SAFETY DATA SHEET: BISMUTH NITRATE

1. IDENTIFICATION

Product Name: BISMUTH NITRATE
Synonyms: Nitric acid bismuth salt
Formula and Formula Weight: Bi(NO3)3 5H2O  485.07
Integra numbers beginning with: B606.10
Recommended Use: Commercial/industrial use
Restrictions on Use: No information available

INTEGRA Chemical Company
24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)
1216 6th Ave N
Kent WA 98032
Phone: 253-479-7000

2. HAZARDS IDENTIFICATION

DANGEROUS Signal Word:

OSHA Classification:
Skin Corrosion/Irritation 2 Causes skin irritation.
Eye Damage/Irritation 2A Causes serious eye irritation.
Specific Target Organ Toxicity (single exposure) 3 May cause respiratory irritation.
Oxidizing Solids 2 May intensify fire; oxidizer.

Precautionary Statements
Prevention:
Keep away from heat.
Keep and store away from clothing, combustible materials.
Take any precaution to avoid mixing with combustibles.
Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapors, spray.
Wash thoroughly after handling.
Wear protective gloves, eye protection, face protection.

Response
If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice, attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage
Store locked up in a well ventilated place. Keep container tightly closed.

Disposal
Dispose of contents, container in accordance with all governmental regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>% Weight</th>
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<tbody>
<tr>
<td>Bismuth nitrate pentahydrate</td>
<td>10035-06-0</td>
<td>100</td>
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4. FIRST AID MEASURES

Inhalation: Remove person to fresh air and keep comfortable for breathing. Seek medical attention for any breathing difficulty.

Eye Contact: Flush eyes with plenty of water. Remove contact lenses, if present and easy to do. If irritation persists, seek medical attention.

Skin Contact: Remove contaminated clothing. Flush skin with plenty of water. Seek medical attention if irritation develops.

Ingestion: Rinse mouth and give victim large quantities of water. Never give anything but mouth to an unconscious person. Seek immediate medical attention.

Additional notes: Symptoms and effects include skin, eye, respiratory irritation; loss of appetite, headache, skin rash; flushing skin, vomiting, failing blood pressure, cyanosis; convulsions, coma; weakness, depression, mental impairment; black spots on the gums, foul breath, excessive salivation.
5. FIRE-FIGHTING MEASURES
Extinguishing Media: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Special Equipment and Precautions: Use water to cool nearby containers and structures. Wear full protective equipment, including suitable respiratory protection.
Specific Hazards: Strong oxidizer. Contact with combustible or flammable materials can cause fire or explosion.
Hazardous combustion products: Toxic metal fumes may be produced on decomposition.

6. ACCIDENTAL RELEASE MEASURES
Spill Procedures: Remove all potential ignition sources. Prevent spread of spill. Wear suitable protective equipment. Sweep or scoop into disposal container in a manner that minimizes dust dispersion. Isolate spill away from organic and other oxidizable substances. Flush spill area with water.

7. HANDLING AND STORAGE
Incompatible Materials: Incompatible with strong acids. Reducing agents, powdered metals, organic, combustible or other easily oxidizable materials.
Storage and Handling: Store locked up in a cool, dry, well-ventilated area dedicated to the storage of oxidizers. Keep away from incompatible materials, especially flammable or combustible materials. Keep containers tightly closed and protect them from physical damage. Protect from direct light and minimize contact with air. Keep away from heat.
Keep away from heat.
Keep and store away from clothing, combustible materials.
Take any precaution to avoid mixing with combustibles.
Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapors, spray.
Wash thoroughly after handling.
Wear protective gloves, eye protection, face protection.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION
OSHA & ACGIH Exposure Limits:
Bismuth nitrate pentahydrate None identified
Engineering Controls: Use adequate general or local exhaust ventilation to keep fume and/or dust levels as low as possible.
Respiratory Protection: If use generates annoying or irritating dusts, mists or vapors, use a NIOSH approved respirator with a particulate filter.
Skin/Eye Protective Equipment: Safety goggles, protective clothing and gloves appropriate for the risk of exposure.
Facilities storing or utilizing this material should have readily accessible eyewash stations and safety showers. Select respirators and other safety equipment in accordance with regulations and based upon the particular conditions of use and risk of exposure. Always use safe chemical-handling and good industrial hygiene practices.

9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance: Transparent crystals
Odor: Slight nitric acid odor
Odor Threshold: Not available
pH: Not available
Melting/Freezing Point: 30 ºC
Initial Boiling Point and Boiling Range: 75-80 ºC
Flash Point: Not available
Evaporation Rate: Not available
Flammability: Not available
Flammable or Explosive Limits (% by volume in air) Upper: Not available Lower: Not available
Vapor Pressure: Not available
Vapor Density: Not available
Relative Density: 2.83 g/cc
Solubility: Slowly decomposes in water to form subnitrate
Partition Coefficient: n-octanol/water Not available
Auto-Ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available

10. STABILITY AND REACTIVITY
Reactivity: No information available
Stability: Stable
Possibility of Hazardous Reactions: Hazardous polymerization will not occur
Conditions to Avoid: Heat and moisture.
Incompatibles: Incompatible with strong acids. Reducing agents, powdered metals, organic, combustible or other easily oxidizable materials.
Decomposition Products: Toxic metal fumes may be produced on decomposition.

11. TOXICOLOGICAL INFORMATION
Effects of Over Exposure:
15. REGULATORY INFORMATION

Bismuth nitrate pentahydrate is listed in the TSCA inventory.

16. OTHER INFORMATION

OSHA SDS #: 25232 rev 101 3/27/2015

NE = Not established, NA = Not applicable or Not available

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***** END OF SDS *****