

SECTION 1 - IDENTIFICATION

Product Identifier: Meras Bleach 12.5%

Product Use: AG/Industrial Applications; Chlorine Dioxide Generation

Common Names: Sodium Hypochlorite

Meras Engineering, Inc.
601 Van Ness Ave. E3-725
San Francisco, CA 94102
USA
(415)240-4918
orders@meras.com

24 Hr. Emergency #: ChemTrec (800) 424-9300

SECTION 2 - HAZARDS IDENTIFICATION**Classification of the Substance or Mixture:**

Skin Corrosion/Irritation – Category 1
Acute Toxicity, Oral – Category 4
Serious Eye Damage – Category 1
Specific Target Organ Toxicity, Single Exposure – Category 3
Corrosive to Metals – Category 1
Acute Aquatic Toxicity – Category 1



Signal Word: DANGER

Hazard Statement(s):

H290: May be corrosive to metals.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H400: Very toxic to aquatic life.

Precautionary Statements:**Prevention-**

P234: Keep only in original container.
P260: Do not breathe mist, vapors, or spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response-

P301+310+331: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.
P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340: IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P363: Wash contaminated clothing before reuse.
P390: Absorb spillage to prevent material damage.

Storage-

P403+233: Store in a well ventilated place. Keep container tightly closed.
P405: Store locked up.

Disposal-

P501: Dispose of contents/container to an approved waste disposal plant.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS No.	Concentration (%)
Sodium Hypochlorite	7681-52-9	12.5%

SECTION 4 - FIRST-AID MEASURES

Inhalation:	Move person to fresh air. In case of unconsciousness, place patient stably in side position for transportation.
Skin Contact:	Take off contaminated clothing and shoes immediately. Immediately wash with water and soap and rinse thoroughly. Call a physician.
Eye Contact:	Rinse opened eye for several minutes under running water. Call a physician.
Ingestion:	Do NOT induce vomiting; immediately call for medical help. Drink small amounts of water and provide fresh air. Immediately call a doctor.
Most Important Symptoms And Effects, Both Acute And Delayed:	No data available.
Indication Of Any Immediate Medical Attention And Special Treatment Needed:	No data available.

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Equipment:	Water Spray Water Fog Carbon Dioxide Alcohol-Resistant Foam Dry Chemical
Special Hazards Arising From The Substance Or Mixture:	May decompose and generate chlorine gas, which is an oxidizer and may support combustion.
Special Protective Equipment And Precautions For Firefighters:	Do NOT use Mono Ammonium Phosphate (MAP) extinguishers. May cause explosion. Firefighters should wear a self-contained breathing apparatus (SCBA). Use water spray to cool unopened containers. Use caution. See Section 7 for more information on safe handling. See Section 8 for more information on personal protection equipment. See Section 13 for disposal information.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, And Emergency Procedures:	Wear appropriate PPE. Use respirator if thresholds are exceeded. Keep from contacting skin or eyes. Ensure adequate ventilation. Evacuate personnel to safe areas. Stay upwind of spilled material.
Environmental Precautions:	Prevent further release (leakage/spillage) if safe to do so. Do not allow product to enter drains. Do not allow to drain to environment.
Methods And Materials For Containments And Cleaning Up:	Absorb with materials such as dry sand, pads, pillows, and/or snakes. Rinse off affected area with plenty of water. Place contaminated material into suitable, closed containers for disposal. Dispose of contaminated material according to Section 13. Ensure adequate ventilation.

Reference To Other Sections: See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment. See Section 13 for information on proper disposal.

SECTION 7 - HANDLING AND STORAGE

Handling Precautions: Avoid contact with eyes, skin, or clothing.
Do not ingest.
Use approved containers only.
Keep containers closed when not in use.
Keep ignition sources away.
Do not expose containers to open flame, excessive heat, or direct sunlight.
Do not puncture or drop containers.
Handle with care and avoid spillage on the floor.
Keep material out of reach of children.
Keep material away from incompatible materials.
Wash thoroughly after handling.
Ensure adequate ventilation.

Storage Requirements: Keep container tightly closed.
Store in a well-ventilated place.
Do not store in direct sunlight.
Do not freeze.

Incompatible Materials: Mixing this product with ammonia, acids, detergents, or with organic materials, e.g. feces, urine, etc. will release chlorine gas, which is irritating to eyes, lungs, and mucous membranes.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<u>Component(s)</u>	<u>CAS No.</u>	<u>PEL</u>	<u>OSHA</u> <u>Ceiling</u>	<u>STEL</u>	<u>NIOSH</u> <u>REL</u>	<u>Ceiling</u>	<u>ACGIH</u> <u>TLV</u>	<u>Ceiling</u>
Chlorine	7782-50-5	0.5 ppm	0.5 ppm	1 ppm	0.5 ppm		0.5 ppm	

Engineering Controls:

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).
Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas.
Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equipment:

All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Type of protective equipment should be selected based on concentration amount and conditions of use of this material. Full-face vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds. Respiratory protection must comply with 29 CFR 1910.134.

