Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY IDENTIFICATION

bioMérieux, Inc.
595 Anglum Road
Hazelwood, MO 63042
For Information call: 1-800-638-4835

Product Number: 70380
Product Name: ZN (ZINC DUST)
Synonyms: None

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percentage</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-66-6</td>
<td>Zinc Dust or Powder</td>
<td>100%</td>
<td>15 mg/m3 PEL-TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 mg/m3 TLV-TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(as total dust)</td>
</tr>
</tbody>
</table>

PEL=OSHA Permissible Exposure Limit. TLV= ACGIH Threshold Limit Value. TWA=time weighted average.

Section 3: HAZARDS IDENTIFICATION

U.S. PRECAUTIONARY LABELING

WARNING!
Flammable Solid! Reacts with water. May cause irritation to the eyes, skin and respiratory system. Avoid contact with the eyes and skin. Avoid creating and breathing airborne dust. Keep away heat, flames and all other ignition sources. Keep dry. Keep container closed.

INTERNATIONAL LABELING

Flammable. Contact with water liberates highly flammable gases. In case of fire use dry chemical, soda ash, lime or sand. Keep container tightly closed and dry.

EU Classification: Flammable
R and S Phrases: R10, R15, S43, S7/8

HEALTH HAZARDS:
Inhalation: Inhalation of dust may cause respiratory irritation. Inhalation of freshly formed oxide may cause metal fume fever, a flu-like illness with symptoms of metallic taste in mouth, coughing, fever, chills and muscular pain. Symptoms usually subside within 24-36 hours.

Skin Contact: Contact may cause mild irritation.
Eye Contact: Contact may cause mild irritation.
Ingestion: Ingestion of large doses may cause gastrointestinal irritation with nausea, cramps, vomiting, dehydration, electrolyte imbalance, shock, kidney failure, coma and possibly death.

Chronic Health Hazards: Excessive absorption of zinc may cause copper deficiency anemia.

Carcinogen Status: None of the components of this product are listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

Medical Conditions Aggravated by Exposure: Individuals with pre-existing skin or respiratory disease may be at increased risk from exposure to this material.

Section 4: FIRST AID MEASURES

N/A = Not Applicable
MSDS Number: 410042-5
**Inhalation:** Immediately remove the victim to fresh air. If breathing has stopped, give artificial respiration. Get immediate medical attention.

**Skin Contact:** Remove contaminated clothing. Wash thoroughly with soap and water. Get medical attention if irritation develops.

**Eye Contact:** Immediately flush eyes with large amounts of water while holding the eyelids open to assure that the entire surface is flushed. Get prompt medical attention.

**Ingestion:** Never give anything by mouth to an unconscious or convulsing person. Keep victim calm and get immediate medical attention.

### Section 5: FIRE FIGHTING MEASURES

**Flash Point (Method Used):** Flammable Solid

**Autoignition Temp:** 460 C / 860 F

**Flammable Limits:**

- **LEL:** 500 gm/m³
- **UEL:** N/D

**Extinguishing Media:** Use dry chemical, soda ash, lime or sand. Do not use water or foam.

**Special Fire Fighting Procedures:** Firefighters should wear self-contained breathing apparatus and full protective clothing.

**Unusual Fire and Explosion Hazards:** Highly flammable powder. Reacts with water releasing flammable hydrogen gas. May ignite spontaneously on exposure to air or moisture. Forms explosive mixtures in air.

**Hazardous Combustion Products:** Zinc oxide.

### Section 6: ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition. Wear protective equipment (gloves and safety glasses). Carefully collect spilled material. Avoid creating airborne dust. Keep dry. Place in dry container for disposal.

### Section 7: HANDLING AND STORAGE

Follow the directions on the package insert. Follow prudent laboratory practices of avoiding contact (breathing, touching, smoking ...) with a laboratory reagent. Avoid breathing dust. Avoid contact with the skin and eyes.

Follow storage instructions on the product label. Keep away from all sources of ignition. Keep dry.

### Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ventilation:** If concentrations exceed the exposure limit, use explosion-proof local exhaust.

**Respiratory Protection:** If exposures exceed the occupational exposure limits wear an approved dust/fume/mist respirator or supplied air respirator.

**Gloves:** Impervious gloves such as rubber.

**Eye Protection:** Safety glasses.

**Other Protective Equipment/Clothing:** None.
Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Grey powder with no odor.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point (F)</td>
<td>908 C</td>
</tr>
<tr>
<td>Melting Point (F)</td>
<td>419.5 C</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Percent Volatile</td>
<td>0%</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>N/D</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Coefficient of Oil/Water</td>
<td>N/D</td>
</tr>
</tbody>
</table>

Section 10: STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Reacts with water and moisture.
Incompatibility: Oxidizers, acids, alkalies, aluminum powder, chlorates, halocarbons, halogens, sulfur.
Hazardous Decomposition Products: Thermal decomposition produces zinc oxide.
Hazardous Polymerization: Will not occur.

Section 11: TOXICOLOGICAL INFORMATION

Zinc: Inhalation TCLo human: 124 mg/m3/50M.

Section 12: ECOLOGICAL INFORMATION

The ecological effects of this material have not been determined.

Section 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of product in accordance with all local, state/provincial and federal regulations.
Container Disposal: Empty containers should be collected for proper disposal.

Section 14: TRANSPORT INFORMATION

U.S. DOT HAZARD CLASSIFICATION

Proper Shipping Name: Zinc Dust
Technical Name: Zinc
UN Number: UN1436
Hazard Class/Packing Group: 4.3, PG II
Labels Required: Dangerous When Wet, Spontaneously Combustible
Exceptions: None

IATA/ICAO AIR TRANSPORTATION

Proper Shipping Name: Zinc Dust
Technical Name: Zinc
UN Number: UN1436
Hazard Class/Packing Group: 4.3, 4.2, PG II
Labels Required: Dangerous When Wet, Spontaneously Combustible

N/D = Not Determined  N/A = Not Applicable  MSDS Number: 410042-5
IATA Packaging Requirements: Passenger - 415; Cargo - 417
Comment: Up to 25 kits (50-10 g bottles of Zinc Dust) in a package can be shipped under IATA as "Dangerous Goods in Excepted Quantities". Kits in packages that do not exceed a gross mass of 64 lbs can be shipped under DOT (173.4) as excepted small quantities (inner receptacle max 30 mL).

Section 15: REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA 311/312 Reporting: Acute health, fire hazard
SARA 313: This Product contains the following chemicals subject to Annual Release Reporting Requirements under SARA Section 313 (40 CFR372):
Zinc 100%
CERCLA Section 103 Reportable Quantity: 1,000 lbs.
California Proposition 65:
This product contains the following substances known to the State of California to cause cancer and/or reproductive harm:
None known
Canadian WHMIS Classification: Class B-6; Class D-2-B

Section 16: OTHER INFORMATION

NFPA Hazard Rating:
Health: 1 Fire: 3 Reactivity: 2
Revision Summary: Corrected EU Risk Phrases (section 3), Added Transportation information (Section 14).


The above information is believed to be correct as of the date of this sheet but does not purport to be all inclusive and shall be used only as a guide. Since the use of this information and the conditions of use of the product are not within the control of bioMérieux S.A. nor bioMérieux, Inc., it is the users obligation to assure safe use of this product.