AMMONIUM IODIDE

1. Product Identification

   Synonyms: None
   CAS No.: 12027-06-4
   Molecular Weight: 144.95
   Chemical Formula: NH₄I
   Product Codes:
   J.T. Baker: 0708
   Mallinckrodt: 0920

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Iodide</td>
<td>12027-06-4</td>
<td>100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Hazards Identification

   Emergency Overview
   ---------------------------------------------
   WARNING! HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.
   SAF-T-DATA(tm) Ratings (Provided here for your convenience)
   -------------------------------------------------------------------------------------------------------------
   Health Rating: 2 - Moderate (Life)
   Flammability Rating: 0 - None
   Reactivity Rating: 1 - Slight
   Contact Rating: 1 - Slight
   Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
   Storage Color Code: Green (General Storage)
   -------------------------------------------------------------------------------------------------------------

   Potential Health Effects
Irritation is due to the hygroscopic nature of ammonium iodide.

**Inhalation:**
May cause irritation to the respiratory tract.

**Ingestion:**
May cause temporary enlargement of salivary glands or lymph glands. No fatalities have been reported from iodide poisoning.

**Skin Contact:**
May cause irritation.

**Eye Contact:**
May cause irritation.

**Chronic Exposure:**
Prolonged or repeated exposure through ingestion may cause iodism. Symptoms include salivation, sneezing, conjunctivitis, headache, fever, bronchitis, stomatitis, and skin rashes. Prolonged or repeated skin contact may cause dermatitis.

**Aggravation of Pre-existing Conditions:**
No information found.

### 4. First Aid Measures

**Inhalation:**
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:**
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

**Skin Contact:**
Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**
Wash thoroughly with running water. Get medical advice if irritation develops.

### 5. Fire Fighting Measures

**Fire:**
Not considered to be a fire hazard.

**Explosion:**
Not considered to be an explosion hazard.

**Fire Extinguishing Media:**
Use any means suitable for extinguishing surrounding fire.

**Special Information:**
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.
7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Keep out of light to improve shelf-life. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
-ACGIH (TWA) for Iodides:
  0.01 ppm for inhalable fraction and vapor.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:
White tetragonal crystals.

Odor:
Odorless.

Solubility:
154.2 g/100cc @ 0C; 230.3 g/100cc @ 100C

Specific Gravity:
2.51

pH:
4.6 Aqueous solution: (0.1M)

% Volatiles by volume @ 21C (70F):
No information found.

Boiling Point:
220C (428F) In vacuum.

Melting Point:
551C (1024F) Sublimes.

Vapor Density (Air=1):
No information found.

Vapor Pressure (mm Hg):
1 @ 211C (412F)

Evaporation Rate (BuAc=1):
No information found.
10. Stability and Reactivity

**Stability:**
Stable under ordinary conditions of use and storage. Darkens on exposure to air. Very hygroscopic.

**Hazardous Decomposition Products:**
When heated to decomposition, emits very toxic fumes of hydrogen iodide, ammonia and nitrogen oxides.

**Hazardous Polymerization:**
Will not occur.

**Incompatibilities:**
Bromine trifluoride, iodine heptafluoride, and potassium.

**Conditions to Avoid:**
Air, moisture, light and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

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<th>Anticipated</th>
<th>IARC Category</th>
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<tbody>
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<td>No</td>
<td>No</td>
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12. Ecological Information

**Environmental Fate:**
No information found.

**Environmental Toxicity:**
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

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Ammonium Iodide (12027-06-4)          Yes   Yes   No     Yes

--------\Federal, State & International Regulations - Part 1\----------------
 Ingredient                                 RQ    TPQ     List  Chemical Catg.
-----------------------------------------  ---   -----   ----  --------------
Ammonium Iodide (12027-06-4)               No    No      No         No

--------\Federal, State & International Regulations - Part 2\----------------
 Ingredient                                 CERCLA     261.33     8(d)
-----------------------------------------  ------     ------    -----
Ammonium Iodide (12027-06-4)               No         No         No

Chemical Weapons Convention: No     TSCA 12(b): No     CDTA: No
SARA 311/312:  Acute: Yes      Chronic: Yes  Fire: No  Pressure: No
Reactivity: No         (Pure / Solid)

Australian Hazchem Code: None allocated.
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and
the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 1
Label Hazard Warning:
WARNING! HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES,
AND RESPIRATORY TRACT.
Label Precautions:
Wash thoroughly after handling.
Avoid contact with eyes, skin and clothing.
Avoid breathing dust.
Use with adequate ventilation.
Keep container closed.
Label First Aid:
If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to
an unconscious person. Call a physician. In case of contact, immediately flush eyes or skin with plenty of water
for at least 15 minutes. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is
difficult, give oxygen.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 8.
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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)