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Sodium Hypochlorite

12% by Volume | 10.5% by Weight

This SDS follows the GHS format

SDS Number	KCC - HYPO - 002
SDS Date	September 5, 2023
24 Hour Emergency Phone Number	973 589-0700 551 200-2751 CHEMTREC 800 424-9300

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Hypochlorite Solution
Chemical Name	Sodium Hypochlorite
CAS Number	7681-52-9
Common Names	Chlorine Bleach, Soda Bleach
Chemical Formula	NaOCl
Manufacturer	Kuehne Chemical Company Inc. 86 North Hackensack Avenue South Kearny NJ 07032-4673 973 589-0700

SECTION 2 - HAZARD IDENTIFICATION

Symbol



Signal Word

Danger

Corrosive to Metals

Category 1

Skin Corrosion

Category 1

Serious Eye Damage

Category 1

Target Organ Toxicity

Category 1 - Causes damage to respiratory system

Hazard Statements

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

H400 - Very toxic to aquatic life

HMIS HAZARD RATINGS

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	2
PERSONAL PROTECTION	

Based on Nat'l Paint & Coating Association HMIS System

NFPA HAZARD RATINGS



Chemical not listed. Ratings based on NFPA guidelines

Effects of Overexposure

Acute *Inhalation* | Inhalation of mists, vapors or sprays is irritating to the respiratory system, may cause throat pain and cough, severe respiratory tract irritation and pulmonary edema.

Eyes | May cause severe irritation, burns, and/or corrosion, vision impairment, corneal damage and blurred vision.

Skin | May cause severe irritation and burns or dermatitis. Prolonged skin exposure may cause destruction of the dermis with impairment of the skin to regenerate at site of contact.

Ingestion | May cause gastrointestinal tract pain and inflammation, burns and perforation of the esophagus or stomach or injury to liver, kidneys or central nervous system.

Chronic Repeated inhalation exposure may cause impairment of lung function and permanent lung damage. Effects from chronic skin exposure would be similar to those from single exposure except for effects secondary to tissue destruction.

Note Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract, and abdominal distress.

Appearance Colorless to light yellow-green liquid.

Routes of Entry Inhalation, Eye Contact, Skin, Ingestion

Cancer Information This product has not been listed as carcinogenic by the following agencies: IARC, NTP, or OSH.

Mutagenicity Sodium hypochlorite has tested positive in in-vitro test systems and negative in invivo test systems. These results are consistent with other germicides.

Medical Conditions Aggravated by Exposure Asthma, Heart disease, Respiratory disorder

SECTION 3 - COMPOSITION, INFORMATION OR INGREDIENTS

CAS Number

7732-18-5

Name

Water

Common Names

Water

Percentage

VOL 84 - 86

WT 86.07 - 90.02

Exposure Limits

PEL Not Established

TLV Not Established

STEL Not Established

IDLH Not Established



CAS Number

7681-52-9

Name

Hypochlorous Acid, Sodium Salt

Common Names

Sodium Hypochlorite

Percentage

VOL 11.4 - 15

WT 9.98 - 13.13

Exposure Limits

PEL N/A

TLV N/A

STEL 2 mg/m3 (US WEEL)

IDLH Not Established

Listed On

- EINECS inventory, or in compliance with inventory
- TSCA inventory
- AICS inventory, or in compliance with inventory
- DSL list
- ENCS inventory, or in compliance with inventory
- KECI inventory, or in compliance with inventory
- PICCS inventory, or in compliance with inventory
- IECSC inventory, or in compliance with inventory
- NZIoC inventory, or in compliance with inventory

CAS Number

1310-73-2

Name

Sodium Hydroxide (NaOH)

Common Names

Caustic Soda, Lye

Percentage

VOL 1

WT 1

Exposure Limits

PEL 2 mg/m3

TLV 2 mg/m3

STEL 2 mg/m3

IDLH 10 mg/m3

Listed On

- The TSCA Inventory, or in compliance with inventory
- PA Requirement - 3% or greater
- NJ Requirement - 1% or greater
- This product has not been listed as carcinogenic by the following agencies: IARC, NTP, or OSHA



CAS Number	Name	Common Names
7647-14-5	Sodium Chloride (NaCl)	Salt
Percentage	Exposure Limits	
VOL >1	PEL Not Established	
WT >1	TLV Not Established	
	STEL Not Established	
	IDLH Not Established	

