile in the environment. |
| Other adverse effects | None expected. |

13. Disposal considerations

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| Disposal instructions | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | Product contains lead a hazardous waste constituent regulated under 40 CFR 261.24. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Scrapped material should be sent for refining to recover precious metal content. Solid metal and alloys in the form of particles may be reactive. Its hazardous characteristics, including fire and explosion, should be determined prior to disposal. |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

14. Transport information

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|---|-----------------------------------|
| DOT | Not regulated as dangerous goods. |
| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

15. Regulatory information

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|-------------------------------|---|
| US federal regulations | This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. US Clean Water Act Notice: The use of this solder in making joints or fittings in any private or public drinking water supply system is prohibited by the Clean Water Act. |
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

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|----------------------|--|
| Lead (CAS 7439-92-1) | Reproductive toxicity Central nervous system Kidney Blood Acute toxicity |
|----------------------|--|

CERCLA Hazardous Substance List (40 CFR 302.4)

| | |
|--------------------------|--------|
| Antimony (CAS 7440-36-0) | LISTED |
| Lead (CAS 7439-92-1) | LISTED |

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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|--------------------------|---|
| Hazard categories | Immediate Hazard - No Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No |
|--------------------------|---|

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|----------------------|-------------------|-----------------|
| Lead | 7439-92-1 | 75-98 |
| Antimony | 7440-36-0 | 1 - 15 |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Antimony (CAS 7440-36-0)
Lead (CAS 7439-92-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Antimony (CAS 7440-36-0)
Lead (CAS 7439-92-1)
Tin (CAS 7440-31-5)

US. New Jersey Worker and Community Right-to-Know Act

Antimony (CAS 7440-36-0)
Lead (CAS 7439-92-1)
Tin (CAS 7440-31-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Antimony (CAS 7440-36-0)
Lead (CAS 7439-92-1)
Tin (CAS 7440-31-5)

US. Rhode Island RTK

Antimony (CAS 7440-36-0)
Lead (CAS 7439-92-1)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Lead (CAS 7439-92-1)

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 30-June-2015

Revision date -

Version # 01

Further information See U.S. OSHA Lead Standard, 29 CFR 1910.1025 for specific guidance, medical evaluation requirements and other information related to the handling of this product.

HMIS® is a registered trade and service mark of the NPCA.
A HMIS® Health rating including an * indicates a chronic hazard.

HMIS® ratings Health: 1*
Flammability: 0
Physical hazard: 0

NFPA ratings



References

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

All information in this Material Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.