SODIUM HYPOCHLORITE 12.5%

Revised: 05-14-2018
Replaces: 06-25-2014

1. IDENTIFICATION

Product Name:	SODIUM HYPOCHLORITE 12.5%
Synonyms:	Bleach
CAS Number:	MIXTURE
Recommended Use:	EPA Registered Pesticide
Restrictions on Use:	No data available.

Brainerd Chemical
1200 North Peoria
Tulsa, OK 74106
800-551-5128

EMERGENCY RESPONSE NUMBERS:

CHEMTREC Emergency #: (800) 424-9300

2. HAZARD(S) IDENTIFICATION

Signal Word: Danger

GHS Classification:
Substance or mixture corrosive to metals Category 1
Skin Corrosion/Irritation Category 1B
Serious Eye Damage/Eye Irritation Category 1
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1

Hazard Statements:
May be corrosive to metals.
Causes severe skin burns and eye damage.
Causes damage to organs (respiratory system by inhalation).

Precautionary Statements:

Prevention:
Keep only in original container.
Do not breathe dust, fume, gas, mist, vapors or spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear gloves, eye and face protection and protective clothing.

Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see First Aid on SDS or on this label).
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Storage:
Store in a secure manner.
Store in corrosive resistant container with a resistant inner liner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards Not Otherwise Classified: Contact with combustible material may cause fire. Reacts with most metals to form explosive/flammable hydrogen gas. May react with various food sugars to form carbon monoxide. Mixing with acid detergents may form chlorine gas.

Percentage of Components with Unknown Acute Toxicity:
Inhalation Vapor: 17.5 %
Inhalation Dust/Mist: 17.5 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	% by Wt.
Water	7732-18-5	Balance
Sodium Hypochlorite	7681-52-9	~ 12.5 %
Sodium Hydroxide	1310-73-2	0.2-5.0 %

4. FIRST-AID MEASURES

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Do not attempt to neutralize with chemical agents. Washing eyes within several seconds is essential to achieve maximum effectiveness. Oils or ointments should not be used at this time. Remove contact lenses after the first 5 minutes and continue flushing.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Do not apply oils or ointments unless ordered by the physician. If skin feels slippery, caustic may still be present in sufficient quantities to cause rash or burn. Continue washing skin until slick feeling is gone. Discard footwear which cannot be decontaminated. Discard contaminated leather articles such as shoes and belt.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Do not give sodium bicarbonate, fruit juices or vinegar. If vomiting occurs spontaneously, keep airway clear and give more water.

Note to Physicians:
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. The absence of visible signs or symptoms of burns does not reliably exclude the presence of actual tissue damage.

Most Important Symptoms/Effects:

Eye Contact: CORROSIVE-Causes severe irritation and burns. Small amounts may cause: permanent eye damage. blindness. ulcerations. corneal damage. Mist may cause: irritation. High mist concentrations may cause: tissue destruction. Effects may vary depending on length of exposure, solution concentration and first aid measures.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Corrosive action causes burns and frequently deep ulceration with ultimate scarring. Contact may cause: redness. swelling. burns. blistering. tissue destruction.

Note that irritation may follow an initial latency. The latency may vary as much as hours for dilute solutions to minutes for more concentrated solutions.

Skin Absorption: No absorption hazard expected under normal use.

Inhalation: CORROSIVE-Causes severe irritation and burns. May cause: difficulty breathing. coughing. choking. nausea. pulmonary edema. May irritate or burn: nose. throat. mucous membranes. mouth. respiratory tract. lungs. Effects may be delayed.

Ingestion: CORROSIVE-Causes severe irritation and burns. May cause: nausea. vomiting. perforation of the esophagus. colitis. delirium. hypotension. confusion. convulsions. circulatory collapse. coma. death. May cause damage to the: mouth. throat. stomach. esophagus. gastrointestinal tract. Ingestion can cause severe burns and complete tissue perforation of the mucous membranes of the mouth, throat and stomach. Damage may appear days after exposure.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: For fires in area use appropriate media. For example: Water.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. Use water spray to cool fire-exposed containers, but avoid getting water into containers. Run-off from fire control may cause pollution.

