MATERIAL SAFETY DATA SHEET

RPD INFORMATION

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          Albertville, MN 55301
Website  www.rpdinc.com
Email    sales@rpdinc.com
Phone    763-497-2071 or 800-497-2071
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RPD PRODUCT INFORMATION

RPD is an authorized distributor

Item Number  Description
879-202      203°F High Melting Alloy
MATERIAL SAFETY DATA SHEET
METSPEC 203 BISMUTH, LEAD, TIN ALLOY

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME METSPEC 203 BISMUTH, LEAD, TIN ALLOY
PRODUCT USE Base metals and alloys, industrial uses: Use of substances as such or in preparations at industrial sites
SUPPLIER 5N Plus Fairfield Inc
515 Commerce Drive
Fairfield,
Connecticut 06825
United States
+1 203-384-0331
+1 203-368-4082
msds@5nplus.com
EMERGENCY TELEPHONE USA: +1 203-384-0331 (FAIRFIELD)
Canada: CANUTEC: +1 613 996 6666 (collect calls accepted)

2 HAZARDS IDENTIFICATION


HUMAN HEALTH
Contains lead which can accumulate in the body. Lead is absorbed into the body through inhalation of spray mist or by ingestion.

POTENTIAL HEALTH EFFECTS

GENERAL INFORMATION
Knowledge about health hazard is incomplete.

INHALATION
NOTE! Effects may be delayed. Keep affected person under observation. Vapors may cause headache, fatigue, dizziness and nausea. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

INGESTION
May cause discomfort if swallowed. May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness.

SKIN CONTACT
Powder may irritate skin. Prolonged and frequent contact may cause redness and irritation.

EYE CONTACT
Particles in the eyes may cause irritation and smarting. Repeated exposure may cause chronic eye irritation.

HEALTH WARNINGS
Warning. Contains lead. Lead is accumulated in the body and may cause damage to the brain and nervous system after prolonged exposure. Lead is absorbed into the body through inhalation of spray mist or by ingestion.

ROUTE OF ENTRY
Ingestion. Skin and/or eye contact. Inhalation.

SPECIFIC EFFECTS
Contains lead. Danger of cumulative effects (may cause damage to blood, kidneys and the nervous system).

3 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>EC No.</th>
<th>CAS-No.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISMUTH</td>
<td>231-177-4</td>
<td>7440-69-9</td>
<td>52.5%</td>
</tr>
<tr>
<td>LEAD</td>
<td>231-100-4</td>
<td>7439-92-1</td>
<td>32%</td>
</tr>
<tr>
<td>TIN</td>
<td>231-141-8</td>
<td>7440-31-5</td>
<td>15.5%</td>
</tr>
</tbody>
</table>

COMPOSITION COMMENTS
Not regarded as a health or environmental hazard in the supplied form. Please ensure that a risk assessment is carried out for your own use if processed or worked.

4 FIRST-AID MEASURES

GENERAL INFORMATION
CAUTION! First aid personnel must be aware of own risk during rescue!
NOTES TO THE PHYSICIAN
No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

INHALATION
Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

INGESTION
NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

SKIN CONTACT
Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

EYE CONTACT
Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA
This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

SPECIAL FIRE FIGHTING PROCEDURES
Avoid breathing fire vapors. Fight advanced or massive fires from safe distance or protected location.

UNUSUAL FIRE & EXPLOSION HAZARDS
High concentrations of dust may form explosive mixture with air.

SPECIFIC HAZARDS
When heated and in case of fire, toxic vapors/gases may be formed.

PROTECTIVE MEASURES IN FIRE
Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Warn everybody of potential hazards and evacuate if necessary. Avoid inhalation of dust and vapors. Avoid contact with skin and eyes. Wear protective clothing as described in Section 8 of this material safety data sheet.

ENVIRONMENTAL PRECAUTIONS
Avoid discharge into drains, water courses or onto the ground. Avoid spreading dust or contaminated materials.

SPILL CLEAN UP METHODS
Avoid generation and spreading of dust. Should be prevented from entering drains. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. For waste disposal, see section 13.

7 HANDLING AND STORAGE

HANDLING
Pregnant women should not work with the product, if there is the least risk of lead exposure. Avoid handling which leads to dust formation. Avoid inhalation of dust and contact with skin and eyes. Avoid excessive heat for prolonged periods of time. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Change work clothing daily before leaving work place. Wash contaminated clothing before reuse.

STORAGE
Store in a cool and well-ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>STD</th>
<th>TWA (8-hrs)</th>
<th>STEL (15 min)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAD</td>
<td>ACGIH</td>
<td>0,05 mg/m3</td>
<td></td>
<td>A3, as Pb</td>
</tr>
<tr>
<td>TIN</td>
<td>ACGIH</td>
<td>2 mg/m3</td>
<td></td>
<td>as Sn</td>
</tr>
</tbody>
</table>

ACGIH=American Conference of Governmental Industrial Hygienists.
A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans.

PROCESS CONDITIONS
Provide eyewash station.

PROTECTIVE EQUIPMENT
ENGINEERING MEASURES
Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust.

