* * * * - MATERIAL SAFETY DATA SHEET - * * * *

COMPLIES WITH OSHA HCS 29 CFR 1910.1200 MD OSHA 174

PRODUCT NAME (AS USED ON LABEL) ROOTO THICK DRAIN OPENER

ALTERNATIVE PRODUCT NAME: "THICK" LIQUID DRAIN OPENER
SODIUM HYPOCHLORITE DRAIN OPENER

EMERGENCY TELEPHONE NUMBERS: 1-313-782-2234
1-313-283-1192

SECTION #1 MANUFACTURER

ROOTO CORPORATION
3505 W. GRAND RIVER..
HOWELL, MI 48843

TELEPHONE NUMBER FOR GENERAL INFORMATION: 1-517-546-8330

SECTION #2 HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Finished product - Sodium hypochlorite by weight..... 6%
Sodium/pottassium hydroxide.....10%

HAZARDOUS COMPONENTS	OSHA(PEL)	ACGIH(TVL)	% OPTIONAL
Sodium Hypochlorite (CAS 7681-52-9)	Not Est.	Not Est.	
Sodium Hydroxide (CAS 1310-73-2)	2mg/m3 ceil	2mg/m3 ceil	

SECTION #3 PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 212F. Degrees
VAPOR PRESSURE: N/A
VAPOR DENSITY: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY: 1.154
EVAPORATION RATE: Less than 1
SOLUBILITY IN WATER: Complete
APPEARANCE & ODOR: Thick yellow liquid w/ a chlorine odor

SECTION #4 FIRE AND EXPLOSIVE HAZARD DATA:

FLASH POINT(Method used):Non-flammable FLAMMABLE LIMITS: N/A
EXTINGUISHING MEDIA: Use water in flooding quantities as fog.
SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH-approved self-contained breathing apparatus for chlorine gas vapors. Cool fire-exposed containers with water spray.
UNUSUAL FIRE AND EXPLOSIVE HAZARDS: Sodium hypochlorite decomposes when heated to a high temperatures and containers may rupture.

SECTION 5-REACTIVITY DATA:

STABILITY: Unstable in light, temperatures above 90F degrees (see Sec.7)
CONDITIONS TO AVOID: heat, light.
CHEMICAL INCOMPATIBILITY: Acids, ammonia, organic compounds, heavy metals & salts thereof, and oxidizing or reducing compounds.
HAZARDOUS DECOMPOSITION PRODUCTS: Chlorine, chlorine dioxide, chloramines.Decomposition products may cause containers to rupture.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 6> HEALTH HAZARD DATA:

ROUTE OF ENTRY: Inhalation-likely Skin-likely Ingestion-unlikely.
HEALTH HAZARDS: (Acute & Chronic) for product.
ACUTE - Depending on solution concentration, material may be corrosive to skin, mucous membranes & eyes& vapors may cause respiratory irritation.
CHRONIC -May cause damage or injury to eyes, skin and respiratory organs.

CARCINOGENICITY*:	NTP	IARC MONOGRAPHS	OSHA REGULATED
	ND	ND	ND

*NOT DETERMINED FOR PRODUCT OR HAZARDOUS INGREDIENTS CONTAINED THEREIN.

EFFECTS OF OVER-EXPOSURE TO PRODUCT:
INHALATION - Inhalation of vapors may cause bronchial irritation, coughing, difficult breathing, pulmonary edema.
INGESTION - If swallowed, may cause burning sensation & corrosion of mucous membranes, esophageal or gastric perforation, laryngeal edema, vomiting, nausea.
SKIN - Skin contact may result in blistering and eczema.
EYES - Accidental eye contact with liquid or vapors may produce moderate to severe irritation.
Medical Conditions Generally Aggravated by Exposure; None

SECTION #7 PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled.
Eye protection - Avoid splashing into eyes. Wear goggles.
Skin protection - Avoid prolonged skin contact. Wear protective clothing-rubber gloves-rubber boots and face shield.
Respiratory Protection - Avoid inhalation of fumes. Wear NIOSH-approved respiratory protection.

SECTION #7-PRECAUTIONS FOR SAFE HANDLING AND USE CONTINUED..

Handling: Use normal procedures for handling caustic substances. Store in a cold dark place away from heat and light and combustible materials. Store below 90oF. KEEP CONTAINERS WELL CLOSED BY CHECKING CAP FOR TIGHTNESS. Provide adequate ventilation.

Normal Clean-Up: Delute with copious amounts of water and then mop up.

Waste Disposal: Flush with water to sewer in accordance with federal, state and local environmental regulations.

SECTION #8-FIRST AID & MEDICAL EMERGENCY PROCEDURES:

EYES: Flush eyes thoroughly with running water for at least 15 minutes. Get prompt medical attention.

SKIN: Rinse thoroughly with running water. If irritation persists, contact physician or local poison control center.

INHALATION: If effects occur, remove victim to fresh air. Provide symptomatic care and support respiration. Get prompt medical attention.

SECTION #9-CONTROL MEASURES-OCCUPATIONAL

Respiratory Protection (Specify Type): None required.
Ventilation: Maintain adequate ventilation.
Local exhaust-Maintain adequate ventilation.
Mechanical (General)-N/A Special-N/A
Protective Gloves: Rubber
Eye Protection: Splash proof, chemical resistant safety goggles.
Other Protective Clothing or Equipment: Uniform, coveralls, or lab coat, chemical resistant footware. Work/Hygienic Practices: Provide eye bath and emergency shower. Launder soiled work clothing before re-use.

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