Kuehne COMPANY
86 North Hackensack Avenue, South Kearny, New Jersey 07032-4673
Phone: (973) 589-0700
Fax: (973) 589-4866

SAFETY DATA SHEET

((This SDS follows the GHS format)

SODIUM HYPOCHLORITE

(High Strength)

SDS NUMBER: **KCC – HYPO - 100**

SDS DATE: **May 1, 2015**

24 HOUR EMERGENCY PHONE NUMBER: **(973) 589-0700**
Alt. (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, New Jersey 07032-4673
(973) 589-0700 Fax: (973) 589-4866

SECTION 2 – HAZARD IDENTIFICATION

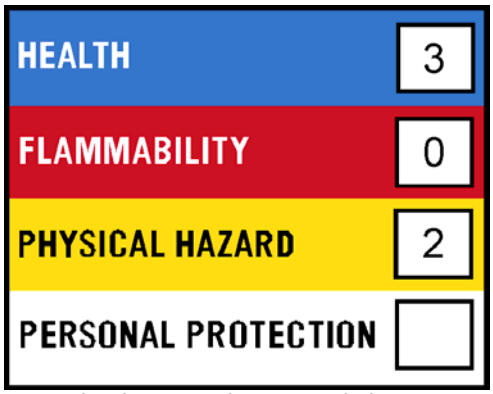
Category 1

Symbol:

Signal Word: Danger

Hazard Statements: May be corrosive to metals
Causes severe skin burns and eye damage
Causes severe eye damage

HMIS HAZARD RATINGS



Based on Nat'l Paint & Coatings Association HMIS system

NFPA HAZARD RATINGS

Chemical not listed. Ratings based on NFPA guidelines

Effects of Overexposure

Acute: Inhalation – Inhalation of vapors 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. May cause 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 – Ingestion of high concentrations may cause injuries to, liver, kidneys, central nervous system and gastrointestinal tract pain and inflammation, burns and perforation of the esophagus or stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea, circulatory collapse, confusion, delirium and coma.

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

Target Organs: Eyes, Skin, Respiratory Tract, and Gastrointestinal Tract.

Cancer Information: This product has not been listed as carcinogenic by the following agencies: IARC, NTP, and OSHA

Mutagenicity: Sodium hypochlorite has tested positive in in-vitro test systems and negative in in-vivo 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	Name	Common Names
7732-18-5	Water	Water

Percentage	Exposure Limits
VOL. 70 - 87	PEL: Not Established
WT. 80 - 90	TLV: Not Established
	STEL: Not Established
	IDLH: Not Established

CAS Number	Name	Common Names
7681-52-9	Hypochlorous Acid, Sodium Salt	Sodium Hypochlorite

Percentage	Exposure Limits
VOL. 30 - 13	PEL: 1 ppm ceiling (as Cl_2)
WT: 20 - 10	TLV: 1 ppm TWA (as Cl_2)
	STEL: 1 ppm ceiling (as Cl_2)
	IDLH: Not Established

Listed on:
- The EINECS inventory, or in compliance with the inventory.
- The TSCA inventory.
- The AICS inventory, or in compliance with the inventory.
- The DSL list.
- The ENCS inventory, or in compliance with the inventory.
- The KECI inventory, or in compliance with the inventory.
- The PICCS inventory, or in compliance with the inventory.
- The IECSC inventory, or in compliance with the inventory.
- The NZIoC inventory, or in compliance with the inventory.

CAS Number	Name	Common Names
1310-73-2	Sodium Hydroxide (NaOH)	Caustic Soda, Lye

Percentage	Exposure Limits
VOL. 1	PEL: 2 ppm ceiling
WT. 1	TLV: 2 ppm ceiling
	STEL: Not Established
	IDLH: 10 ppm

Listed on:
- The TSCA Inventory, or in compliance with the inventory.
- PA Requirement - 3% or greater.
- NJ Requirement - 1% or greater

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	Carbonic Acid Sodium 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: OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. **SEEK MEDICAL ATTENTION IMMEDIATELY**.

Skin: Flush thoroughly with cool water under shower 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: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed. DO NOT INDUCE VOMITING. Give large quantities of milk. If this is not available, give large quantities of water. If vomiting occurs spontaneously, keep airway clear and give more milk or water. **SEEK MEDICAL ATTENTION IMMEDIATELY**. Avoid vomiting, lavage or acidic antidotes.

Note to Physician

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted Ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.

SECTION 5 – FIRE-FIGHTING MEASURES

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

Extinguishing Media

Use water spray, fog, foam, dry chemical, 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

Contain the spilled material in the smallest possible area. Do not allow spilled material to enter sewers, streams or unpaved land. 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.

