Chemical Name: Sodium Hypochlorite Solution

Manufacturer: Petra Chlor

Container size: 1 gallon

Location: VLA

Disposal: Place empty container in trash. Give partial or full container to safety officer.

MATERIAL SAFETY DATA SHEET

MANUFACTURER=S NAME: PETRA CHEMICAL COMPANY
2929 STOREY LANE
DALLAS, TEXAS 75220

TELEPHONE: (214) 352-1900
(800) 370-2001

FOR 24 HOUR EMERGENCY INFORMATION, CALL CHEMTREC: 1 (800) 424-9300

PRODUCT NAME: LIQUI CHLOR
TRADE NAMES: Bleach, Sodium Hypochlorite, Sodium Hypochlorite Solution, Javel Water Bleach, Soda Bleach
DATE PREPARED: 02/03/97

I. PRODUCT IDENTIFICATION

FORMULA: NaOCl
CHEMICAL FAMILY: Oxidizing Agent (Hypochlorite)
CAS. NO.: 7681-52-9
MOLECULAR WEIGHT: 74.45
SHIPPING NAME AND HAZARD CLASS (DOT):
AHYPOCHLORITE SOLUTION, (with more than 5%, but less than 16% available chlorine).@ 8 (Corrosive), UN1791, PGIII

II. HAZARDOUS INGREDIENTS

Sodium hypochlorite is manufactured only in solution form, AHousehold bleach@ contains not more than 7% available chlorine (=6.67 wt. %NaOCl) with about 0.3 to 0.5% excess NaOH for stability control. Industrial bleach contains from 7% - 15% available chlorine (6.67 - 13.06 weight %NaOCl) with about 0.05 to 0.85% excess NaOH for stability control.

III. PHYSICAL DATA

Boiling Point: 110° for 15% NaOCl
Vapor Pressure: v.p. of water plus decomposition product v.p.
Vapor Density: 19.2
% Volatile by Volume: Variable - water vapor plus products of decomp osition
Solubility in Water: Complete
Evaporation Rate: N/A
Color: Light yellow-green
Odor: Pungent like chlorine/floral
pH approximately: 12.4

IV. FIRE AND EXPLOSION DATA

Flashpoint: Nonflammable

LEL:	Unknown
UEL:	Unknown

Special Fire Fighting Procedures: Avoid fumes from spilled or exposed liquid, dilute copiously, ventilate, and be prepared to use respiratory protection if needed, NIOSH - approved self-contained breathing apparatus for chlorine gas vapors. Acid contamination will produce very irritating fumes similar to chlorine gas.

Unusual Fire & Explosion Hazards: Bleach decomposes when heated; decomposition products may cause containers to rupture or explode. Vigorous reaction possible with organic materials or oxidizing agents; may result in fire.

V. REACTIVITY DATA

Conditions Contributing to Instability: Solutions of sodium hypochlorite are fairly stable in concentrations below 1%. Stability decreases with concentration, heat, light exposure, decrease in pH, and contamination with heavy metals, such as nickel, cobalt, copper and iron.

Compatibility: Avoid contamination with heavy metals (act as catalysis), reducing agents, organic, ether, ammonia, acids.

Hazardous Decomposition Products: Hypochlorous acids (HOCl), chlorine, hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depends upon pH, temperature and time, are sodium chloride, sodium chlorate and oxygen,.

VI. HEALTH DATA

Route of Entry:

Inhalation (likely):	Fumes from spills are very irritating to mucous membranes. Very little hazard from properly stored solution.
Skin (likely):	Irritant, reddening of skin, skin damage
Ingestion (unlikely):	Causes irritation of membranes of the mouth, throat, and stomach pain and possible ulceration. LD-50 (oral, rat) for 5.25% NaOCl is approximately 13 g/kg body weight and for 12.5% NaOCl is approximately 5 g/kg body weight.
Eye Contact:	Moderate to severe irritation.

Effects of Overexposure:

Acute:	Irritating effects increase with strength of solution and time of exposure.
Chronic:	Constant irritant to eyes and throat.
Carcinogenicity:	Not determined for product or hazardous ingredients contained therein.

VII. EMERGENCY FIRST AID

Notify your supervisor. Call your local Poison Control Center or call Rocky Mountain Poison Center (800) 446-1014. For transportation emergencies, call CHEMTREC (800) 424-9300.

