Section 1: Identification

Product identifier
Product Name • 2605 SA1, 2605 HB1M and 2605 SC
Synonyms • Amorphous Metal Ribbon

Relevant identified uses of the substance or mixture and uses advised against
Recommended use • Ferromagnetic electrical or electronic control material

Details of the supplier of the safety data sheet
Manufacturer • Metglas Inc.
440 Allied Drive
Conway, SC 29526
United States
www.metglas.com

Emergency telephone number
Manufacturer • 800-581-7654

Section 2: Hazard Identification

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture
OSHA HCS 2012 • Not classified

Label elements
OSHA HCS 2012
Hazard • No label element(s) required statements

Other hazards
OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200(c) - Hazard Communication Standard), the product(s) listed above are exempt as article(s) under stated normal conditions of use.

Other information
• As an article this material does not legally require an SDS.

Section 3 - Composition/Information on Ingredients

Substances

• Material does not meet the criteria of a substance.

Mixtures
## Composition

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>CAS:7439-89-6</td>
<td>84% TO 100%</td>
</tr>
<tr>
<td>Silicon</td>
<td>CAS:7440-21-3</td>
<td>0% TO 10%</td>
</tr>
<tr>
<td>Boron</td>
<td>CAS:7440-42-8</td>
<td>0% TO 5%</td>
</tr>
<tr>
<td>Manganese</td>
<td>CAS:7439-96-5</td>
<td>0% TO 2%</td>
</tr>
<tr>
<td>Carbon</td>
<td>CAS:7440-44-0</td>
<td>0% TO 1%</td>
</tr>
</tbody>
</table>

### Section 4: First-Aid Measures

#### Description of first aid measures

**Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

**Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes.

**Eye**
- If contact with material occurs flush eyes with water.

**Ingestion**
- Not a normal route of entry.

#### Most important symptoms and effects, both acute and delayed
- Under normal conditions of use, no health effects are expected.

#### Indication of any immediate medical attention and special treatment needed
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### Section 5: Fire-Fighting Measures

#### Extinguishing media

**Suitable Extinguishing Media**
- In case of fire use media as appropriate for surrounding fire.

**Unsuitable Extinguishing Media**
- No data available

#### Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards**
- Product may burn if involved in a structural fire.

**Hazardous Combustion Products**
- Toxic and irritating vapors may be released if the product melts or burns in a fire.

#### Advice for firefighters
- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

### Section 6 - Accidental Release Measures

#### Personal precautions, protective equipment and emergency procedures

**Personal Precautions**
- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended. Use caution in handling as edges are very sharp.

**Emergency Procedures**
- No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended. Use normal clean up procedures.

#### Environmental precautions
- Avoid run off to waterways and sewers.

#### Methods and material for containment and cleaning up

**Containment/Clean-up**
- Pick up and place into proper storage.
**Measures**

**Section 7 - Handling and Storage**

**Precautions for safe handling**

**Handling** • Use good safety and industrial hygiene practices. Cut hazard. Ribbon must be handled with care and use cut resistant gloves.

**Conditions for safe storage, including any incompatibilities**

**Storage** • Store material in a dry place.

**Section 8 - Exposure Controls/Personal Protection**

**Control parameters**

<table>
<thead>
<tr>
<th>Exposure Limits/Guidelines</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceilings</td>
<td>Not established</td>
<td>Not established</td>
<td>5 mg/m3 Ceiling (fume)</td>
</tr>
<tr>
<td>TWA</td>
<td>0.02 mg/m3 TWA (respirable fraction); 0.1 mg/m3 TWA (inhaled fraction)</td>
<td>1 mg/m3 TWA (fume)</td>
<td>Not established</td>
</tr>
<tr>
<td>STELs</td>
<td>Not established</td>
<td>3 mg/m3 STEL</td>
<td>Not established</td>
</tr>
<tr>
<td>Silicon (7440-21-3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>Not established</td>
<td>10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)</td>
<td>15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)</td>
</tr>
</tbody>
</table>

**Exposure controls**

**Engineering**

• Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

**Personal Protective Equipment**

**Respiratory**

• In case of insufficient ventilation, wear suitable respiratory equipment.