Fire and Explosion Hazards: OXIDIZER. May generate potentially explosive oxygen. Contact with combustible materials may cause a fire.

Hazardous Combustion Products: Chlorine-containing gases. Metal oxides. Oxygen. Halogenated compounds. Toxic fumes. Carbon dioxide. Carbon monoxide. Sodium oxides. Irritating and/or toxic gases.

6. ACCIDENTAL RELEASE MEASURES

Spill Clean-Up Procedures: CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Keep away from combustibles and easily oxidizable materials. Do not attempt to neutralize spilled materials. Toxic chlorine gas may be released. DO NOT use combustible materials such as sawdust. Contain spill, place into drums for proper disposal. Soak up residue with non-flammable absorbent material. DO NOT use sawdust or other cellulose-type material. Place in non-leaking containers for immediate disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Mixing this product with gross filth such as feces, urine, etc. or with ammonia, acids, detergents or other chemicals may release hazardous gases irritating to eyes, lungs and mucous membranes. CORROSIVE MATERIAL. Avoid dust or mist formation.

Storage: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Relieve pressure in containers weekly. Do not freeze. Avoid temperatures greater than 70 Deg. F. Product degrades more rapidly with increasing temperature. Avoid contact with combustible materials, wood and organic materials. Avoid storage on wood floors or near wooden walls, etc.. DO NOT contaminate water, food or feed by storage or disposal. Highly corrosive to most metals with evolution of hydrogen gas. Deadly carbon monoxide gas can form in enclosed or poorly ventilated areas or tanks when

alkaline products contact food, beverage, or dairy products. Do not enter such areas until they have been well ventilated and carbon monoxide and oxygen levels have been determined to be within OSHA acceptable limits. If carbon monoxide and oxygen levels cannot be measured, wear NIOSH-approved, self-contained breathing apparatus. See Section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component	Limits
Sodium Hydroxide	2 mg/m3 TWA

ACGIH Exposure Guidelines:

Component	Limits
Sodium Hydroxide	2 mg/m3 Ceiling

Note:
*Exposure Limit for Chlorine: 1 ppm Ceiling; 3 mg/m3 Ceiling (OSHA); 0.5 ppm TWA; 1 ppm STEL (ACGIH).

Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are required when handling or using this product to avoid overexposure. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. NOTE: Where carbon monoxide may be generated, special ventilation may be required.

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Rubber (latex). Polyvinyl chloride. Neoprene.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. If vapors or mists are present, wear: NIOSH-Approved respirator. NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Impervious clothing. Rubber boots.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking. Handle in accordance with good industrial hygiene and safety practice. Food, beverages, and tobacco products should not be carried, stored or consumed where this material is in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.
Color: Clear. Yellow-green.
Odor: Chlorine odor.
Odor Threshold: N.D.
pH: > 12.00 (as is)
Freezing Point (deg. F): ~ -10
Melting Point (deg. F): N.D.
Initial Boiling Point or Boiling Range: Not Estab.
Flash Point: NONE.
Flash Point Method: N.A.
Evaporation Rate (nBuAc = 1): N.D.
Flammability (solid, gas): N.D.
Lower Explosion Limit: N.A.
Upper Explosion Limit: N.A.

Vapor Pressure (mm Hg): Not Estab.
Vapor Density (air=1): N.D.
Specific Gravity or Relative Density: ~ 1.2
Solubility in Water: Complete
Partition Coefficient (n-octanol/water): N.D.
Autoignition Temperature: No Data
Decomposition Temperature: N.D.
Viscosity: N.D.
% Volatile (wt%): N.D.
VOC (wt%): 0
VOC (lbs/gal): 0
Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: Oxidizer. Avoid other reducing agents, combustibles and organic materials. Corrosive to most metals.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Sodium hydroxide can induce hazardous polymerization of acetaldehyde, acrolein, and acrylonitrile. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Contact with acid or incompatible materials may cause a violent reaction with evolution of heat. May react with certain metals to produce flammable hydrogen gas. Contact with acids, halogenated organics, organic nitro compounds, glycols, or sodium tetrahydroborate may produce flammable hydrogen gas. Contact with 1,2-dichloroethylene, trichloroethylene, tetrachloroethane, or phosphorous can form spontaneously flammable chemicals. Reactions with various food sugars may form carbon monoxide.

