MATERIAL SAFETY DATA SHEET

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BLEACH

SECTION I: IDENTIFICATION OF PRODUCT

Product Name: BLEACH
Chemical Family: Hypochlorite Solution
WHMIS Classification: E
Workplace Hazard: Corrosive liquid

Product Use: Bacteriacide
TDG Classification: 8
Packaging Group: III
PIN: UN1791

SECTION II: HAZARDOUS INGREDIENTS

Ingredients	Percent	CAS Number	LD_{50} (Rat/Oral)	LC_{50} (Rat/Inhal)
Sodium Hypochlorite, Solution	7 – 13	7681-52-9	8910 mg/kg	>10,000 mg/m³

SECTION III: TOXICOLOGICAL PROPERTIES

Route of entry: ☒ **Skin** ☒ **Eye Contact** ☒ **Inhalation** ☒ **Ingestion**

Effects of acute exposure: Not available

Effects of chronic exposure: Not available

Exposure limits: Not available

Irritancy of product: Causes irritation of the mouth, nose and throat. Repeated and/or prolonged exposures may cause productive cough, running nose, bronchopneumonia, pulmonary edema and reduction of pulmonary function. If mixed with acids or warmed to temperatures greater than 40 degrees Celsius, Sodium hypochlorite solutions release chlorine gas. This gas can cause severe irritation of the nose and throat. Exposures to high levels of chlorine gas may result in severe lung damage.

Sensitization to product: May cause dermatitis, prolonged or repeated contact may cause skin sensitization.

Carcinogenicity: Not carcinogenic based on current evidence

Reproductive toxicity: Not a reproductive toxin based on current evidence

Teratogenicity: Not teratogenic based on current evidence

Mutagenicity: Not mutagenic based on current evidence

Name of toxicological synergistic products: No information available

SECTION IV: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash skin with water for at least 30 minutes, using soap if available. Obtain medical attention immediately

Eye contact: Wash eyes with water for a minimum of 20 minutes or until no evidence of the chemical remains. Hold eyelids open during flushing. Seek immediate medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: Rinse mouth with water. Do not induce vomiting. Immediately dilute by drinking large quantities of water. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

SECTION V: PHYSICAL DATA

Physical state: Liquid

Appearance and odour: Green to yellow – clear solution, strong chlorine ordour

Odour threshold: Not avaibale

Specific gravity: 1.17

Vapor pressure (mmHG): 12.1 @ 20°C

Vapor density (Air=1): Not available

Evaporation rate: Not available

Boiling point (ºC): Not available

Freeze/Melting point (ºC): -15

pH: <12

Co-efficient of water/oil distribution: Soluble in water

SECTION VI: FIRE AND EXPLOSION DATA

Conditions of flammability: Not flammable

Means of extinguishing: Use extinguishing media appropriate for surrounding fire, DO NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents) since an explosive compound can be formed.

Flash point: Not available

Upper flammable limit: Not available

Lower flammable limit: Not available

Auto-ignition temperature: Not available

Hazardous combustion products: No information available

Explosion data-sensitivity to mechanical impact: Not available

Explosion data-sensitivity to static discharge: Not available

SECTION VII: REACTIVITY DATA

Chemically unstable (conditions): Unstable.

Product incompatible with: Unstable at temperatures above 40°C, and in contact with acid. Incompatible with stong acids, ammonia, oxidizable materials, nickel, copper, tin and iron.

Conditions of reactivity: Elevated temperatures and contact with incompatible materials.

Hazardous decomposition products: Chlorine (by reaction with acids), oxygen (by reaction with nickel, copper, tin, manganese, iron) sodium chlorate with increased temperature. Solutions decompose when exposed to sunlight giving off oxygen gas. However, the amount of oxygen produced us not sufficient to cause combustion.

BLEACH

SECTION VIII: PREVENTATIVE MEASURES

Personal protective equipment: Wear a NIOSH approved full facepiece respirator for acid gases or a self-contained breathing apparatus for air concentration levels up to 5 ppm. NIOSH approved supplied air respirator when airborne concentrations exceed exposure limits. Impervious gloves. Neoprene, Nitrile or rubber gloves. Neoprene coated apron or chemical resistant clothing. Impervious boots Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Do NOT wear contact lenses.

Specific engineering controls: Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere. Ventilation should be corrosive proof.

Procedures for leak/spills: Absorb with an inert dry material and place in an appropriate waste disposal container. Spilled material may cause floors and contact surfaces to become slippery. Dike and contain land spills; contain water spills by booming. Ventilate area.

Waste disposal: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations. Empty containers retain product residue (liquid and/or vapour) and can be dangerous. Do not expose such containers to heat, flame, sparks, static electricity or other sources of ignition; they may explode. Do not dispose of package until thoroughly washed out. Dispose of container according to national or local regulations.

Handling procedures and equipment: Avoid handling when the skin is moist, wet or abraided. Use good personal hygiene. Use appropriate personnel protective equipment. Use with adequate ventilation. Containers, which have been exposed to heat, may be under internal pressure. These should be cooled and carefully vented before opening. When diluting, add this product to water in small amounts to avoid spattering. Never add water to this material.

Storage requirements: Equipment for storage, handling or transportation should not be made of: tin, copper and it alloys, nickel and its alloys and iron. Some metals accelerate the decomposition of Sodium Hypochlorite. Store below 29 degrees Celsius. Do not freeze. Store in a cool dry, well-ventilated area, away from heat and ignition sources. Store away from organic chemicals, strong bases, metal powders, carbides, sulfides, and any readily oxidizable material. Keep away from direct sunlight. Storage area should be equipped with corrosion-resistant floors, sumps and should have controlled drainage to a recovery tank

Special shipping information: Not applicable.

SECTION IX: PREPARATION

Date updated: June, 2008 **Prepared by:** Product Safety Committee

All the recommendations and suggestions herein concerning this product are based upon tests and data believed to be reliable, however it is the user's responsibility to determine the safety, toxicity and sustainability for their own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Q'Max Solutions Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Q'Max Solutions Inc. assume any liability arising out of use by others. Nor is the information herein to be considered as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.