CAS Number	Name	Common Names
497-19-8	Carbonic Acid Disodium Salt	
Percentage	Exposure Limits	
VOL >1	PEL Not Established	
WT >1	TLV Not Established	
	STEL Not Established	
	IDLH Not Established	

SECTION 4 - FIRST AID MEASURES

Inhalation	Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. SEEK MEDICAL ATTENTION IMMEDIATELY.
Eyes	Immediately flush eyes with plenty of water for at least 15 minutes. SEEK MEDICAL ATTENTION IMMEDIATELY.
Skin	Flush thoroughly with cool water under shower for at least 15 minutes while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. Continue to flush until medical attention arrives. SEEK MEDICAL ATTENTION IMMEDIATELY.
Ingestion	Do not induce vomiting. Rinse mouth and give water or milk if the person is conscious. If vomiting occurs, keep airway clear and give more milk or water. SEEK MEDICAL ATTENTION IMMEDIATELY.

SECTION 5 - FIRE-FIGHTING MEASURES

Flash Point	N/A
Auto-Ignition Temperature	N/A
Flammable Limits in Air - % by Volume - Upper	N/A
Flammable Limits in Air - % by Volume - Lower	N/A
Sensitivity to Mechanical Impact	Not Sensitive
Sensitivity to Static Discharge	Not Sensitive

Extinguishing Media

Use water spray, foam, dry powder, or carbon dioxide or agents suitable for materials in surrounding fire. Do not use Mono Ammonium Phosphate (MAP) type extinguishers directly on this product.

Fire Fighting Procedures

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

Fire and Explosion Hazard

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire. May release toxic gases.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Steps to be Taken if Material is Released or Spilled

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

Ventilation Requirements

Provide good general room ventilation plus local exhaust at points of emission.

SECTION 7 - HANDLING AND STORAGE

Handling Precautions

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

Do Not Reuse Containers

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Specific Personal Protective Equipment

Respiratory	NIOSH/MSHA approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Acid gas cartridges may be required if decomposition products are present. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator
Eyes	Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.
Gloves	Wear impervious gloves such as rubber, neoprene or vinyl.
Other	Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless to light yellow-green		
Odor	Pungent chlorine like odor		
Physical State	Liquid		
pH	12 @ 100 g/L		
Vapor Pressure	Temperature °F	mm Hg	PSIA
	48.2	3.7	0.071
	60.8	8.0	0.15
	68.0	12.1	0.23
	89.6	31.1	0.60
	118.4	100.0	1.93
Boiling Point	@ 760 mm Hg	Decomposes above 110°C (230°F)	
Freezing / Melting Point	Weight %	Freezing Point °F	
	10	7	
	12	- 3	
	14	- 14	
Solubility in Water	100% (by weight)		
Specific Gravity	1.117 - 1.215	H2O = 1	
Odor Threshold (ppm)	0.9 ppm approximate		

SECTION 10 - STABILITY AND REACTIVITY

Conditions Contributing to Instability	Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.
Incompatibility	Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

Reacts With	Organics, ammonia and acids
Hazardous Decomposition Products	Acid fumes, Hydrogen chloride and Chlorine.
Hazardous Polymerization	Material is not known to polymerize.

SECTION 11 - TOXICOLOGICAL INFORMATION

CAS Number	Name	Common Names
7681-52-9	Sodium Hypochlorite	Bleach
Acute Oral LD₅₀	(rat) 8,200 mg/kg	
Primary Skin Irritation LD₅₀	(rabbit) >10,000 mg/kg	

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

SECTION 12 - ECOLOGICAL INFORMATION

Aquatic Ecotox Data | Fish

LC₅₀ (96 hr) Pimephales Promelas (Fathead Minnow) 1.40 mg/L

EC₅₀ (48 hr) Daphnia Magna (Water Flea) 0.035 mg/L

Biodegradation This material is inorganic and not subject to biodegradation.

Persistence This material is believed not to persist in the environment.

Bioconcentration This material is not expected to bioconcentrate in organisms.

This material is harmful to fish, invertebrates, amphibians, and plants.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable government regulations.

Product Disposal

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting applicable governmental regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT Proper Shipping Name	Hypochlorite Solutions
DOT Hazard Class	8
DOT ID Number	UN1791
DOT Packing Group	II
DOT Hazardous Substance	RQ 100# (Sodium Hypochlorite)
DOT Marine Pollutant	N/A
Additional Description	N/A

SECTION 15 - REGULATORY INFORMATION

U.S. Federal Regulations

Section 311 of The Clean Water Act lists this product as a hazardous substance, which If discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number: 1-800-424-8802.