Conditions to Avoid: Avoid exposure to light. Avoid temperatures greater than 70 Deg. F. Product degrades more rapidly with increasing temperature. Keep away from incompatibles.

Incompatible Materials: Heavy metals. Nickel. Iron. Copper. Cobalt. Acids. Ammonia. Ammonium compounds. Hydrogen peroxide. Alum. Oxidizing agents. Reducing agents. Combustible materials. Wood. Organic materials. Organic solvents. Amines. Methanol. Cleaners. Solvents. Magnesium. Aluminum. Chromium. Carbon steel. Manganese. Steel. Tin. Zinc. Sodium sulfite. Sodium thiosulfate. Bronze. Brass. Reacts with other household chemicals, such as toilet bowl cleaners, pool/hot tub chemicals/materials, peroxides, brick and concrete cleaners, insecticides, windshield wash, gasoline, greases, oils, fuels, rust removers, vinegar, human and animal waste to produce hazardous gases such as chlorine. Ether, ammonia compounds, cloth, propane, organic polymers, ethylene glycol, sodium bisulfite, sodium hydrosulfite may release hazardous gases. Alcohols. Chlorinated compounds. Cyanides. Hydrocarbons. Metals such as aluminum, zinc, tin, etc. Lead. Other alkali sensitive metals or alloys. Organic nitro compounds. Chlorinated hydrocarbons. Fluorinated hydrocarbons. Acetaldehyde. Chlorine trifluoride. Hydroquinone. Maleic anhydride. Tetrahydrofuran. Acrolein. Phosphorous. Trichloroethylene. Leather. Wool. Phosphorous pentoxide. Halogenated compounds. Glycols. Explosives. Acrylonitrile. 1,2-Dichloroethylene. Tetrachloroethane. Organic peroxides. Sodium tetrahydroborate. Food sugars. Silver nitrate. Chloroform. Zirconium.

Hazardous Decomposition Products: Chlorine-containing gases. Reacts with acids to release poisonous chlorine gas. Sodium oxide. Hypochlorous acid. Oxygen. Hydrogen chloride. Hydrogen gas. Carbon monoxide. Phosphine. Thermal decomposition may release:

11. TOXICOLOGICAL INFORMATION

Component	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Hypochlorite	Rat: 8200 mg/kg	Rabbit: > 10,000 mg/kg	No Data
Sodium Hydroxide	No Data	Rabbit: 1350 mg/kg	No Data

Acute Toxicity Estimate (ATE):

Dermal: 27,000 mg/kg

Routes of Exposure: Eyes. Skin. Ingestion. Inhalation.

Eye Contact: CORROSIVE-Causes severe irritation and burns. Small amounts may cause: permanent eye damage. blindness. ulcerations. corneal damage. Mist may cause: irritation. High mist concentrations may cause: tissue destruction. Effects may vary depending on length of exposure, solution concentration and first aid measures.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Corrosive action causes burns and frequently deep ulceration with ultimate scarring. Contact may cause: redness. swelling. burns. blistering. tissue destruction. Note that irritation may follow an initial latency. The latency may vary as much as hours for dilute solutions to minutes for more concentrated solutions.

Skin Absorption: No absorption hazard expected under normal use.

Inhalation: CORROSIVE-Causes severe irritation and burns. May cause: difficulty breathing. coughing. choking. nausea. pulmonary edema. May irritate or burn: nose. throat. mucous membranes. mouth. respiratory tract. lungs. Effects may be delayed.

Ingestion: CORROSIVE-Causes severe irritation and burns. May cause: nausea. vomiting. perforation of the esophagus. colitis. delirium. hypotension. confusion. convulsions. circulatory collapse. coma. death. May cause damage to the: mouth. throat. stomach. esophagus. gastrointestinal tract. Ingestion can cause severe burns and complete tissue perforation of the mucous membranes of the mouth, throat and stomach. Damage may appear days after exposure.

Medical Conditions Aggravated by Exposure to Product: Respiratory system disorders. Skin disorders. Lung disorders. Eye disorders.

Other: None known.

