

PRODUCT NAME: LIQUICHLOR / SODIUM HYPOCHLORITE 7-15%
MSDS NUMBER: OX622680
EFFECTIVE DATE: 1/10/1999
SUPERSEDES: NEW
ISSUED BY: 008740

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THIS PRODUCT MAY BE CONSIDERED TO BE A HAZARDOUS CHEMICAL UNDER THAT STANDARD. (REFER TO THE OSHA CLASSIFICATION IN SEC.I.) THIS INFORMATION IS REQUIRED TO BE DISCLOSED FOR SAFETY IN THE WORKPLACE. THE EXPOSURE TO THE COMMUNITY, IF ANY, IS QUITE DIFFERENT.

I -PRODUCT IDENTIFICATION

Product Name: Sodium Hypochlorite
Synonyms: Liquid chlorine solution, Liquid bleach, Hypochlorite, Bleach, Hypo
Chemical Family: Hypochlorite
Formula: NaOCL in water
Use Description: Swimming pool chlorinator, Microbiocide, textile/laundry bleaching agent, hard surface cleaner, mildecide, water treatment
Hazard Classification: Oxidizer, unstable (reactive), corrosive, lung toxin

II -COMPONENT DATA

Product Composition
CAS or Chemical Name: Sodium hypochlorite
CAS Number: 7681-52-9
Percentage Range: 7-15
Hazardous Per 29 CFR 1910.1200: Yes
Exposure Standards: None Established for Sodium Hypochlorite, see Hazardous Decomposition, Section VII.
CAS or Chemical Name: Water
CAS Number: 7732-18-5
Percentage Range: 70.5-87.5
Hazardous Per 29 CFR 1910.1200: No
Exposure Standards: None Established.

CAS or Chemical Name: Sodium hydroxide
CAS Number: 1310-73-2
Percentage Range: 0.5 - 2.5
Hazardous Per 29 CFR 1910.1200: Yes

Exposure Standards:	OSHA (PEL) *	ACGIH (TLV)
	ppm	mg/m ³
TWA:	N/A	2
CEILING:	N/A	None
STEL:	N/A	2

* Federal OSHA PEL. An Agreement
State OSHA PEL may be different.

CAS or Chemical Name: Sodium chloride
CAS Number: 7647-14-5
Percentage Range: 5.0 - 12.0
Hazardous Per 29 CFR 1910.1200: Yes
Exposure Standards: None Established

III -PRECAUTIONS FOR SAFE HANDLING AND STORAGE

DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN OR EYES, UPON CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER. . AVOID BREATHING MIST OR VAPOR.

STORAGE CONDITIONS:

Store in a cool, dry, well-ventilated area. Avoid high temperatures and exposure to and direct sunlight.

DO NOT STORE AT TEMPERATURES ABOVE: 15-21 Deg. C (60-70 Deg. F)

OTHER: Store in the dark at the lowest possible temperature, but keep from freezing.

PRODUCT STABILITY AND COMPATIBILITY:

SHELF LIFE LIMITATIONS: Up to 6 months at 60 Deg. F. or lower

INCOMPATIBLE MATERIALS FOR PACKAGING: Metal containers.

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT:

Oxidizers, acids, nitrogen containing materials such as quaternary ammonium salts, metals such as copper, nickel or cobalt..

IV -PHYSICAL DATA

Appearance: Greenish-yellow liquid

Freezing Point: -20 °C @ 7% NaOCl

Boiling Point: Decomposes on heating

Decomposition Temperature: Decomposition rate increases as heated

Specific Gravity: 1.08 - 1.26

Bulk Density: Not Applicable

pH @2?????C: 12-14

Vapor Pressure @ 2?????C: No Data

Solubility in Water: Miscible

Volatiles, Percent by Volume: 87.5-94.5

Evaporation Rate: No Data

Vapor Density: No Data

Molecular Weight: 74.5 (active ingredient-NaOCl)

Odor: Chlorine-like

Coefficient of Oil/Water Distribution: No Data

V -PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Personal Protection for Routine Use of Product:

Respiratory Protection: Routine: If vapors, mists, or aerosols are not controlled with ventilation to below the TLV wear a NIOSH approved respirator.

Line breaking/hose connections/samples, etc.: Wear a NIOSH approved workplace respirator as air concentrations above the TLV for chlorine may occur unexpectedly.

Ventilation: Routine: Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

Line breaking/hose connections/samples, etc.: Use local exhaust ventilation

Skin and Eye Protection: Routine: Use chemical safety goggles and impermeable gloves.

Line breaking/hose connections/samples, etc.: Wear chemical safety goggles and face shield, impermeable gloves, boots and protective suit.

Other: Emergency eye wash and safety showers must be provided in the immediate work area..

Equipment Specifications (When Applicable):

Respirator Type: NIOSH approved respirator equipped with chemical cartridges for protection against chlorine gas and dust mist pre-filters.

Protective Clothing Type: (This includes: gloves, boots, apron, protective suit.): Neoprene

VI -FIRE AND EXPLOSION HAZARD INFORMATION

Flammability Data:

Explosive: N/A
Flammable: No
Combustible: No
Pyrophoric: No
Flash Point: Not Applicable
Autoignition Temperature: Not Applicable
Flammable Limits at Normal Atmospheric Temperature and Pressure
(Percent Volume in Air):
LEL - Not Applicable
UEL - Not Applicable

NFPA Ratings:
Health: Not Established
Flammability: Not Established
Reactivity: Not Established

HMIS Ratings:
Health: 3
Flammability: 0
Reactivity: 2

Extinguishing Media: Not applicable

Fire Fighting Techniques and Comments:

Use water to cool containers exposed to fire. On small fire, use dry chemical, carbon dioxide or water spray. on large fires, use water in flooding quantities as fog. In case of fire, hazardous concentrations of chlorine may be formed. See Section XI for personal protective equipment for fire fighting..

VII - REACTIVITY INFORMATION

Conditions Under Which This Product May Be Unstable:

Temperatures Above: Decomposition rate increases as it is heated

Mechanical Shock or Impact: No

Electrical (Static) Discharge: No

Other: Decomposition will result formation of oxygen from contact with copper, nickel, cobalt and iron

Hazardous Polymerization: Will not occur

Incompatible Materials: Iron, copper, nickel, cobalt, acids, ammonium or other nitrogen containing compounds, organics, other oxidizers

Hazardous Decomposition: Chlorine gas

Other conditions to avoid: High heat, sunlight and ultra-violet light

Summary of Reactivity:

Explosive: N/A

Oxidizer: Yes

Pyrophoric: No

Organic Peroxide: No

Water Reactive: No

Corrosive: N/A

VIII - FIRST AID

Eyes

Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention at once.

Skin

Immediately flush with water for at least 15 minutes. Seek medical attention. If clothing, shoes and/or jewelry come in contact with the product, they removed immediately and laundered before re-use.

Ingestion

Immediately drink large quantities of water. DO NOT induce vomiting. Seek medical attention at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

Inhalation

If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Seek medical attention. In the event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and seek medical attention immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

IX -TOXICOLOGY AND HEALTH INFORMATION

Routes of Absorption

Inhalation, skin, eye, ingestion

Warning Statements and Warning Properties

CAUSES RESPIRATORY TRACT IRRITATION. . CAUSES EYE AND SKIN BURNS. CAN CAUSE LUNG DAMAGE.

Human Threshold Response Data

Odor Threshold: Approximately 0.9 mg/M 3 (0.3 ppm) based on odor of chlorine.

Irritation Threshold: No data for Sodium hypochlorite.

However, decomposition products may be irritating.

Immediately Dangerous to Life or Health: No Data. However, Sodium hypochlorite has the potential to be immediately dangerous to life or health.

Signs, Symptoms and Effects of Exposure

Inhalation

Acute: Inhalation of this material is irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory tract with the production of lung edema, which can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function.

Inhalation of high concentrations can result in permanent lung damage.

Chronic: Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.

Skin

Acute: Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation. Prolonged skin exposure may cause destruction of the dermis with impairment of the skin at site of contact to regenerate.

Chronic: Effects from chronic skin exposure would be similar to those from single exposure except for effects secondary to tissue destruction.

Eye

Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage..

Ingestion

Acute: Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration.

Chronic: There are no known or reported effects from chronic exposure.

