MSDS Document

Product  BROMINE TABLETS

1. Chemical Product and Company Identification

Trade Name of this Product  BROMINE TABLETS

MSDS ID  MSDS2388
Manufacturer
Haviland Consumer Products, Inc.
421 Ann Street N.W.
Grand Rapids, MI 49504

Phone Number
(616) 361-6691
Emergency Phone
CHEMTREC (800) 424-9300
CHEMTREC International (703) 527-3887
Revision Date  4/28/2008

2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Weight %</th>
<th>ACGIH TLV</th>
<th>PEL</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromochloro-5,5-dimethylhydantoin</td>
<td>32718-18-6</td>
<td>98 %</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

3. Hazard Identification

Emergency Overview
Corrosive and Strong Oxidizer. Causes irreversible eye damage and skin burns. Eye contact may cause loss of vision. Irritating to nose and throat. May be fatal if inhaled. Harmful if absorbed through skin or swallowed.

Health Effects
Eye contact may cause severe irritation. Corneal burns on prolonged contact with dust or concentrated suspension. Prolonged skin contact may cause reddening and superficial necrosis. Burns may be severe if skin is wet or damp. Inhalation irritates mucous membranes. Dust will burn respiratory tissues severely. Ingestion will burn digestive tract tissues severely.
Carcinogenicity
None of the components present in this material are listed by IARC or NTP as a carcinogen.

Reproductive Effects
None known

Routes of Entry
Inhalation, Ingestion, Skin or Eye Contact

4. First Aid Information

Ingestion
Call a physician immediately. Do not induce vomiting. Dilute by drinking water or milk. Never give anything by mouth to an unconscious person.

Skin Contact
Flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash material off with soap and water. Get medical attention.

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

Eye Contact
Flush immediately with plenty of water for at least 15 minutes, get medical attention.

5. Fire Fighting Measures

Flash Point
N/A

Extinguishing Media
Use water only. Do not use dry chemicals, carbon dioxide, or foam.

Special Fire Fighting Procedures
Fire fighters and subjected personnel should wear full protective clothing and self-contained breathing apparatus. Hydrogen bromide or bromine may be released in fires. Dense black smoke upon burning.

Unusual Fire Hazard
Oxidizing material. Forms explosive mixtures with combustible, organic or other easily oxidizable materials. Combustion generates toxic fumes of hydrogen bromide, bromine gas, nitrogen oxides and hydrogen chloride.

6. Accidental Release Measures

Spill and Leak Procedures
Use protective goggles with side-shield, dust respirator and rubber gloves. Prevent dusting either shovel/sweep into clean, intact packaging for possible re-use or hose down concentrated spills. Keep away from surface water and ground contact. Toxic to fish and aquatic organisms.
7. Handling and Storage

Handling Procedures
Do not breathe dust or spray mist. Do not get in eyes, on skin, or on clothing. Wear goggles with side shields, face shield or safety glasses; protective clothing and rubber gloves. Wear a MSHA/NIOSH mask or pesticide respirator. Wash thoroughly with soap and water after handling.

Storage Procedures
Handle containers with care and keep them well closed. Containers retain product residue. Store in dark, well-ventilated, cool, dry location away from energy sources and incompatible materials. Store away from foodstuffs.

8. Exposure Controls and Personal Protection

Engineering Controls
Use local exhaust ventilation with a minimum capture velocity of 150 ft./min. at the point of dust or mist evolution.

Eye Protection
Chemical safety goggles

Protective Gloves
Rubber or other impervious materials.

Respiratory Protection
If ventilation is not sufficient to effectively prevent buildup of dust, appropriate NIOSH/MSHA respiratory protection must be provided.

Other Protective Equipment
Wear appropriate clothing to prevent skin exposure. A safety shower and eye bath should be available.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Color/Appearance</td>
<td>White tablets</td>
</tr>
<tr>
<td>Odor</td>
<td>Halogen odor</td>
</tr>
<tr>
<td>pH</td>
<td>4.0 (0.1% soln in DI water)</td>
</tr>
<tr>
<td>Boiling/Cond. Point</td>
<td>Undetermined</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>Undetermined</td>
</tr>
<tr>
<td>Solubility</td>
<td>0.2 g/100ml at 25°C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

Chemical Stability
Stable under normal conditions
Conditions to Avoid
Mixing with anything but water. Heating above 160°C.

Incompatible Materials
Paints, petroleum products, and organic chemicals, oxidizing agents, and bases.

Hazardous Decomposition Products
Bromine and chlorine containing gases, hydrogen bromide and hydrogen chloride.

Hazardous Polymerization
Will not occur.

11. Toxicological Information

ACUTE TOXICITY:
LD / LC50 values that are relevant for classification:
Oral: LD50: 468 mg/kg (rat)
Dermal: LD50: > 2000 mg/kg (rabbit)

PRIMARY IRRITANT EFFECT:
On the skin: Caustic effect of burns on skin and mucous membranes.
On the eye: Strong irreversible caustic effect.

SENSITIZATION:
Intensive exposure may cause allergic reactions in certain sensitive individuals.

ADDITIONAL TOXICOLOGICAL INFORMATION:
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Study results from a material similar to that represented by this MSDS.

12. Ecological Information

GENERAL NOTES:
This product is toxic to fish and aquatic organisms. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

13. Disposal Considerations

Waste Disposal
Observe all federal, state and local regulations. Dispose in approved landfill sites or an approved incinerator. Triple rinse the container then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incinerate.

14. Transportation Information

DOT Shipping Name
Oxidizing solid, n.o.s. (Bromochloro-5, 5-dimethylhydantoin)
Hazard Class
5.1, Oxidizer

UN Number
UN1479

Packing Group
PG II

NOTE: Oxidizers in Packing Group II in inner packagings not over 1.0 L (0.3 gallon) for liquids or 1.0 kg (2.2 pounds) for solids, packed in strong outer packagings, may be renamed "Consumer Commodity" and reclassed as ORM-D material. Total package may not exceed 30 kg (66 pounds) gross weight.

15. Regulatory Information

TSCA
Hazardous Component(s) subject to reporting on the TSCA List.

16. Other Information

EPA Reg. No. 57787-32

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