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www.kuehnecompany.com

(This SDS follows the GHS format)

SODIUM HYPOCHLORITE

(4.9 to 7.5% by weight)

MSDS NUMBER: KCC – HYPO - 003

MSDS DATE: June 6, 2022

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 2



Symbol:

Signal Word: Warning

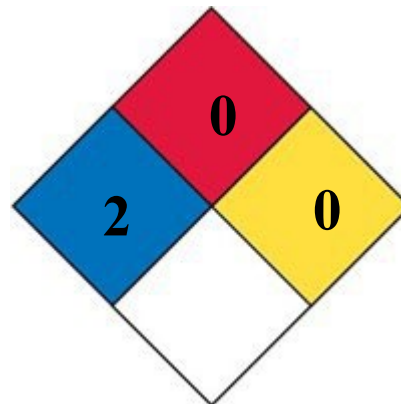
Hazard Statements: May be corrosive to metals
Causes skin irritation
Causes serious eye irritation

HMIS HAZARD RATINGS

| | |
|---------------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 0 |
| REACTIVITY | 0 |
| PERSONAL PROTECTION | |

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, cough and respiratory tract irritation.

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

Skin – May cause irritation and burns or dermatitis.

Ingestion – Ingestion may cause gastrointestinal tract pain and inflammation, burns and perforation of the esophagus or stomach.

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

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, 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

| <u>CAS Number</u> | <u>Name</u> | <u>Common Names</u> |
|-------------------|-------------------|------------------------|
| 7732-18-5 | Water | Water |
| | <u>Percentage</u> | <u>Exposure Limits</u> |
| | VOL. 92.0 to 95.0 | PEL: Not Established |
| | WT. 92.5 to 95.1 | TLV: Not Established |
| | | STEL: Not Established |
| | | IDLH: Not Established |

| <u>CAS Number</u> | <u>Name</u> | <u>Common Names</u> |
|-------------------|--------------------------------|-------------------------------------|
| 7681-52-9 | Hypochlorous Acid, Sodium Salt | Sodium Hypochlorite |
| | <u>Percentage</u> | <u>Exposure Limits</u> |
| | VOL. 5.0 to 8.0 | PEL: N/A |
| | WT: 4.9 to 7.5 | TLV: N/A |
| | | STEL: 2 mg/m ³ (US WEEL) |
| | | 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.

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 |
| 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

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.
- Eye:** Wear chemical safety goggles or 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:** No data available
- Boiling Point:** (@760 mm Hg) Decomposes above 110 °C (230 °F)
- Freezing/Melting Point:** approximately 20°F
- Solubility in Water:** 100% (by weight)
- Specific Gravity:** 1.07 - 1.12 (H₂O = 1)
- Odor Threshold (ppm):** 0.9 ppm approximate

SECTION 10 – STABILITY AND REACTIVITY

Conditions Contributing to Instability

Sodium hypochlorite is an 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

| <u>CAS Number</u> | <u>Name</u> | <u>Common Names</u> |
|--------------------------|---------------------|----------------------------|
| 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: | LC ₅₀ (96 hr.) | Primephales pomelas (Fathead minnow) | 1.40 mg/L |
| | EC ₅₀ (48 hr.) | Daphnia magna (water flea) | 1.40 mg/L 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 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.

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

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.

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

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

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 Material Safety Data Sheet (MSDS) covers the following materials:

Sodium Hypochlorite - Liquid: 5.0% to 8.0% by volume – 4.9% to 7.5% 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 Material 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)..... | 4.9 – 7.5 % | (by weight) |
| | Other Ingredients | 92.5 – 95.1 % | |
| Total | | 100.0 % | |

KEEP OUT OF REACH OF CHILDREN

DANGER

Category 1



Symbol:

Signal Word: Warning

**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 and 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.

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 CALL:
24 HOUR EMERGENCY PHONE (973) 589-0700
Alt. (551) 200-2751**