Medical Conditions Aggravated by Exposure

Asthma and respiratory and cardiovascular disease

Interactions With Other Chemicals Which Enhance Toxicity

None known or reported

Animal Toxicology

Acute Target Organ Toxicity

INHALATION LC50: No available data

ORAL LD50: Approximately 3-5 g/kg (rat)

DERMAL LD50: > 2 g/kg (rabbit)

Causes burns to eyes and skin.

Chronic Target Organ Toxicity

There are no know or reported effects from repeated exposure.

Reproductive and Developmental Toxicity

There are no know or reported effects on reproductive function or fetal development.

Carcinogenicity

Sodium hypochlorite has been shown not to be carcinogenic in laboratory animals.

It is not included as a carcinogen by IARC, OSHA, NTP, or EPA. IARC has concluded that there is inadequate evidence for the carcinogenicity of hypochlorite salts in laboratory animals and there is no data available from studies in humans.

Therefore, IARC considers hypochlorite salts to be not classifiable as to their carcinogenicity to humans.

Mutagenicity

Sodium hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. Chemicals with potent biocidal activity, typical of hypochlorite compounds, may compromise the integrity of many of the treated cells, which remain viable during an in vitro assay. This result would likely produce cellular changes giving rise to a response indicative of mutation. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biocidal activity, lack of mutagenicity in vivo, and failure to produce a carcinogenic response.

Aquatic Toxicity

Aquatic LC50 - approximately 0.6 mg/l (bluegill)

approximately 1 mg/l (daphnia, 48 hours)

X -TRANSPORTATION INFORMATION

THIS MATERIAL IS REGULATED AS A DOT HAZARDOUS MATERIAL.

DOT Description from the Hazardous Materials Table 49 CFR 172.101:

Land (U.S. DOT): HYPOCHLORITE SOLUTIONS, 8, UN1791, PG II

Water (IMO): Same as above

Air (IATA/ICAO): Same as above

Hazard Label/Placard: CORROSIVE

Reportable Quantity: 100 lbs. (Per 49 CFR 172.101, Appendix)

Emergency Guide: 154

XI -SPILL AND LEAKAGE PROCEDURES

FOR ALL TRNASPORTATION ACCIENTS, CALL CHEMTREC AT 800-424-9300

Reportable Quantity: 100 LBS. (Per 40 CFR 302.4)

Spill Mitigation Procedures:

Hazardous concentrations in air may be found in local spill area and immediately downwind.

Air Release: Vapors may be suppressed by the use of a water fog. Capture all run-off water for treatment and disposal.

Water Release: This material is soluble in water. Dike or contain material via use of compatible absorbents. Remove material with use of vacuum or pump operation and treat before disposition. This material is harmful to aquatic life.

Land Spill: Compatible absorbents: Sand, clay soil, commercial absorbents.

Spill Residues:

Dispose of per guidelines under Section XII, WASTE DISPOSAL.

This material may be neutralized for disposal; you are requested to contact OCEAN

at 888-2891-911 before beginning any such operation..

Personal Protection for Emergency Spill and Firefighting Situations:

Response to this material requires the use of self-contained breathing apparatus (SCBA).

Additional protective clothing must be worn to prevent personal contact with this material. These items include by are not limited to boots, gloves, hard hat, impervious clothing, i.e. chemically impermeable suit.

Compatible materials for response to this material are neoprene, butyl rubber, viton and saranex.

XII -WASTE DISPOSAL

If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D002.

As a hazardous liquid waste, it must be disposed of in accordance with local state and federal regulations in a permitted hazardous waste treatment, storage and disposal facility by treatment.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

XIII - ADDITIONAL REGULATORY STATUS INFORMATION

TOXIC SUBSTANCES CONTROL ACT: This substance is listed on the Toxic Substances Control Act inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT TITLE III: None Established
HAZARD CATEGORIES, PER 40 CFR 370.2:

HEALTH: Immediate (Acute)

Delayed (Chronic)

PHYSICAL:

Fire

Reactivity

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW, PER 40 CFR 355, APP.A:

EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372-45: None Established.

----- FOR ADDITIONAL INFORMATION -----
CONTACT: MSDS COORDINATOR UNIVAR USA INC.
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400
----- NOTICE -----

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