MATERIAL SAFETY DATA SHEET

MSDS

Hydrotech AquaBrome Shock

Date-Issued: 09/12/1997
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Revision No: 3

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Hydrotech AquaBrome Shock
GENERAL USE: Swimming pool shock.
CHEMICAL FAMILY: Hypochlorite

MANUFACTURER

Asepsis, Inc.
Hydrotech
P.O. Box 1788
Suwanee, GA 30024-0973
Customer SERVICE: (800) 959-7946

24 HR. EMERGENCY TELEPHONE NUMBERS

Poison Control Center (Medical) : (877) 800 - 5553
CHEMTREC (US Transportation) : (800) 424 - 9300

COMMENTS: EPA Registration Number: 5185-323-10305

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%
Lithium Hypochlorite	13840-33-0	29
Sodium Sulfate	7757-85-6	13
Potassium Sulfate	7778-80-5	6
Lithium Chloride	7447-41-8	4
Lithium Carbonate	554-13-2	2
Lithium Chlorate	36355-96-1	2
Lithium Hydroxide	1310-65-2	1

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: White, granular solid with chlorine odor.

IMMEDIATE CONCERNS: DANGER: Corrosive: Causes irreversible eye damage or skin burns. May be fatal if swallowed. Harmful if inhaled. Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Wear goggles or safety glasses, protective clothing and rubber gloves when handling. Wash hands thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse.

POTENTIAL HEALTH EFFECTS

EYES: DANGER: Corrosive. Causes severe eye damage. May cause blindness. Do not get in eyes.

SKIN: DANGER: Corrosive: Causes skin burns. Do not get on skin.

INGESTION: May be fatal if swallowed.

INHALATION: Harmful if inhaled. Avoid breathing dust.

CHRONIC: Prolonged inhalation of excessive levels of dust may cause lung damage. See section 11 for more information.

ROUTES OF ENTRY: Skin Contact, Inhalation, Ingestion, Eye Contact.

4. FIRST AID MEASURES

EYES: If contact with eyes occurs: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

SKIN: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advise.

INGESTION: If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

INHALATION: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call poison control center or doctor for treatment advice.

NOTES TO PHYSICIAN: Lithium hypochlorite is corrosive to eyes, skin and mucous membranes. Consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Observation may be warranted. Treatment is controlled removal of exposure with symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Applicable

AUTOIGNITION TEMPERATURE: Not Applicable

GENERAL HAZARD: Strong oxidizer. Contact with combustible material may cause a fire or explosion.

EXTINGUISHING MEDIA: In case of fire or smoke, call the fire department. Do not attempt to extinguish the fire without a self-contained breathing apparatus (SCBA). Do not let the fire burn. Flood with copious amounts of water. DO NOT use ABC or other dry chemical extinguishers since there is the potential for a violent reaction.

HAZARDOUS COMBUSTION PRODUCTS: Combustion product may include, but are not limited to, oxygen and toxic chlorine gases.

FIRE FIGHTING PROCEDURES: Flood with copious amounts of water.

FIRE FIGHTING EQUIPMENT: Firefighters should wear full protective clothing and self contained breathing apparatus (SCBA). Thoroughly decontaminate fire fighting equipment including all fire fighting wearing apparel after the incident.

6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Using appropriate protective clothing and safety equipment, contain spilled material. Do not add water to spilled material. Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry containers for disposal. Do not use floor sweeping compounds to clean up spills. Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form. Do not transport wet or damp material. Keep product out of sewers, watersheds and water systems. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Dispose of according to local, state and federal regulations.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Avoid contact with eyes, skin or clothing. Avoid breathing dust or fumes.

HANDLING: STRONG OXIDIZING AGENT: Do not mix with other chemicals, except water. Mix only with water. Never add water to product. Always add product to large quantities of water. Use clean dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. Flood area with large volumes of water.

STORAGE: Keep this product dry in its original container. (for bags: Store dry product in its original unopened bag until use. For partially used bags, fold over top of bag and secure with adhesive tape. for bottles: Store dry product in orginal tightly closed container when not in use.) Store unopened and partially used containers in a secure location away from children. Store in a cool, dry, well ventilated area away from heat or open flame. Moisture may decompose this product and cause a violent reaction leading to fire and explosion. In case of decomposition, isolate container if possible and flood area with large amounts of water to dissolve all material before discarding this container. Do not contaminate food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SUPPLIER OEL	
		ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
Lithium Hypochlorite	**TWA**	N/E[1]		N/E			
Sodium Sulfate	**TWA**	N/E		N/E			
Potassium Sulfate	**TWA**	N/E		N/E			
Lithium Chloride	**TWA**	N/E		N/E			
Lithium Carbonate	**TWA**	N/E		N/E			
Lithium Chlorate	**TWA**	N/E		N/E			
Lithium Hydroxide	**TWA**	N/E		N/E			

OSHA TABLE COMMENTS:

1. N/E = Not Established

ENGINEERING CONTROLS: General room ventilation plus local exhaust should be used to minimize exposure to dust/vapors.

PERSONAL PROTECTIVE EQUIPMENT:

EYES AND FACE: Wear goggles or safety glasses with side shields when handling this product.

SKIN: Wear rubber gloves when handling this product. Avoid contact with skin.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

WORK HYGIENIC PRACTICES: Remove and wash contaminated clothing before reuse.

