MATERIAL SAFETY DATA SHEET
LITHIUM SHOCK

============================================ SECTION I - IDENTIFICATION =============================================
MANUFACTURER'S NAME............. Haviland Consumer Products Incorporated
ADDRESS (STREET,CITY,STATE,ZIP) 1885 Turner 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..................... LITHIUM SHOCK
CHEMICAL FAMILY............... Alkali Hypochlorite

============================================ SECTION II - HAZARDOUS INGREDIENTS =============================================
HAZARDOUS COMPONENTS
Lithium Hypochlorite
OSHA/PEL Not Established
ACGIH/TLV (Units) Not Established
PROD. CAS # 13849-33-0

Sodium Chloride
Not Established
Not Established
7647-14-5

Sodium Sulfate
Not Established
Not Established
7757-82-6

Potassium Sulfate
Not Established
Not Established
7646-93-7

Lithium Chloride
Not Established
Not Established
7447-41-8

Lithium Carbonate
Not Established
Not Established
554-13-2

Lithium Chlorate
Not Established
Not Established
36355-96-1

Lithium Hydroxide
Not Established
Not Established
1310-65-2

Water
Not Established
Not Established
7732-18-5

============================================ SECTION III - PHYSICAL DATA =============================================
FREEzing POINT................ Not Applicable
VAPOR PRESSURE (mm Hg)........ Not Applicable
VAPOR DENSITY (Air=1)....... Not Applicable

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SOLUBILITY IN H2O ............ 43% w/w at 25oC (77oF)
APPEARANCE/ODOR .......... White Granules; Burning Chlorine-like Odor
SPECIFIC GRAVITY (H2O=1) .. 0.9-1g/cc
PH ......................... 1% Slurry @ 25oC: 11

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 .......... Water only; no dry chemical, CO2 or Halon.
SPECIAL FIRE FIGHTING PROCEDURES... Wear self-contained breathing apparatus and full fire fighting protective clothing. Don't breathe smoke, gases or vapors generated.

UNUSUAL FIRE HAZARD......... Avoid contact with combustible organic substances. Fire could result. Oxygen and toxic chloride gas may be released when heated, or when contacted with strong acids. May catch fire spontaneously on contact with oxidizable materials.

SECTION V - HEALTH HAZARD DATA

CARCINOGENICITY .............. None
NTP .......................... No
IARC .......................... No
OVEREXPOSURE EFFECTS ....... Chemical burns of eyes and skin.
PRIMARY ROUTE(S) OF ENTRY ... Eye and Skin Contact
FIRST AID PROCEDURES....... In case of contact: Immediately wash eyes and skin with plenty of water for at least 15 minutes. See doctor immediately. If inhaled: Remove to fresh air. If swallowed: Drink two glasses of water and see a physician. Do not induce vomiting. Note to Physician: Product is an eye irritant and corrosive to the skin. Treatment goal, dilution and removal; decrease potential burn hazard during gastric lavage. Treatment is otherwise symptomatic and supportive.

EXPOSURE AGGRAVATED MEDICAL CONDITIONS None Currently Known

SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY ......... Stable
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CONDITIONS TO AVOID............. Contact with combustible materials (wood, paper, oil). Contamination with moisture.
INCOMPATIBLE MATERIALS........... Acids, oxidizable materials, combustible materials.
DECOMPOSITION PRODUCTS.......... Toxic Chlorine gases.
HAZARDOUS POLYMERIZATION........ Will Not Occur
POLYMERIZATION AVOID............. Not Applicable

SECTION VII - SPILL OR LEAK PROCEDURE
FOR SPILL .................................. Sweep up spilled material and place in a plastic or plastic-lined container. Do not wash into streams since it's toxic to fish.

WASTE DISPOSAL METHOD............ Return to drum and dispose according to federal, state and local regulations.

SECTION VIII - SPECIAL PROTECTION
RESPIRATORY PROTECTION........... Wear a NIOSH/MSHA approved respirator when adequate ventilation is not available.
VENTILATION.............................. Use only with adequate ventilation.
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............. Do not get in eyes, on skin or clothing. Avoid breathing dust. Wash thoroughly after handling. Store away from readily oxidizable materials, strong acids and flammable liquids. Keep container closed.

SECTION IX - SPECIAL PRECAUTIONS
HAZARD CLASS......................... OXIDIZER, 5.1, PG II
DOT SHIPPING NAME............... LITHIUM HYPOCHLORITE, DRY
UN NUMBER......................... UN1471
REPORTABLE QUANTITY (RG)........ Not Listed

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REFERENCES WARNING!! STRONG OXIDIZING AGENT - USE CLEAN, DRY UTENSILS - KEEP AWAY FROM ORGANIC MATERIALS

HMIS: H-3; F-0; R-1
ZZ1CRSHK

EPA REG. # 57787-14