Material is contained on a composite list as required under 101 (14) of CERCLA.

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by Kuehne Chemical Company Inc. is registered with the USEPA under Registration Number 35317-20001, 35317-4 and 35317-13.

OSHA

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) (US).

CERCLA and SARA/Title III**Hazard Categories**

Corrosive to Metal
Oxidizer
Acute Toxicity
Respiratory or Skin Sensitization
Serious Eye Damage or Irritation
Skin Corrosion or Irritation

This product is registered with the USEPA as a pesticide as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Other Standards**NSF Certification**

This product has been classified as an approved drinking water treatment chemical under ANSI/NSF Standard 60.

USDA Approvals

B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

SECTION 16 - OTHER INFORMATION

Prepared By

Kuehne Company's Health, Safety, Environmental & Security Department, Revision D – 5 September 2023.
For additional non-emergency health, safety or environmental information, telephone: 973 589-0700 or write to:

Kuehne Chemical Company, Inc.
86 N. Hackensack Avenue
South Kearny, New Jersey 07032-4673



SDS Legend

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service Registry Number
CEILING	Ceiling Limit (15 Minutes)
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit (OSHA)
STEL	Short Term Exposure Limit (15 Minutes)
TLV	Threshold Limit Value (ACGIH)
TWA	Time Weighted Average (8 Hours)

IMPORTANT

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations.

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This Safety Data Sheet (SDS) covers the following materials: Sodium Hypochlorite - Liquid: 12% by volume – 10.5% by weight

REFERENCES

American National Standard, Z400.1-1993
Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Manual), Edition 5, September 2017
National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.
Supplier's Safety Data Sheets.
Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.



WARNING LABEL INFORMATION

Ingredients

Active Ingredient Sodium Hypochlorite (NaOCl)	9.98 - 13.13 % (by weight)
Other Ingredients	86.87 - 90.02 %
Total	100 %

KEEP OUT OF REACH OF CHILDREN

ANGER

Category 1

Symbol



Signal Word

Danger

Hazard Statements

May be corrosive to metals
Causes severe skin burns and eye damage
Very toxic to aquatic life

FIRST AID

IF INHALED Move to fresh air. If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

IF IN EYES Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 – 20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN Probable mucosal damage may contraindicate the use of gastric lavage.

HOT LINE NUMBER 1-800-POISON-1

Have product container or label with you when calling a poison control center or doctor or going for treatment.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER Corrosive. Causes irreversible eye and skin damage. Do not get in eyes, on skin or on clothing. Harmful if absorbed through the skin. Applicators or other handlers must wear coveralls over long sleeve shirt and long pants, socks and rubber boots, face shield or goggles and rubber gloves when handling this product. Wash thoroughly with soap and water after handling before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated. Remove and wash contaminated clothing before reuse.

Environmental Hazards This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Physical and Chemical Hazards STRONG OXIDIZING AGENT. Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

Re-formulators and Re-packagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products

NOTE This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A Sanitizers of hard non-porous surfaces (stainless steel tops)

CIRCULAR NUMBER K586B Commercial laundry sanitizers

CIRCULAR NUMBER K586C Agricultural uses

CIRCULAR NUMBER K586D	Disinfection of human drinking water
CIRCULAR NUMBER K586E	Disinfection of hard non-porous surfaces (sealed tile, fiberglass, glass, stainless steel)
CIRCULAR NUMBER K586F	Sewage, wastewater and effluent control
CIRCULAR NUMBER K586G	Cooling tower & evaporative condenser water systems
CIRCULAR NUMBER K586H	Sanitizer of porous food contact surfaces (wooden butcher blocks)
CIRCULAR NUMBER K586I	Sanitizer of porous non-food contact surfaces (tile walls, concrete floors)
CIRCULAR NUMBER K586J	Disinfectant of swimming pool water, spa/hot tubs, hydrotherapy pools)

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF

FIRE Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or CO₂. Fire may liberate toxic gases.

SPILL OR LEAKAGE Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1 800 424-8802

State and local regulations may have additional reporting requirements, check with the proper state and local authorities. Wear neoprene or rubber gloves.

**IN CASE OF CHEMICAL EMERGENCIES
24 HOUR EMERGENCY PHONE 973 589-0700**