



MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: Bleach 12%

PRODUCT USE: Intermediate Reagent Fungicide

CHEMICAL FAMILY: Sodium Hypochlorite

WORK PLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D.2B E

WORK PLACE HAZARD: Skin and Eye Irritant

TRANSPORTATION OF DANGEROUS GOODS (TDG)

SHIPPING NAME: Hypochlorite Solutions

TDG CLASSIFICATION: Class 8 Corrosive Liquid
Class 9.2 Environmentally hazardous material

UN NUMBER (PIN): UN1791

PACKING GROUP: III

SECTION II: HAZARDOUS INGREDIENTS

<u>INGREDIENT</u>	<u>PERCENT</u>	<u>CAS NUMBER</u>	<u>LD₍₅₀₎ Oral-Rat</u>	<u>LLC₍₅₀₎ Rat-Inhal</u>	<u>ACGIH-TLV</u>
Sodium Hypochlorite	10-15	7681-52-9	5800 mg/kg (mouse)	No Information	N/A
Water	60-100	7732-18-5	N/A	N/A	N/A

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: SKIN EYE CONTACT INHALATION INGESTION

EYE CONTACT: Extremely hazardous in case of eye contact. Inflammation of the eye is characterized by redness, watering and itching.

SKIN CONTACT: Extremely hazardous in case of skin contact. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

INHALATION: Very hazardous in the case of inhalation. Severe over-exposure can result in death.

OTHER TOXIC EFFECTS: Material is corrosive to the mucous membranes.



MATERIAL SAFETY DATA SHEET

SECTION IV: FIRST AID MEASURES

- SKIN CONTACT:** After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reuse.
- EYE CONTACT:** Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
- INGESTION:** DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
- INHALATION:** Allow the victim to rest in a well-ventilated area. Seek immediate medical attention. If inhalation is hazardous, evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	Green yellowish Liquid; Chlorine
BOILING POINT (°C):	Decomposes; (40°C)
MELTING POINT (°C):	-25°C
SOLUBILITY:	Soluble-water, methanol. Insoluble-diethyl ether, n-octanol.
PERCENT VOLATILE BY VOLUME:	N/A
EVAPORATION RATE:	N/A
VAPOUR PRESSURE (mm Hg):	17.5 mm of Hg (@20°C)
pH:	11.5-13.0
VAPOUR DENSITY/SPECIFIC GRAVITY:	The highest known value is 1 (Air=1) (Water) Weighted Average: 1 (Air=1) 1.165 (Water=1)

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not Considered Flammable
FLAMMABLE LIMITS:	Not Determined
EXTINGUISHING MEDIA:	Use extinguishing media suitable for surrounding materials.
SPECIAL FIRE FIGHTING PROCEDURES:	Aqueous solutions or powders that become wet render surfaces



MATERIAL SAFETY DATA SHEET

extremely slippery.

UNUSUAL FIRE / EXPLOSION HAZARDS: Negligible fire hazard when exposed to heat or flame.

SECTION VII: REACTIVITY DATA

STABILITY:	Stable []	Unstable [XX]
INCOMPATIBILITY (CONDITIONS TO AVOID):	Highly reactive with oxidizing agents, reducing agents, and acids.	
HAZARDOUS DECOMPOSITION PRODUCTS:	N/A	
HAZARDOUS POLYMERIZATIONCORROSIVITY:	Will not occur [XX]	May occur []
SPECIAL REMARKS ON REACTIVITY:	Not considered to be corrosive for metals and glass according to our database. Incompatible with amines (Sodium Hypochlorite)	

VIII: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eyewash station and safety showers are proximal to the workstation location.
VENTILATION:	Vapour and dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent
PROTECTIVE GLOVES:	Gloves
EYE PROTECTION:	Splash Goggles.
OTHER PROTECTIVE EQUIPMENT:	Full suit. Vapour and air respirator, boots. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep locked up. Keep away from heat. Keep away from sources of ignition. Keep away from direct sunlight or strong incandescent light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Avoid shock and friction. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, and acids. Keep container tightly closed. Keep in a cool and well-ventilated area. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

In the event of a small spill, dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralized the residue with a dilute solution of hydrogen peroxide. In the event of a large spill - Corrosive Liquid – Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapours. Prevent entry into sewers, basements or confined areas; dike I needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid.

WASTE DISPOSAL METHOD

Recycle to process if possible. Consult your local or regional authorities.



MATERIAL SAFETY DATA SHEET

SECTION IX: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

DATE PRINTED: March 28, 2007 **BY:** MILLENNIUM TECHNOLOGIES LTD.
DATE MODIFIED: February 2007 **APPROVED BY:**
SUPERSEDES: May 2004
24 HOUR PHONE: 403-252-5904

