

MATERIAL SAFETY DATA SHEET

(D)

Complies with OSHA's 29 CFR
1910.1200 and State Hazard
Communication Standards.

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SECTION 1

PRODUCT IDENTITY: **LIQUID SHILOH**, Special Cleaner

DATE PREPARED: 3/1/89

NFPA/HMIS HAZARD CODES (minimal = 0; slight = 1; moderate = 2; serious = 3; severe = 4)
Health: 3/3 Fire: 0/0 Reactivity: 2/2 Special: NA

SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

<u>HAZARDOUS COMPONENTS</u>	<u>CAS #</u>	<u>OSHA-PEL</u>	<u>ACGIH-TLV</u>	<u>% BY WT[®]</u>
Hydrochloric Acid (muriatic acid)	7647-01-0	5 ppm*	5 ppm*	9 max.

*Ceiling limit as hydrogen chloride if released.

*SARA Title III Section 313 (40 CFR 372) reportable chemical

SECTION 3: PHYSICAL / CHEMICAL CHARACTERISTICS

BOILING POINT: 188-212F*
VAPOR PRESSURE: low
VAPOR DENSITY (air = 1): 1.26
SOLUBILITY IN WATER: complete

SPECIFIC GRAVITY: 1.04 @ 70°F
PERCENT VOLATILE: 97
EVAPORATION RATE: as water
pH: less than 1

APPEARANCE AND ODOR: Opaque green liquid; mint fragrance.

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: None

FLAMMABLE LIMITS: NA

EXTINGUISHING MEDIA: As for surrounding fire - product will not burn.

SPECIAL FIREFIGHTING PROCEDURES: Toxic hydrogen chloride fumes may be released in a fire. Use self-contained breathing equipment. Avoid exposure to mists and splashes. Cool exposed containers with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS: As any strongly acidic solution, can react with metals, especially "soft" metals such as aluminum or zinc, to generate hydrogen. This gas is flammable and/or explosive in the presence of an ignition source.

SECTION 5: REACTIVITY DATA

STABILITY: Unstable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Do not mix with alkaline materials or strong oxidizers. Avoid contact with metals.

HAZARDOUS DECOMPOSITION PRODUCTS: Flammable hydrogen gas can be produced by reaction with most metals. Chlorine gas will be released by mixing with strong oxidizers.

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SECTION 6: HEALTH HAZARD DATA

ROUTES OF ENTRY/SIGNS AND SYMPTOMS OF EXPOSURE: ACUTE: Corrosive to eyes and mucous membranes. Skin: irritation, burning. Ingestion: harmful; severe swelling and tissue damage to mouth, throat and esophagus. Vapors may be irritating to eyes, nose, throat and upper respiratory tract.

CHRONIC EFFECTS: None known.

CARCINOGENS: None

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Respiratory (If mists or vapors inhaled).

EMERGENCY AND FIRST AID PROCEDURES: Eyes and skin: Immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing. For eyes, call a physician immediately. Ingestion: DO NOT INDUCE VOMITING. Dilute by drinking several glasses of milk or water. Consult physician immediately. Inhalation: remove to fresh air; resuscitate if needed. Get medical attention as soon as possible.

SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL OR LEAK PROCEDURES: SMALL SPILLS: Immediately flush with large amounts of water. LARGE SPILLS: Dike to prevent runoff, reclaim all possible. Neutralize residues with soda ash or lime with adequate ventilation and flush with water.

WASTE DISPOSAL METHOD: Trained and properly equipped personnel may dilute and neutralize waste very carefully with dilute alkali in accordance with Federal, State and local regulations.

HANDLING AND STORING: Avoid breathing vapor or fumes. Do not get on skin, in eyes or on clothing. Keep container closed when not in use. Store as acid material in a cool, dry area away from oxidizers. Reuse empty containers. "Empty" containers may retain product fumes - handle with caution.

OTHER PRECAUTIONS: Do not mix with other chlorine containing products. Do not use on any surfaces other than vitreous china or acid resistant material. Read and follow label directions. Keep out of reach of children.

SECTION 8: CONTROL MEASURES

RESPIRATORY PROTECTION: None normally required. NIOSH approved acid respirator if spray mist in air.

VENTILATION: Not normally required. Local exhaust with corrosion resistant equipment if vapor or mist in air or in enclosed areas.

GLOVES: Rubber or plastic.

EYE PROTECTION: Goggles or face shield.

OTHER PROTECTIVE EQUIPMENT: Rubber or plastic to prevent prolonged or repeated skin contact.

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

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