RESPIRATORY EQUIPMENT
If ventilation is insufficient, suitable respiratory protection must be provided.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION
Use approved safety goggles or face shield.

HYGIENE MEASURES
DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke. Change work clothing daily if there is any possibility of contamination. Wash contaminated clothing before reuse.

SKIN PROTECTION
Wear suitable protective clothing as protection against splashing or contamination.

ENVIRONMENTAL EXPOSURE CONTROLS
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE</td>
<td>Metal or metallic Solid</td>
</tr>
<tr>
<td>COLOR</td>
<td>Silver - White</td>
</tr>
<tr>
<td>ODOR</td>
<td>Odorless</td>
</tr>
<tr>
<td>SOLUBILITY</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>MELTING POINT (°C)</td>
<td>203°F</td>
</tr>
<tr>
<td>RELATIVE DENSITY</td>
<td>9.0</td>
</tr>
</tbody>
</table>

10 STABILITY AND REACTIVITY

STABILITY
Stable under normal temperature conditions.

CONDITIONS TO AVOID
Avoid excessive heat for prolonged periods of time.

HAZARDOUS POLYMERISATION
Not relevant

MATERIALS TO AVOID
Strong acids. Strong oxidizing substances.

HAZARDOUS DECOMPOSITION PRODUCTS
When heated, vapors/gases hazardous to health may be formed.

11 TOXICOLOGICAL INFORMATION

GENERAL INFORMATION
Knowledge about health hazard is incomplete.

INHALATION
NOTE! Effects may be delayed. Keep affected person under observation. Vapors may cause headache, fatigue, dizziness and nausea. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

INGESTION
May cause discomfort if swallowed. May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness.

SKIN CONTACT
Powder may irritate skin. Prolonged and frequent contact may cause redness and irritation.

EYE CONTACT
Particles in the eyes may cause irritation and smarting. Repeated exposure may cause chronic eye irritation.
HEALTH WARNINGS
Warning. Contains lead. Lead is accumulated in the body and may cause damage to the brain and nervous system after prolonged exposure. Lead is absorbed into the body through inhalation of spray mist or by ingestion.

ROUTE OF ENTRY
Ingestion. Skin and/or eye contact. Inhalation.

SPECIFIC EFFECTS
Contains lead. Danger of cumulative effects (may cause damage to blood, kidneys and the nervous system).

<table>
<thead>
<tr>
<th>TOXIC DOSE 1 - LD 50</th>
<th>2000 mg/kg (oral rat)</th>
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<tbody>
<tr>
<td>GENERAL INFORMATION</td>
<td>Knowledge about health hazard is incomplete.</td>
</tr>
<tr>
<td>INHALATION</td>
<td>Dust in high concentrations may irritate the respiratory system.</td>
</tr>
<tr>
<td>INGESTION</td>
<td>May cause discomfort if swallowed.</td>
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<tr>
<td>SKIN CONTACT</td>
<td>Powder may irritate skin.</td>
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<tr>
<td>EYE CONTACT</td>
<td>Particles in the eyes may cause irritation and smarting.</td>
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<td>ROUTE OF ENTRY</td>
<td>Ingestion. Skin and/or eye contact. Inhalation.</td>
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<tr>
<td>TARGET ORGANS</td>
<td>No specific target organs noted</td>
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BISMUTH (CAS: 7440-69-9)

TIN (CAS: 7440-31-5)

ECOTOXICITY
Not regarded as dangerous for the environment.

<table>
<thead>
<tr>
<th>LC 50, 96 hrs, Fish mg/l</th>
<th>&gt;100</th>
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<tbody>
<tr>
<td>EC 50, 48 hrs, Daphnia, mg/l</td>
<td>&gt;100</td>
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MOBILITY
The product is insoluble in water.

BIOACCUMULATION
Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

DEGRADABILITY
The product solely consists of inorganic compounds which are not biodegradable.

WASTE MANAGEMENT
When handling waste, consideration should be made to the safety precautions applying to handling of the product.

DISPOSAL METHODS
Recover and reclaim or recycle, if practical. Dispose of waste and residues in accordance with local authority requirements.
TRANSPORT NOTES
The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, DOT).
No transport warning sign required.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE/MARINE POLLUTANT
No.

15 REGULATORY INFORMATION

INVENTORIES

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAN</th>
<th>US</th>
<th>EU</th>
<th>AUS</th>
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US FEDERAL REGULATIONS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>SARA 302-TPQ</th>
<th>CERCLA-RQ</th>
<th>SARA 313</th>
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<tbody>
<tr>
<td>BISMUTH</td>
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<tr>
<td>LEAD</td>
<td>No RQ assigned</td>
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<tr>
<td>TIN</td>
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</table>

CLEAN AIR ACT

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<tr>
<th>COMPONENT</th>
<th>CAA Accidental Release Prevention</th>
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<td>BISMUTH</td>
<td>Not Listed</td>
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<tr>
<td>LEAD</td>
<td>Not Listed</td>
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<td>TIN</td>
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US STATE REGULATIONS

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<th>COMPONENT</th>
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<td>Yes.</td>
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16 OTHER INFORMATION

INFORMATION SOURCES

DISCLAIMER
This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.