

Comet Chemical Company Ltd.

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Materials Safety Data - SODIUM HYPOCHLORITE - 12% ("Javex", "Chlorox", "Liquid Chlorine")

Shipping Name	UN - 1791
Transport of Dangerous Goods Class	HYPOCHLORITE SOLUTION
WHMIS Class	Class 8; Packing Group III
Material Use	C; D 1B; E disinfectant, bleach

1. HAZARDOUS INGREDIENTS	CAS NUMBER	%	TWAEV (ppm)	LD ₅₀ ORAL	(mg/kg) SKIN	LC ₅₀ ppm INHALATION
Sodium Hypochlorite	7681-52-9	10 - 12%	0.5 (chlorine)	5800	not known	not known

2. PHYSICAL CHARACTERISTICS

Odour & Appearance	clear, yellowish/green liquid with characteristic (chlorine) astringent odour
Odour Threshold	not known
Vapour Pressure	22mmHg (20°C)
Vapour Density (air = 1)	2.5 (chlorine gas)
Boiling Point	105°C but decomposes at lower temperatures releasing chlorine gas
Freezing Point	-15°C
Specific Gravity	1.16
Water Solubility	complete
pH	13 (strongly alkaline)
% Volatile	about 80% - residue will be mainly sodium chloride (common salt)

3. FLAMMABILITY & REACTIVITY

Flash Point	none
Autoignition Temperature	none
Flammable Limits	not flammable
Hazardous Combustion Products	chlorine gas, oxygen, sodium chlorate
Firefighting Precautions	will not burn - as for combustible materials sustaining fire - firefighters must wear SCBA
Sensitivity to Static Discharge	not sensitive
Sensitivity to Mechanical Impact	not sensitive
Chemical Stability	decomposes rapidly above 40°C, and on exposure to light, yielding corrosive Chlorine gas and oxygen gas
Reactive With	vigorous reaction with acids, ammonia, urea, amines, isocyanurates; can form toxic, Reactive chloramines
Dangerous Decomposition Products	none apart from "Hazardous Combustion Products"

4. TOXICOLOGY EFFECTS OF ACUTE EXPOSURE

Skin Contact	strongly irritating; corrosive to skin
Skin Absorption	no; decomposes on contact with skin; corrosive effect prevents absorption
Eye Contact	strongly irritating; permanent damage possible
Inhalation	irritating; may cause pulmonary oedema
Ingestion	corrosive; may cause perforation of digestive tract, falling blood pressure, delirium, & coma (due to blood pH imbalance)

(Sodium Hypochlorite. cont'd)

EFFECTS OF CHRONIC EXPOSURE

General	this product is corrosive; prolonged contact is extremely unlikely; astringent odour makes prolonged inhalation unlikely
Sensitising	no
Carcinogenic	tumorigen by RTECS criteria; no effects documented in humans
Reproductive Effect	mutagen by RTECS criteria; no effects documented in humans
Synergistic With	not known
Estimated LD ₅₀	4445 mg/kg (oral, rat), 5800 mg/kg (oral, mouse)
Estimated LC ₅₀	not known

5. PROTECTIVE EQUIPMENT

Hands	natural rubber, nitrile, neoprene, or polyvinyl chloride gloves
Eyes	safety glasses with side shields or chemical goggles
Respirator	good ventilation preferred; if this is not available, use an acid gas/organic vapour cartridge
Clothing	impervious (hands, above) apron, boots, long sleeves, if splashing is anticipated

6. ENVIRONMENT

Leak Precaution	dyke to control spillage and prevent environmental contamination
Handling Spill	ventilate contaminated area; recover free liquid suitable pumps; absorb residue on a dry, inert sorbent and store in closed containers for disposal; alternatively, residue may be neutralised with dilute acetic acid - BEWARE: this process will cause chlorine gas to bubble off
Waste Disposal	do not flush to sewer unless neutralised and well diluted

7. STORAGE & HANDLING

Store in a cool place (heat causes decomposition with release of chlorine gas) away from acids, organic materials and combustibles. Use away from organic chemicals and combustible materials. Damages wool, silk and leather. Use with adequate ventilation. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near the workplace.

8. FIRST AID

SKIN:	Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
EYES:	Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is any irritation.
INHALATION:	Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION:	Give plenty of water to dilute product or milk to help neutralise. Do not induce vomiting (see NOTE below). Keep victim quiet. If vomiting occurs, keep victim's head below the hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this product. The stomach should be emptied under medical supervision, after the installation of an airway to protect the lungs.

Emergency telephone numbers	- weekdays from 8:00 - 5:00	(705) 436-5580
	at all other times	(800) 567-7455 (Philip Environmental)

Prepared for Comet Chemical Co. Ltd., by *Nicholas Morgan*, March 2002; Revised March 2005

The information herein is given in good faith no warranty, expressed or implied is made.

PLEASE ENSURE THAT THIS MSDS IS GIVEN TO AND EXPLAINED TO THE PERSON USING THIS PRODUCT.