Cancer Information:
This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: DATA PROVIDED ARE FOR SODIUM HYPOCHLORITE-

Freshwater Fish Toxicity:
LC50 clupea harengus 0.033 - 0.097 mg//l/96 hr, flow through bioassay (pH: 8)
LC50 cymatogaster aggregata 0.045 - 0.098 mg/l/96 hr, flow through bioassay (pH: 8)
LC50 gasterosteus aculeatus 0.141 - 0.193 mg/l/96 hr, flow through bioassay (pH: 8)
LC50 oncorhynchus gorbuscha 0.023 - 0.052 mg/l/96 hr, flow through bioassay (pH: 8)
LC50 oncorhynchus kisutch 0.026 - 0.038 mg/l/96 hr, flow through bioassay (pH: 8)
LC50 oncorhynchus mykiss: 0.05-0.771 mg/L/96 hr, flow through
LC50 oncorhynchus mykiss: >0.03-<0.19 mg/L/96 hr, semi-static
LC50 oncorhynchus mykiss: 0.18-0.22 mg/L/96 hr, static
LC50 parophrys vetulus 0.044 - 0.144 mg/l/96 hr, flow through bioassay (pH: 8)
LC50 pimephales promelas 0.22 - 0.62 mg/l/96 hr, flow through bioassay (pH: 7)
LC50 pimephales promelas: 4.5-7.6 mg/L/96 hr, static
LC50 lepomis macrochirus: 0.4-0.8 mg/L/96 hr, static
LC50 lepomis macrochirus: 0.28-1 mg/L/96 hr, flow through

Invertebrate Toxicity:
EC50 ceriodaphnia sp. 0.006 mg/l/24 hr
EC50 daphnia magna 0.07 - 0.7 mg/l/24 hr
EC50 daphnia magna 2.1mg/l/96 hr
EC50 gammarus fasciatus 4 mg/l/96 hr

EC50 nitocra spinipes 40 mg/l/96 hr
EC50 palaemonetes pugio 52 mg/l/96 hr

Other Toxicity:
Algae:
ErC50 dunaliella sp. 0.6 mg/l/24 hr
ErC50 dunaliella tertiolecta 0.11 mg/l/24 hr
ErC50 skeletonema costatum 0.095 mg/l/24 hr

Chemical Fate Information: 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.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D002
Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number:	UN1791
Proper Shipping Name:	HYPOCHLORITE SOLUTION
Hazard Class:	8
Packing Group:	III
Label Required:	CORROSIVE
Reportable Quantity (RQ):	100# (Sodium Hypochlorite); 1000# (Sodium Hydroxide).

15. REGULATORY INFORMATION

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards:

Immediate (Acute)	Delayed (Chronic)	Fire Hazard	Pressure Release	Reactive
Yes	No	Yes	No	No

Regulated Components: Component	CAS Number	CERCLA RQ	SARA EHS	SARA 313	U.S. HAP	WI HAP	Prop 65
Sodium Hypochlorite	7681-52-9	Yes	No	No	No	No	No
Sodium Hydroxide	1310-73-2	Yes	No	No	No	Yes	No

***Prop 65 - May Contain the Following Trace Components:**
No data available.

FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Hazards to Humans and Domestic Animals
Danger: Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin or on clothing. Wear goggles, faceshield, or safety glasses, protective clothing, and rubber gloves. Avoid breathing vapors.

Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated. Wash after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

Environmental Hazards
This product is toxic to fish and aquatic organisms. Do not discharge this product into lakes, streams, ponds, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or the Regional Office of the EPA.

Physical and Chemical Hazards:
Strong Oxidizing Agent: Mix only with water according to label directions. Flush drains before and after use. Mixing this product with organic matter (e.g., urine, feces, etc.) or chemicals (e.g., ammonia, acids, detergents, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

16. OTHER INFORMATION

Hazard Rating System
Health: 3
Flammability: 0
Reactivity: 1
* = Chronic Health Hazard

NFPA Rating System
Health: 3
Flammability: 0
Reactivity: 1
Special Hazard: OX

MSDS Abbreviations
N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

Reason for Revision: Change made in Section 5.

Revised: 05-14-2018
Replaces: 06-25-2014