Emergency Overview

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.

Potential Health Effects

Inhalation:
Excessive inhalation of vapors, mists, or fumes may cause bronchial irritation, coughing, labored breathing, nausea, and pulmonary edema. Additional effects have included circulatory collapse and confusion, delirium, coma.

Ingestion:
May cause erosion of the mucous membranes. Symptoms include vomiting, circulatory collapse, confusion, coma, and death. May cause edema of pharynx, glottis, and larynx and perforation of the esophagus or stomach. Effects are less damaging at lower concentrations.

Skin Contact:
Contact may cause severe irritation with blistering and eczema, especially at higher concentrations.

Eye Contact:
Contact may cause severe irritation and damage, especially at higher concentration.

Chronic Exposure: A constant irritant to the eyes and throat.

Aggravation of Pre-existing Conditions:
Persons with impaired respiratory function may be more susceptible to the effects of the substance.

Section 4 - First Aid Measures

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

Ingestion:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:
Consider oral administration of sodium thiosulfate solutions if sodium hypochlorite is ingested. Do not administer neutralizing substances since the resultant exothermic reaction could further damage tissue. Endotracheal intubation could be needed if glottic edema compromises the airway. For individuals with significant inhalation exposure, monitor arterial blood gases and chest x-ray.

Section 5 - Fire-Fighting Measures

NFPA Ratings:
Health: 3 Flammability: 0 Reactivity: 1

Fire:
Not considered to be a fire hazard. Substance releases oxygen when heated, which may increase the severity of an existing fire. Containers may rupture from pressure build-up.

Explosion:
This solution is not considered to be an explosion hazard.

Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Use water spray to cool fire-exposed containers, to dilute liquid, and control vapor.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Section 6 - Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7 - Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

Section 8 - Exposure Controls / Personal Protection

Airborne Exposure Limits:
Sodium Hypochlorite: AIHA (WEEL) - STEL - 2 mg/m3
Sodium Hydroxide: No information available

-OSHA Permissible Exposure Limit
Sodium Hypochlorite: (PEL): 0.5 ppm (TWA), 1 ppm (STEL) as Chlorine
Sodium Hydroxide: 2 mg/m3 Ceiling

-ACGIH Threshold Limit Value (TLV):
Sodium Hypochlorite: 1 ppm (TWA), 3 ppm (STEL) as Chlorine
Sodium Hydroxide: 2 mg/m3 Ceiling

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded, a full facepiece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9 - Physical and Chemical Properties

Appearance:
Colorless to yellowish liquid.

Odor:
Chlorine-like odor.

Solubility:
100% in water.

Specific Gravity:
1.2 (12.5%)

pH: > 10

Boiling Point:
40C (104F) Decomposes slightly

Melting Point:
-15F (12.5%)

Vapor Density (Air=1):
No information found.

Vapor Pressure (mm Hg):
Dependent on concentration

Section 10 - Stability and Reactivity

Stability:
Slowly decomposes on contact with air. Rate increases with the concentration and temperature. Exposure to sunlight accelerates decomposition. Sodium hypochlorite becomes less toxic with age.

Hazardous Decomposition Products:
Emits toxic fumes of chlorine when heated to decomposition. Sodium oxide at high temperatures.

Hazardous Polymerization: Will not occur.

Incompatibilities:
Ammonia (chloramine gas may evolve), amines, ammonium salts, aziridine, methanol, phenyl acetonitrile, cellulose, ethyleneimine, oxidizable metals, acids, soaps, and bisulfates.

Conditions to Avoid: Light, heat, incompatibles.

Section 11- Toxicological Information

Sodium Hypochlorite:
No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a tumorigen and mutagen. Irritation data: eye, rabbit, 10 mg - Moderate

Sodium Hydroxide:
Irritation data: skin, rabbit: 500 mg/24H severe; eye rabbit: 50 ug/24H severe; investigated as a mutagen.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Sodium Hypochlorite (as NaOCl) (7681-52-9)	No	No	3
Sodium Hydroxide (1310-73-2)	No	No	None

Section 12 - Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

Section 13 - Disposal Considerations

Dilute with water and flush to sewer if local ordinances allow, otherwise, whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 - Transport Information

U.S. DOT

Proper Shipping Name: HYPOCHLORITE SOLUTION
Hazard Class: 8
UN/NA: UN1791 Packing Group: III

Section 15 - Regulatory Information

\Chemical Inventory Status - Part 1\

Ingredient	TSCA	EC	Japan	Australia
Sodium Hypochlorite (as NaOCl) (7681-52-9)	Yes	Yes	Yes	Yes
Sodium Hydroxide (1310-73-2)	Yes	Yes	Yes	Yes

\Chemical Inventory Status - Part 2\

Ingredient	Korea	--Canada-- DSL	NDSL	Phil.
Sodium Hypochlorite (as NaOCl) (7681-52-9)	Yes	Yes	No	Yes
Sodium Hydroxide (1310-73-2)	Yes	Yes	No	Yes

\Federal, State & International Regulations - Part 1\

Ingredient	-SARA 302- RQ	TPQ	------SARA 313------ List	Chemical Catg.
Sodium Hypochlorite (as NaOCl) (7681-52-9)	No	No	No	No
Sodium Hydroxide (1310-73-2)	No	No	No	No

\Federal, State & International Regulations - Part 2\

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Sodium Hypochlorite (as NaOCl) (7681-52-9)	100	No	No
Sodium Hydroxide (1310-73-2)	1000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: No (Mixture / Liquid)

Section 16 - Other Information

Prepared By: Chris W. Gibson
Revision Notes: Updated section 5.
Disclaimer:

Please be advised that it is your responsibility to inform your employees of the hazards of this substance, to advise them of what these properties mean and be sure they understand exposure information.

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