MATERIAL SAFETY DATA SHEET

SPA BROMINE TABLETS

SECTION I - IDENTIFICATION

MANUFACTURER'S NAME........ Haviland Consumer Products Incorporated
ADDRESS (STREET,CITY,STATE,ZIP) 421 Ann St., N.W., Grand Rapids, MI 49504
PHONE NUMBER................... (616) 361-6691
EMERGENCY PHONE NUMBER...... CHEMTREC (800) 424-9300
EFFECTIVE DATE................. 6/23/99
TRADE NAME..................... SPA BROMINE TABLETS
CHEMICAL FAMILY................ Bromine Compound

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS OSHA/PEL ACGIH/TLV (Units) PROD. CAS #
Bromochloro-5, Not Not Established 32718-18-6
S-dimethylhydantoin Established

SECTION III - PHYSICAL DATA

TING POINT...................... Not Applicable
FREEZING POINT.................. Not Applicable, Decomposes
VAPOR PRESSURE (mm Hg)........ Not Applicable
VAPOR DENSITY (Air=1).......... Not Applicable
SOLUBILITY IN H2O.............. .2 g/100g @ 25°C
APPEARANCE/Odor................. White Tablets; Halogen Odor
SPECIFIC GRAVITY (H2O=1)....... 1.8 - 2.0
PH................................ No Information Available

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..................... Not Flammable
LOWER EXPLOSIVE LIMIT (% by Volume) Not Applicable
UPPER EXPLOSIVE LIMIT (% by Volume) Not Applicable
EXTINGUISH MEDIA.............. Carbon dioxide, dry chemical, water spray
SPECIAL FIRE FIGHTING PROCEDURES... Firefighters and subjected personnel should wear full protective clothing and self-contained breathing apparatus. Hydrogen bromide or bromine may be released in fires fueled by other materials. Ammonium phosphate fire extinguishers should not be used.

01/19/2000
MATERIAL SAFETY DATA SHEET

SPA BROMINE TABLETS

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.

SECTION V - HEALTH HAZARD DATA

CARCINOGENICITY..................... None
NTP........................................ No
IARC...................................... No

OVER EXPOSURE EFFECTS............. Eye Contact: Severe irritation, corneal burns on prolonged contact with dust or concentrated suspension.
Skin Contact: 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: Like inhalation, will burn digestive tract tissues severely.

PRIMARY ROUTE(S) OF ENTRY........... In case of eye contact: Flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water; wash contaminated clothing before reuse. Do not take clothing home to be laundered.
If inhaled: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention.
If swallowed: Give two glasses of water to drink. Never give anything by mouth to an unconscious person. Get immediate medical attention.

FIRST AID PROCEDURES..............

EXPOSURE AGGRAVATED MEDICAL CONDITIONS Dermatitis which may be aggravated by exposure.

SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY.................. Stable under normal conditions
CONDITIONS TO AVOID............... Mixing with anything but water. Heating above 160ºC.
INCOMPATIBLE MATERIALS........... Paints, petroleums and organic chemicals; oxidizing agents, and bases.

01/19/2000 -2-
MATERIAL SAFETY DATA SHEET

SPA BROMINE TABLETS

DECOMPOSITION PRODUCTS........ Bromine and chlorine-containing gases, hydrogen bromide and hydrogen chloride.

HAZARDOUS POLYMERIZATION........ Will Not Occur

POLYMERIZATION AVOID........ Not Applicable

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SECTION VII - SPILL OR LEAK PROCEDURE
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FOR SPILL.................. 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. Follow state and/or local ordinances. 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.

WASTE DISPOSAL METHOD........

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SECTION VIII - SPECIAL PROTECTION
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SPHINATORY PROTECTION........ Dust respirator essential if dusting occurs.

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

PROTECTIVE GLOVES............. Rubber or other impervious materials.

EYE PROTECTION............... Chemical splash proof goggles.

OTHER PROTECTIVE EQUIPMENT.... A safety shower and eye bath should be available. For operations where spills or splashing may occur, use an impervious body covering and boots.

HANDLING AND STORAGE........ Handle containers with care and keep them well closed. Containers retain product residue. Store in dark, cool, dry locations away from energy sources and incompatible materials.

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SECTION IX - SPECIAL PRECAUTIONS
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HAZARD CLASS................. OXIDIZER, 5.1, PG II

DOT SHIPPING NAME............ Oxidizing Substances, Solid, NOS,
(Bromochloro-5,5-Dimethylhydantoin)

UN NUMBER..................... UN1479

REPORTABLE QUANTITY (RQ)........ Not Listed

01/19/2000 -3-
MATERIAL SAFETY DATA SHEET

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This product is toxic to fish and aquatic life. Do Not discharge into lakes, streams, or other waterways.

EPA REG.# 57787-24