JOHNSON MANUFACTURING COMPANY
Safety Data Sheet
To comply with 29CFR 1910.1200
OSHA's Hazard Communication Standard

Tin/Lead/Palladium Alloys

1. PRODUCT AND COMPANY INFORMATION

Johnson Manufacturing Company
114 Lost Grove Road
Princeton IA  52768
Emergency Telephone 1-(563)-289-5123
CHEMTREC AFTER HOURS 1-(800)-424-9300
Revised 1/1/2018 by JMC Product Safety

2. HAZARD IDENTIFICATION

GHS Classification:
Acute Tox. 4 *
Aquatic Acute 1
Chronic tox 2
Repro tox 2
Carcino 2
Skin irr 2
Eye irr 2A

GHS Label Elements:

LEAD & PALLADIUM
WARNING

H Codes: H302, H332, H351, H361, H373, H410, H315, H319
Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life with long lasting effects

P Codes:
Do not handle until all safety precautions have been read & understood. Avoid breathing dust/mist/vapors/fumes/spray. Do not get in eyes, on skin, or on clothing. Use in a well ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation use respiratory protection. Do not breathe dust/fume/gas/mist/vapor/spray. Do not eat, drink or smoke when using this product. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER/Doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with soap & water. Get medical advice/attention if skin irritation or rash occurs or if you feel unwell. IF INHALED: Remove victim to to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call POISON CENTER/Doctor. Wash thoroughly after use. Wash contaminated clothing before reuse. Store in a closed compatible container in cool dry place. Avoid release to the environment. Dispose of contents/container in accordance with specified local/regional/national/international regulations for disposal. Keep out of the reach of children. Read label and SDS prior to use.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component</th>
<th>CAS #</th>
<th>OSHA TWA</th>
<th>ACIGH TWA</th>
<th>Other limits</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin</td>
<td>7440-31-5</td>
<td>2mg/M3</td>
<td>2mg/M3</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>+ Lead</td>
<td>7439-92-1</td>
<td>0.05mg/M3</td>
<td>0.05mg/M3</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Palladium</td>
<td>7440-05-3</td>
<td>NE</td>
<td>NE</td>
<td>% as specified</td>
<td></td>
</tr>
</tbody>
</table>

Only those ingredients listed in this section have been determined to be hazardous as defined in 29CFR 1910.1200. An ingredient marked with an asterisk(*) is also listed in 29CFR 1910.1200(D) #4 as a known or suspected cancer hazard.

+ denotes a chemical regulated as toxic by the Environmental Protection Agency (EPA) as outlined in 40CFR Part 372 (section 313)
4. FIRST AID MEASURES

Signs and symptoms of exposure: Inhalation - Nose & throat irritation, headache, dizziness, difficulty breathing, coughing. Ingestion - nausea, vomiting, cramps. Skin - redness, burning, rash, dryness. Eye - redness, burning, tearing, blurred vision.

Medical conditions aggravated by exposure: Skin, kidney and respiratory conditions.

Emergency first aid procedures:
- Skin: Flush with water immediately - seek medical attention if necessary
- Eyes: Flush with water for 15 minutes - seek medical attention
- Ingestion: DO NOT induce vomiting, drink large amounts of water - seek medical attention. Never give anything by mouth to an unconscious person
- Inhalation: Remove to fresh air. Support respiration if required - seek medical attention

5. FIREFIGHTING MEASURES

Extinguishing media: dry chemical.

Special fire fighting procedures: use self sustaining respiratory suit.

Unusual Fire and Explosion Hazards: May release Toxic metal & oxide fumes. High concentrations of dust may present explosion hazard. Water trapped below molten may explode thus spattering molten metal.

6. ACCIDENTAL RELEASE MEASURES

Methods and materials: Flush into chemical sewer or sweep up with a suitable absorbent. Wear adequate protection as described in section 8.

Environmental Precautions: Avoid release to the environment. Collect spillage.

7. HANDLING & STORAGE

Wash thoroughly after use. Wash contaminated clothing before reuse. Store in a closed corrosive resistant container, with corrosive resistant liner, in cool dry place. Keep out of the reach of children. Read label and SDS prior to use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limit Values: See section 3.

Respiratory Protection (type): HEPA mask required for fumes above TWA.

Ventilation: Local Exhaust preferred  Special: NE

Mechanical: OK  Other: NE

Protective Gloves: plastic or rubber  Eye Protection: Goggles or face shield

Other Protective Clothing or Equipment: as required to avoid contact.


9. PHYSICAL AND CHEMICAL PROPERTIES

- Boiling Point: 3164 F
- Specific Gravity: 7.8
- Vapor Pressure (mm Hg): NE
- Melting Point: NE
- Vapor Density: NE
- Evaporation Rate: <1 (butyl acetate=1)
- Solubility in water: negligible
- pH: NE
- Flash Point: NE (TOC)
- Flammable Limits: ile: NE  uel: NE
- Appearance and odor: Silver/Grey solid, odorless.

10. STABILITY AND REACTIVITY

Stability: STABLE  Conditions to avoid: none

Incompatibility (materials to avoid): strong bases & acids, oxidizers, sulfides, halogens.

Hazardous Decomposition or Byproducts (incomplete combustion): May release Toxic metal & oxide fumes. High concentrations of dust may present explosion hazard. Water trapped below molten may explode thus spattering molten metal.

Hazardous Polymerization: WILL NOT OCCUR  Conditions to avoid: none

11. TOXICOLOGICAL INFORMATION

Routes of entry: Inhalation: yes  Skin: no  Ingestion: yes
Health Hazards (acute and chronic): Contact with dust and fumes may cause skin, eye and respiratory irritation. Ingestion and/or inhalation of material or fumes may result in flu like symptoms, insomnia, muscle weakness, nausea and abdominal pain. Gross inhalation or ingestion may be toxic and can result in death. Symptoms of toxicity may take hours or days to manifest. Chronic exposures, inhalation and ingestion, may result in kidney, red blood cell, reproductive and nervous system effects. Health effects may be cumulative over many exposures. Studies show that health risks vary by individual. Minimize exposure as a precaution. See OSHA 29CFR 1910.1025(subpart Z) for more information.

Carcinogenicity: not determined  NPT? no IARC Monographs? Lead-suspect

12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>NE</th>
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<tbody>
<tr>
<td>Bio-accumulative Potential</td>
<td>NE</td>
</tr>
<tr>
<td>PBT &amp; vPvB Assessment</td>
<td>NE</td>
</tr>
<tr>
<td>Persistence &amp; Degradability</td>
<td>NE</td>
</tr>
<tr>
<td>Mobility in Soil</td>
<td>NE</td>
</tr>
<tr>
<td>Other Adverse Effects</td>
<td>NE</td>
</tr>
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13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: dispose of in accordance with all local state and federal regulations
Other Precautions: Avoid skin & eye contact, inhalation & ingestion of fumes and material. Wash contaminated clothing before reuse. Keep away from children.

14. TRANSPORT INFORMATION

DOT Classification: Non-Hazardous
Marine Pollutant: NE

15. REGULATORY INFORMATION

NFPA Classification (NFPA 325M,8th edition)(Health, Flammability, Reactivity): 2-0-0
This product can expose you to chemicals including lead, which is known to the state of California to cause cancer and/or birth defects or reproductive harm. For more information go to www.P65Warnings.ca.gov

16. OTHER INFORMATION

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to JOHNSON MANUFACTURING at the time of issue. No warranty, guarantee, or representation is made by JOHNSON MANUFACTURING nor does JOHNSON MANUFACTURING assume any responsibility in connection there within; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances.