

Material Safety Data Sheet

AP301.1193

AP305.1193

ALL PURE CHEMICAL COMPANY

1660 W. LINNE ROAD

TRACY, CALIFORNIA 95376

SODIUM HYPOCHLORITE 5.25% (BLEACH)

This information is required to be disclosed for safety in the workplace. This MSDS has been prepared within the guidelines of the Federal OSHA Hazard Communication Standard, 29CFR 1910.1200. Sodium Hypochlorite may be a hazardous chemical under these standards.

I. PRODUCT IDENTIFICATION

Formula: NaOCl (in water)

Synonyms/Common Names: Liquid Bleach, Liquid Chlorine

CAS Number: 7681-52-9

DOT Proper Shipping Name: Hypochlorite Solution

DOT Hazard Class: Corrosive Material, ORM-D

DOT I.D. Number: UN1791

DOT Hazardous Substance: RQ = 100 pounds

II. PHYSICAL DATA

Appearance and Odor: Light greenish-yellow liquid, chlorine-like odor

Freezing Point: No data

Boiling Point: Decomposes on Heating

Vapor Pressure: @25° C: No data

Water Solubility: Miscible

Molecular Weight: 75.45 (NaOCl Active ingredient)

Specific Gravity: 1.09 @ 20°C

pH @ 25°C: 11

Component:	CAS No.	Percent
Sodium Hypochlorite	7681-52-9	5.25
Sodium Hydroxide	1310-73-2	1.0
Sodium Chloride	7647-14-5	0-10
Water	7732-18-5	Balance

III. FIRE AND EXPLOSION DATA

Flash Point: N/A Autoignition Temperature: N/A

Extinguishing Media: N/A

Fire Fighting: use water to cool containers exposed to a fire. Dry chemical, carbon dioxide, or water spray can be used on a small fire, water spray on a large fire.

Hazardous chlorine can be formed in case of a fire - use personal protective equipment, see Section "V Protective Equipment Requirements" of this MSDS.

IV. SPILL OR LEAK HANDLING

IN CASE OF AN EMERGENCY, CALL CHEMTREC (800) 424-9300

Reportable Quantity per 40 CFR 302.4 is 100 pounds.

Any person responding to a spill or leak should use a self contained breathing apparatus (SCBA). Additional protective clothing must be worn to prevent direct contact with the material. This includes (but is not limited to) boots, gloves, hard hat, and impervious clothing. Compatible materials are neoprene, butyl rubber, viton, and saranex.

Hazardous concentrations may be found in the local spill area and immediately downwind. Vapors may be suppressed by the use of a water fog and all water run off should be captured for treatment and disposal. Dike or contain by using a compatible absorbent such as sand, clay, soil, commercial absorbents. Use vacuum or pump operation to remove if a water release and treat before disposal. Dispose of spill residues per guidelines in Section "XI Disposal" of this MSDS.

V. PROTECTIVE EQUIPMENT REQUIREMENTS

Ventilation Requirements: Local exhaust ventilation if vapors, mists, or aerosols are present. If these are not present use general exhaust ventilation

Respiratory Requirements: Due to low volatility and toxicity, a respirator is not normally needed. However, if vapors, mists, or aerosols are generated, wear a NIOSH/MSHA approved respirator.

Additional Protective Clothing: Use chemical safety goggles and impermeable gloves. Use rubber apron to protect body from splashing conditions.

VI. HANDLING AND STORAGE

Store in vented, closed, clean, non-corrosive containers in a cool, dry, well ventilated location, away from



This product is incompatible with iron, copper, acids, ammonium compounds, organics, other oxidizers. It will react violently with phenyl acetonitrile; cellulose; ethylene.

X. TRANSPORTATION DATA

Under the DOT Hazardous Materials Table 49 CFR 172 hypochlorite solution is a corrosive material, UN 1791, in containers over 4 liters. In containers under 4 liters, it is classified as ORM-D under 49 CFR Table I and RSPA HM 181. 49 CFR 172.101 states that the Reportable Quantity (RQ) of a spill or leak of sodium hypochlorite is 100 pounds.

The above material is subject under 49 CFR 173.244, 173.277, to the U.S. DOT Hazardous Materials Regulations by the modes and packaging quantities stated below:

Rail - Bulk and Non-Bulk
Motor - Bulk and Non-Bulk
Water - Bulk and Non-Bulk
Air - Bulk and Non-Bulk

XI. DISPOSAL

This product does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. Therefore, if this product becomes a waste it does not meet the criteria of a hazardous waste.

As nonhazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations by treatment in a wastewater treatment system.

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.

XII. ADDITIONAL REGULATORY STATUS INFORMATION

This product is listed on the Toxic Substances Control Act (TSCA).

Sodium hypochlorite is not found on the list of chemicals known to cause cancer or reproductive toxicity pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) Chapter 66 of the California Health and Safety Code.

Sodium hypochlorite is not listed in the Nation Toxicological Program (NTP) Third Annual Report on

Carcinogens, nor has it been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC), Monographs, Vol 1-34, nor established as a carcinogen by Federal OSHA.

XIII. ADDITIONAL INFORMATION

All information is offered in good faith, without guarantee or obligation for the accuracy or sufficiency thereof, or the results obtained, and is accepted at user's risk. The uses referred to are for the purpose of illustration only. User should investigate and establish the suitability of such use(s) in every case. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending license under valid patents.

XIV. SOURCE OF REFERENCES

1. ACGIH Guide to Protective Clothing. Cincinnati, OH: American Conference of Government Industrial Hygienists, 1987.
2. ANSI Z88.2. Recommended Practice for Respiratory Protection. American National Standards Institute, New York, NY.
3. Baker, C.J., The Fire Fighter's Handbook of Hazardous Materials, 4th Ed., Indiana: Maltese Enterprises, Inc., 1984.
4. Bretherick, L., Handbook of Reactive Chemical Hazards, 3rd Ed., Boston, MA: Butterworths, 1985.
5. Casarett, L. and J. Doull, Eds., Toxicology: The Basic Science of Poisons, 3rd Ed., New York: Macmillan Publishing Co., Inc. 1986.
6. Chemical Degradation and Permeation Database and Selection Guide for Resistant Protective Materials. Austin, Texas.
7. Clayton, G. and F. Clayton, Eds., Patty's Industrial Hygiene and Toxicology, Vol. 2A-C 3rd Ed., New York: John Wiley & Sons, 1981 - 1982.
8. Code of Federal Regulations, Titles 21, 29, 40 and 49. Washington, DC: U.S. Government Printing Office.
9. Emergency Response Guide (DOT). Washington, DC: U.S. Government Printing Office, 1987.
10. Fire Protection guide on Hazardous Materials, 9th Ed., National Fire Protection Association, Batterymarch Park, Quincy, MA, 1986.

direct sunlight and from chemicals which may react with the bleach if spillage occurs. If shipped, must comply with DOT shipping regulations. If closed containers become heated, the containers should be vented to release decomposition product (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbon, acids, alcohols, ethers. Cannot be packaged in metal containers.

Do not store at temperatures above 60 - 70°F (15-21°). this product has a shelf life of up to six months at 60°F or lower.

VII. TOXICOLOGY

The routes of exposure are skin absorption, inhalation, ingestion, and eye.

This product is harmful if inhaled or ingested and is harmful if it is contacted by the skin or eyes. The reported threshold for odor is approximately 0.9 mg/m³ (0.3 ppm) based on the odor of chlorine. Symptoms which may be aggravated by exposure are asthma, respiratory and cardiovascular disease.

Inhalation: Sodium Hypochlorite when inhaled is irritating to the nose, mouth, throat and lungs. Burns to the respiratory tract may occur with production of lung edema which could result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function. High concentrations can result in permanent lung damage. Repeated exposure can cause impairment of lung function and permanent lung damage.

Skin Contact: Contact with skin can cause burns and/or irritation. Symptoms of contact are redness, swelling and scab formation of contacted area. If prolonged exposure occurs it can cause damage to the secondary tissue resulting in the inability of regeneration to the affected area.

Eye Contact: Contact with eyes will cause irritation. It may also cause burns to the eyes or impairment of vision and corneal damage.

Ingestion: Irritation and/or burns can occur to the entire gastrointestinal tract. Symptoms are characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration.

Exposure Limit Information: The Federal OSHA Permissible Exposure Limit (PEL) for sodium hypochlorite is a ceiling limit of 2 mg/cubic-meter. The OSHA PEL for sodium hydroxide is a ceiling limit of 2 ppm.

Sodium hypochlorite, nor its components, is not listed on the American Conference of Governmental Industrial Hygienists threshold limit values list.

PEL's and TLV's refer to airborne concentrations measured in the breathing zone by appropriate sampling techniques.

VIII. FIRST AID

If a known exposure occurs or if poisoning is suspected, do not wait for symptoms to develop. Immediately initiate the recommended procedures below. Simultaneously contact a Poison Control Center, a physician or the nearest hospital. Inform the person contacted of the type and extent of exposure, describe the victim's symptoms and follow the advice given. For additional information call, CHEMTREC (800) 424-9300.

Ingestion: Do NOT induce vomiting. Immediately give large quantities of water. If vomiting does occur, give fluids again. Do not induce vomiting or give anything by mouth to an unconscious person. Call a physician or the nearest Poison Control Center immediately.

Skin Contact: Immediately remove contaminated clothing and shoes under a safety shower. Flush all affected areas with large amount of water for at least 15 minutes. Do NOT attempt to neutralize with chemical agents. Obtain medical attention as soon as possible.

Eye Contact: Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used. Continue the flushing for an additional 15 minutes if the physician is not immediately available.

Inhalation: Nausea, headaches and dizziness are signs that a person should stop working and be taken to fresh air immediately until symptoms are gone. Should breathing become difficult, give oxygen. Keep the person warm, resting and contact a physician. A person could inhale enough vapor to lose consciousness. This person should be moved to fresh air. Call a physician immediately. If breathing stops, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before returning to work.

IX. REACTIVITY DATA

Sodium hypochlorite, under the proper condition, is stable. However, it may become unstable when subjected to high heat, sunlight or ultra-violet light. Decomposition will result from contact with iron and copper. Solution in water is a storage hazard due to oxygen evolution.

11. Gosselin, R., et al., Gosselin-Clinical Toxicology of Commercial Products, 5th Ed., Baltimore: Williams and Wilkins, 1984.
12. Hazardline, Occupational Health Service, Inc., New York, NY.
13. Lenga, R., The Sigma-Aldrich Library of Chemical Safety Data, 1st Ed., Milwaukee, WI: Sigma-Aldrich Corporation, 1985.
14. Lewis, R. and D. Sweet, Eds., Registry of Toxic Effects of Chemical Substances, 1985 - 1986, Washington, DC: U.S. Government Printing Office, 1987.
15. NIOSH Pocket Guide to Chemical Hazards. Washington, DC: U.S. Government Printing Office, 1992.
16. Sax, N. Irving, Dangerous Properties of Hazardous Materials 6th Ed., New York: Van Nostrand Reinhold Company. 1984.
17. Threshold Limit Values and Biological Exposure Indices for 1991 - 1992. Cincinnati, OH: American Conference of Government Industrial Hygienists, 1992.
18. Toxic Substance Control Act Inventory, Washington, DC: U.S. Government Printing Office, 1985.

FOR FURTHER INFORMATION CONTACT:

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