MATERIAL SAFETY DATA SHEET OF BISMUTH AMMONIUM CITRATE

SECTION 1. PRODUCT IDENTIFICATION

MSDS Name: Bismuth Ammonium Citrate
Chemical Formula: -
Synonym: Citric Acid Ammonium Bismuth Salt
Company Identification: Omkar Speciality Chemicals Ltd
F-24, Unit-II, M.I.D.C. Badlapur (E), Dist. Thane, 421 503.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent by Weight</th>
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<tbody>
<tr>
<td>31886-41-6</td>
<td>Bismuth Ammonium Citrate</td>
<td>-</td>
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</tbody>
</table>

SECTION 3. HAZARD IDENTIFICATION

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
Potential Chronic Health Effects: Very hazardous in case of eye contact (irritant), of ingestion, of inhalation.
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.

SECTION 4. FIRST AID

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact:**
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:** Not available.

**Ingestion:**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

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**SECTION 5. FIRE AND EXPLOSION**

**Flammability of the Product:** May be combustible at high temperature.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Slightly flammable to flammable in presence of open flames and sparks, of heat.

**Explosion Hazards in Presence of Various Substances:**

**Fire Fighting Media and Instructions:**
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** Toxic oxides of nitrogen or ammonia gas may be formed in fires.

**Special Remarks on Explosion Hazards:** Containers may explode when heated.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

SECTION 7. HANDLING AND STORAGE

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust.

Storage:
Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

SECTION 8. PERSONAL PROTECTION/EXPOSURE CONTROLS

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid. (Solid powder. Deliquescent solid.)
Odor: Odorless.
Taste: Saline, Mild ferruginois taste
Molecular Weight: Not available.
Color: Brownish. Yellowish.
\[ \text{pH (1\% soln/water)}: \text{Not available.} \]
Boiling Point: Not available.
Melting Point: Not available.
Critical Temperature: Not available.
Specific Gravity: 1.8 (Water = 1)
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: Not available.
Ionicity (in Water): Not available.
Dispersion Properties: See solubility in water.
Solubility: Easily soluble in cold water.

SECTION 10. REACTIVITY/STABILITY

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Excess heat, incompatible materials.
Incompatibility with various substances: Not available.
Corrosivity: Not available.
Special Remarks on Reactivity: Light Sensitive
Special Remarks on Corrosivity: Not available.
Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation. Ingestion.
Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Not available.
Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation.
**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:**
Due to the presence of dark line on gums, chronic bismuth toxicity may complicate diagnosis of chronic lead toxicity.

**Special Remarks on other Toxic Effects on Humans:**
Potential Health Effects: Dust may cause eye and respiratory tract irritation. May affect skin (skin reactions), metabolism (loss of appetite, acidosis), gastrointestinal tract (diarrhea, blotches on mucosa of tongue, throat, colon, mouth rectum), skeleton, urinary system. Other symptoms may include malaise, headache, depression. Effects on the liver is rare.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

**SECTION 13. DISPOSAL**

**Waste Disposal:**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**SECTION 14. TRANSPORTATION**

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

**SECTION 15. REGULATORY INFORMATION**

**Federal and State Regulations:** No products were found.

**Other Regulations:** EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications:
WHMIS (Canada): Not controlled under WHMIS (Canada).
DSCL (EEC):
R36/38- Irritating to eyes and skin. S2- Keep out of the reach of children. S46- If swallowed, seek medical advice immediately and show this container or label.

Health Hazard: 2
Fire Hazard: 1
Reactivity: 0
Personal Protection: E
National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 1
Reactivity: 0
Specific hazard:
Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

SECTION 16 - ADDITIONAL INFORMATION

This document is intended only as a guide to the appropriate precautionary handling of material by a person taimed in chemical handling. The user is responsible for a determine the precautions & dangers of this chemical for his or her particular application depending on usage. Adequate protective clothing, including eye / face guards, approved respirators must be used to avoid contact with the material or breathing chemical vapors / fumes. Exposure to this product may cause adverse health effects.

This chemical may interact with other substances. Since the potential uses are so varied, M/s. Omkar Speciality Chemicals Ltd. cannot warn of all of the potential dangers of use or interaction with chemicals of materials. M/s. Omkar Speciality Chemicals Ltd. warrants that, the chemical meets the specifications set forth on the test report.

M/s. Omkar Speciality Chemicals Ltd. Disclaims any other warranties expressed or implied with regard to the product supplied hereunder its merchantability or its fitness for a particular purpose. The user should recognize that, this product can cause severe injury, especially if improperly handled or the known dangers of use are not heeded.

READ ALL PRECAUTIONARY INFORMATIONS.