Eye Contact:	Copious eye wash with water for 15 minutes. Get prompt medical attention.
Skin Contact:	Remove contaminated clothing, flush exposed skin with large amounts of water. If irritation persists, contact physician.
Inhalation:	Remove person to fresh air, provide symptomatic care and support respiration. Get prompt medical attention.
Ingestion:	If accidentally swallowed, drink water, milk and obtain medical attention. **DO NOT USE BAKING SODA OR ACIDIC ANTIDOTES. DO NOT INDUCE VOMITING. GET PROMPT MEDICAL ATTENTION.**

VIII. SPECIAL PROTECTION

Ventilation:	No special ventilation required unless bleach is exposed to decomposition condition; i.e., spills or acidic conditions.
Respiratory Protection:	When fumes are present, use NIOSH approved respirator with chlorine gas canister.
Safety Glasses:	Use splash-proof, chemical resistant safety goggles.
Protective Clothing:	Use rubber apron, etc. to protect body from any splashing conditions. Use rubber protective shoes, if spill occurs. Safety showers and eyewash fountains should be available in storage and handling area. Launder soiled work clothing before re-use.

IX. DISPOSAL, SPILL OR LEAK PROCEDURES

Aquatic Toxicity. Toxic to fish and aquatic life. Do not allow spilled materials to enter streams, lakes, ponds, etc.

Waste Disposal Method. Reduce with chemicals listed below. Keep on alkaline side and dilute with copious quantities of water. Main end product is salt water (NaCl). Flush to sewer system.

Handling Spills. Flush with water to dilute as much as possible, avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb hypochlorite.

Neutralizing Chemicals. Reducing agents such as bisulfite or ferrous salt solutions; some heat will be produced. Regulated as a hazardous substance R.Q.=100 lbs.

X. SPECIAL PRECAUTIONS

Precautionary Statements. Normal handling of household bottled bleach requires safety requirements as stated on labels. Full protection should be provided when handling bulk shipments of concentrated, industrial bleach solutions.

Proper Handling and Storage Requirements. Store in vented, closed, clean, non-corrosive containers in a cool, dry location, away from direct sunlight and not adjacent to chemicals which may react with the bleach if spillage occurs. If shipped, must comply with DOT shipping regulations. When closed containers become heated, the containers should be vented to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols, ethers.

National Regulatory Concerns Federal. EPA Pesticide regulations applicable and registration as a pesticide required when used for disinfection purposes. **THIS PRODUCT IS LISTED ON THE TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY OF CHEMICAL SUBSTANCES.**

XI. ADDITIONAL INFORMATION

All information contained herein is based upon data obtained from the manufacturers of raw materials used in this product and/or recognized technical sources. The information is believed to be comprehensive and accurate, however, Petra Chemical Company makes no representations as to its accuracy or sufficiency. Conditions or uses are beyond the control of Petra Chemical Company; and therefore, users are responsible to verify this data under their operating conditions to determine whether the product is suitable for their purposes. Users assume all risks of product use, handling and disposal.

FROM 1996 NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK

HEALTH

TOXIC: Inhalation, ingestion, or skin contact with material may cause severe injury or death.
Contact with molten substance may cause severe burns to skin and eyes.
Avoid any skin contact.
Effects of contact or inhalation may be delayed.
Fire may produce irritation, corrosive and/or toxic gases.
Runoff from fire control or dilution may be corrosive and/or toxic and cause pollution.

FIRE OR EXPLOSION

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.)
Contact with metals may evolve flammable hydrogen gas.
Containers may explode when heated.

PUBLIC SAFETY

CALL EMERGENCY RESPONSE TELEPHONE NUMBER ON SHIPPING PAPER FIRST. IF SHIPPING PAPER IS NOT AVAILABLE OR NO ANSWER, REFER TO APPROPRIATE TELEPHONE NUMBER LISTED ON THE INSIDE BACK COVER OF EMERGENCY RESPONSE GUIDEBOOK.

Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
Keep unauthorized personnel away.
Stay upwind.
Keep out of low areas.
Ventilate enclosed areas.

PROTECTIVE CLOTHING

Wear positive pressure self-contained breathing apparatus (SCBA)
Wear chemical protective clothing which is specifically recommended by the manufacturer.
Structural fire fighters: **PROTECTIVE CLOTHING IS RECOMMENDED FOR FIRE SITUATIONS ONLY; IT IS NOT EFFECTIVE IN SPILL SITUATIONS.**

EVACUATION

SPILL: See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under APUBLIC SAFETY@.

FIRE: If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

FIRE

SMALL FIRES:

Dry chemical CO_2 or water spray.

LARGE FIRES:

Dry chemical CO_2, alcohol-resistant foam or water spray
Move containers from fire area if you can do it without risk
Dike fire control water for later disposal; do not scatter the material
Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
Do not get water inside containers.
Cool containers with flooding quantities of water until well after fire is out.
Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
ALWAYS stay away from the ends of tanks.

SPILL OR LEAK

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Stop leak if you can do it without risk.
Prevent entry into waterways, sewers, basements or confined areas.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers
DO NOT GET WATER INSIDE CONTAINERS.

FIRST AID

Move victim to fresh air.
Call emergency medical care.
Apply artificial respiration if victim is not breathing.
Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Administer oxygen if breathing is difficult
Remove and isolate contaminated clothing and shoes
In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
For minor skin contact, avoid spreading material on unaffected skin.
Keep victim warm and quiet.
Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.