**Eye/Face**

• Wear safety glasses when grinding, sanding, cutting and/or welding product.

**Skin/Body**

• Wear cut-resistant gloves.

**Environmental Exposure Controls**

• Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

**Key to abbreviations**

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

**Section 9 - Physical and Chemical Properties**

**Information on Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Physical Form</th>
<th>Appearance/Description</th>
<th>Shiny gray metallic metal foil with no odor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Solid</td>
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<td></td>
</tr>
<tr>
<td>Color</td>
<td>Shiny gray.</td>
<td>Odor</td>
<td>No odor.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>1180 °C(2156 °F)</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
<td>7 to 7.5 Water=1</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Vapor Pressure**

No data available
Section 10: Stability and Reactivity

Reactivity
• No dangerous reaction known under conditions of normal use.

Chemical stability
• Stable under normal temperatures and pressures.

Possibility of hazardous reactions
• Hazardous polymerization will not occur.

Conditions to avoid
• No data available

Incompatible materials
• Product can be attacked by moisture and corrosive materials.

Hazardous decomposition products
• Toxic vapors and metallic fumes may be released if melted in a fire.

Section 11 - Toxicological Information

Information on toxicological effects

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>OSHA HCS 2012* Not relevant</td>
</tr>
</tbody>
</table>

Potential Health Effects

Inhalation
Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Skin
Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Eye
Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Ingestion
Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Section 12 - Ecological Information

Toxicity
• Non-mandatory section - information not compiled for this reason.

Persistence and degradability
• Non-mandatory section - information not compiled for this reason.

Bioaccumulative potential
• Non-mandatory section - information not compiled for this reason.

Mobility in Soil
• Non-mandatory section - information not compiled for this reason.

Other adverse effects
• Non-mandatory section - information not compiled for this reason.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN proper shipping name</th>
<th>Transport hazard class(es)</th>
<th>Packing group</th>
<th>Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
</tbody>
</table>

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
<td>Yes</td>
</tr>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>Yes</td>
</tr>
</tbody>
</table>
United States

Labor
U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - OSHA - Specifically Regulated Chemicals
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

Environment
U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 1.0% de minimis concentration
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing
• Carbon
  7440-44-0 Not Listed
• Manganese
  7439-96-5 Not Listed
• Silicon
  7440-21-3 Not Listed
• Iron
  7439-89-6 Not Listed
• Boron
  7440-42-8 Not Listed
United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

<table>
<thead>
<tr>
<th>Element</th>
<th>CAS Number</th>
<th>Listed Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
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</table>

U.S. - California - Proposition 65 - Developmental Toxicity

<table>
<thead>
<tr>
<th>Element</th>
<th>CAS Number</th>
<th>Listed Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
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</tr>
</tbody>
</table>

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

<table>
<thead>
<tr>
<th>Element</th>
<th>CAS Number</th>
<th>Listed Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

<table>
<thead>
<tr>
<th>Element</th>
<th>CAS Number</th>
<th>Listed Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

<table>
<thead>
<tr>
<th>Element</th>
<th>CAS Number</th>
<th>Listed Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

<table>
<thead>
<tr>
<th>Element</th>
<th>CAS Number</th>
<th>Listed Status</th>
</tr>
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<td>Not Listed</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Boron</td>
<td>7440-42-8</td>
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</tr>
</tbody>
</table>

Section 16 - Other Information

**Revision Date**  • 28/September/2016

**Last Revision Date**  • 28/September/2016

**Preparation Date**  • 28/September/2016

**Disclaimer/Statement of Liability**  • All information appearing herein concerning Metglas products are based on data believed to be accurate and reliable. The information is provided as guidance for safe transportation, handling, use, processing, storage, disposal and release. It is not considered a warranty or quality specification. Since the actual use is determined by the user, it is the user’s responsibility to determine the suitability of the product for its use and to adopt appropriate safety precautions as necessary.

**Key to abbreviations**

NDA = No Data Available