OTHER USE PRECAUTIONS: Facilities storing or utilizing this material should be equipped with an eyewash and safety shower.

COMMENTS: Exposure Limits: Particulates Not Otherwise Classified (PNOC): ACGIH TWA 10 mg/m3 (total dust); 3 mg/m3 (respirable particulate).

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid
ODOR: Chlorine
APPEARANCE: Granules
COLOR: White
pH: 11 (1% solution @ 25 C)
BOILING POINT: Not Available
MELTING POINT: 135°C (275°F) (decomposes)
THERMAL DECOMPOSITION: 135°C
SOLUBILITY IN WATER: 43g/100g water
SPECIFIC GRAVITY: 0.9 to 1.0 g/cc
OXIDIZING PROPERTIES: Oxidizer

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: High temperature. Poor ventilation. Contamination. Moisture/high humidity.

STABILITY: This product is stable under normal conditions.

POLYMERIZATION: Hazardous polymerization will not occur under normal conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxygen and toxic chlorine gases.

INCOMPATIBLE MATERIALS: This is a strong oxidizing agent. Avoid contact with water on concentrated material in the container. Keep

away from household soap, suntan lotion, paint products, solvents, acids, beverages, lighted cigarettes, combustible materials, garbage, dirt, dirty rags, organic materials and other swimming pool/spa chemicals in their concentrated forms. Mixing with any of the above materials can initiate a hazardous decomposition. Contact with acids or moisture evolves chlorine gas. Reacts with ammonia, urea and amines (can form reactive and toxic chloramines). Metal oxides can cause decomposition.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD_{50}: 8100 mg/kg of body weight in rabbits.

ORAL LD_{50}: 555 mg/kg of body weight in rats

INHALATION LC_{50}: 2.0 mg/l (rats)

ACUTE EFFECTS FROM OVEREXPOSURE: This product is corrosive to eyes, skin, respiratory tract and mucous membranes.

EYE EFFECTS: This product is corrosive to eyes.

SKIN EFFECTS: This product is corrosive to skin.

SENSITIZATION: This product is not a skin sensitizer.

CARCINOGENICITY:

This product is not listed as a carcinogen by IARC.

This product is not listed as a carcinogen by NTP.

This product is not listed as a carcinogen by OSHA.

MUTAGENICITY: This product is not mutagenic in several in vitro tests.

REPRODUCTIVE EFFECTS: This product did not cause developmental effects in a study with laboratory animals.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This pesticide is toxic to fish and aquatic organisms. Do not contaminate water by cleaning of equipment or disposal of wastes. 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.

Avian:
Mallard Duck: Oral LD50 = 1,960 mg/kg; 5 day dietary LC50 > 17,240 ppm (no deaths at maximum dose.)
Bobwhite Quail: 5 day dietary LC50 > 17,240 ppm
Fish:
Rainbow Trout: 96 hr LC50 = 0.69 mg/L
Bluegill: 96 hr LC50 = 0.97 mg/L
Invertebrates: 48 hr LC50 = 0.37 g/L(daphnia magna)

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction or fire.

EMPTY CONTAINER: Do not reuse container. Rinse thoroughly before discarding in trash.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Corrosive Solid, N.O.S. (lithium hypochlorite, mixture)

PRIMARY HAZARD CLASS/DIVISION: 8 (Corrosive)
UN/NA NUMBER: 1759
PACKING GROUP: III

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:

FIRE: NO **PRESSURE GENERATING:** NO **REACTIVITY:** YES **ACUTE:** YES **CHRONIC:** NO

313 REPORTABLE INGREDIENTS: This product contains lithium carbonate which is a substance subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: This product or its components are not listed.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: This product or its components are not subject to export notification.

TSCA STATUS: All components except for Lithium Chlorate, an impurity, are listed.

OSHA HAZARD COMM. RULE: Product is hazardous by definition of the Hazardous Communication Standard.

CLEAN WATER ACT: Not Listed.

FIFRA (FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT): This product is a registered pesticide.

SDWA (SAFE DRINKING WATER ACT): Not listed.

FDA (FOOD AND DRUG ADMINISTRATION): Not listed.

DEA (DRUG ENFORCEMENT PRECURSOR & ESSENTIAL CHEMICALS) LISTED SUBSTANCE: Not listed.

16. OTHER INFORMATION

PREPARED BY: Regulatory Affairs Department

REVISION SUMMARY Revision #: 3 This MSDS replaces the September 09, 2004 MSDS. Any changes in information are as follows: In Section 14 DOT Primary Hazard Class/Division

HMIS RATING

HEALTH:	3
FLAMMABILITY:	0
PHYSICAL HAZARD:	1
PERSONAL PROTECTION:	B

NFPA RATING

HEALTH:	3
FIRE:	0
REACTIVITY:	1

Key
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

NFPA STORAGE CLASSIFICATION: NFPA Oxidizer Class 1

COMMENTS: The contents and format of this MSDS are in accordance with OSHA Hazard Communication Standard, National Fire Protection Association (NFPA), and Hazardous Materials Identification System (HMIS).

MANUFACTURER DISCLAIMER: IMPORTANT: The information is given without a warranty or guarantee. No suggestions for use are intended or shall be construed as a recommendation to infringe any existing patents or violate any Federal, Provincial, State, municipal, or local

laws. Safe handling and use is the responsibility of the customer. Read the label before using this product. This information is true and accurate to the best of our knowledge.