Eye: 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	mm Hg	PSIA
48.2 °F (9 °C)	3.7	0.071
60.8 °F (16 °C)	8.0	0.15
68.0 °F (20 °C)	12.1	0.23
89.6 °F (32 °C)	31.1	0.60
118.4 °F (48 °C)	100.0	1.93

Boiling Point: Decomposes above 230 °F (110 °C)
(@760 mm Hg)

Freezing/Melting Point: - 14 ^{o}F to 30 ^{o}F (-25.6 ^{o}C to -1.1 ^{o}C)
(@14 to 20 weight %)
Solubility in Water: 100%
(by weight)
Specific Gravity: 1.155 - 1.410
(H_2O = 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:
Acids – A serious chlorine release can result.

Ammonia Compounds – Both toxic and hazardous gases can be formed.

Organic Compounds – May react violently with many organic compounds including greases, oils, fuels, etc. Care must be taken to avoid contact with these types of compounds unless you are certain they are compatible or adequate engineering controls and personal protective equipment (PPE) are employed.

Other Chlorinating Compounds – Care must be taken when storing or using with other chlorinating compounds. In swimming pool applications, never attempt to pre-blend with concentrated forms of any chemicals including other chlorinating compounds. Concentrated forms of these compounds may react violently.

Hazardous Decomposition Products: Acid fumes, Hydrogen chloride and Chlorine. If this material is allowed to dehydrate, there is the potential to form sodium chlorate crystals, which are explosive on impact.

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 LD_{50}:	(rat)	3-5 mg/kg
Primary Skin Irritation:	(rabbit)	> 2 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:	LC_{50} (96 hr.)	(Bluegill sunfish)	2.90 mg/L
	LC_{50} (96 hr.)	(Fathead minnow)	1.40 mg/L
	LC_{50} (0.5 hr.)	(Rainbow trout)	0.90 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.

NOTE: 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 governmental 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 government 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.

High Strength Sodium Hypochlorite Solution produced by Kuehne Chemical Company, Inc. is registered with the USEPA under Registration Numbers 35317-00006 & 35317-00007.

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

TSCA (Toxic Substances Control Act): This product is not subject to export notification.

Other Regulations/Standards

NSF Certification: This product has been classified as an approved drinking water treatment chemical under ANSI/NSF Standard 60 by Underwriters Laboratories (reference number: MH17612).

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

SECTION 16 – OTHER INFORMATION

Prepared By: Kuehne Company's Environmental, Safety & Security Department
Revision D – 1 May 2015
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.

The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge.
NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, OR OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, STABILITY OR OTHERWISE.

This information is not intended to be all-inclusive as to the manner and conditions of handling and storage. Other factors may involve other or use additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.

No warranty of any kind is given or implied and Kuehne Chemical Company, Inc. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

This Safety Data Sheet (SDS) covers the following materials:

Sodium Hypochlorite - Liquid: High Strength.

REFERENCES:

- American National Standard, Z400.1-1993
- Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Manual), Edition 4, October 2011
- 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

Active Ingredient:	Sodium Hypochlorite (NaOCl)	10 - 20 %	(by weight)
	Inert Ingredients	90 - 80 %	
Total		100.0 %	

KEEP OUT OF REACH OF CHILDREN

DANGER

Category 1

Symbol(s):

Signal Word: Danger

Hazard Statements: May be corrosive to metals
Causes severe skin burns and eye damage
Causes severe eye damage

FIRST AID

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably month-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 may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

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 NUMBERS K587A, AK588A: SANITIZATION OF HARD NONPOROUS SURFACES

CIRCULAR NUMBERS K587B, K588B: COMMERCIAL LAUNDRY SANITIZERS

CIRCULAR NUMBERS K587C, K588C: AGRICULTURAL USES

CIRCULAR NUMBERS K587D, K588D: DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)

CIRCULAR NUMBERS K587E, K588E: DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES

CIRCULAR NUMBERS K587F, K588F: SEWAGE & WASTEWATER EFFLUENT TREATMENT

CIRCULAR NUMBERS K587G, K588G: COOLING TOWER & EVAPORATIVE CONDENSER WATER

CIRCULAR NUMBERS K587H, K588H: SANITIZATION OF POROUS FOOD CONTACT SURFACES

CIRCULAR NUMBERS K587I, K588I: SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES

CIRCULAR NUMBERS K587J, K588J: DISINFECTION OF SWIMMING POOLS, SPAS/HOT TUBS, AND 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 C02. 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 CALL:

24 HOUR EMERGENCY PHONE (973) 589-0700

Alt. (551) 200-2751