Eye/Face-

- Safety glasses or goggles (chemical-resistant)

Skin/Body-

- Gloves (PVC, neoprene, or nitrile)
- Apron

Respiratory-

- Air-purifying respirator, if thresholds are exceeded.

General Hygiene Considerations-

- Handle in accordance with good industrial hygiene and safety practice.
- Keep away from foodstuffs, beverages, and feed.
- Wash face, hands, and any exposed skin thoroughly after handling.
- Appropriately dispose of contaminated clothing; wash before re-use, if applicable.
- Avoid contact with eyes, skin, and clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid

Color: Yellow

Odor: Slight chlorine

Vapor Pressure (Mm Hg): 12.1 Mm Hg @ 68°F

Vapor Density: 2.61 (air = 1)

Relative Density: 10.01 lbs/gal

pH: 12-12.5
Melting/Freezing Point: -17°F
Initial Boiling Point and Boiling Range: 230°F
Flash Point: No data available.
Evaporation Rate: No data available.
Flammability (Solid, Gas): No data available.
Upper/Lower Flammability or Explosive Limits: No data available.

Specific Gravity: 1.2
Solubility in Water: No data available.
Partition Coefficient (N-Octanol/Water): No data available.
Auto Ignition Temperature: N/A
Decomposition Temperature: No data available.
Viscosity: No data available.
Volatiles (% By Weight): No data available.
Volatile Organic Compounds (VOC's): No data available.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Not reactive under normal and ambient conditions
Chemical Stability: Stable under normal and ambient conditions.
Possibility of Hazardous Reactions: May develop chlorine if mixed with acidic solutions.
Conditions to Avoid: Incompatibilities, flames, ignition sources.
Incompatible Materials: Oxidizing agents, acids, nitrogen containing organics, metals, iron, copper, nickel, cobalt, organic materials, and ammonia.
Hazardous Decomposition Products: All bleach decomposition is dependent on temperature. For any given temperature, the higher the strength, the faster it decomposes. In summary, for every 10°C increase in storage temperature, the sodium hypochlorite will decompose at an increased rate factor of approximately 3.5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Routes of Entry: Eyes, skin, ingestion, dermal absorption.

Acute Toxicity:
 Oral Toxicity (LD₅₀)- 3-5 g/kg (Rat)
 Dermal Toxicity (LD₅₀)- >2 g/kg (Rabbit)

Primary Eye Irritation: Corrosive
Primary Skin Irritation: Corrosive

Sensitization: No data available.

Carcinogenicity:
 IARC- No data available.
 ACGIH- No data available.
 NTP- No data available.
 OSHA- No data available.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity-Single Exposure: No data available.

Specific Target Organ Toxicity-Repeated Exposure: No data available.

Aspiration Hazard: No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:
 Toxicity to Fish- LC₅₀- Atlantic Herring: 0.033-0.097 mg/l (96 H)
 LC₅₀- Shiner Perch: 0.045-0.098 mg/l (96 H)
 LC₅₀- Pink Salmon: 0.023-0.052 mg/l (96 H)
 LC₅₀- Fat Head Minnow: 0.22-0.62 mg/l (96 H)

Toxicity to Daphnia and Other Aquatic Invertebrates- LC₅₀- Water Flea (daphnia magna): 0.07-0.7 mg/l (24 H)
 LC₅₀- Fresh Water Shrimp: 0.4 mg/l (96 H)
 LC₅₀- Grass Shrimp: 0.52 mg/l (96 H)

Persistence and Degradability:	In fresh water, sodium hypochlorite breaks down rapidly into non-toxic compounds when exposed to sunlight. In seawater, chlorine levels decline rapidly; however, hypobromite (which is acutely toxic to aquatic organisms) is formed. EPA believes that the risk of acute exposure to aquatic organisms is sufficiently mitigated by precautionary labeling and National Pollutant Discharge Elimination System (NPDES) permit requirements. This material is inorganic and not subject to biodegradation.
Bioaccumulation Potential:	This material is not expected to bioconcentrate in organisms.
Mobility in Soil:	No data available.
Results of PBT and vPvB Assessment:	Not conducted.
Other Adverse Effects:	Not readily biodegradable. Water polluting material. May be harmful to the environment if released in large quantities. This material is very toxic to aquatic life.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recommendation:	Hazardous wastes shall be managed responsibly. Contact a licensed professional waste disposal service to dispose of this material. Do not allow product to reach the sewage system. Disposal must comply with local, state, and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of an NPDES permit.
Cleansing agent:	Water should be used as a cleansing agent to rinse containers and/or soiled PPE.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT

UN Number: 1791
 Class: 8
 Packing Group: III
 Proper Shipping Name: Hypochlorite Solutions (Sodium Hypochlorite)
 Marine Pollutant: Yes



IMDG

UN Number: 1791
 Class: 8
 Packing Group: III
 EMS-No.: F-A, S-B
 Proper Shipping Name: Hypochlorite Solutions (Sodium Hypochlorite)



IATA

UN Number: 1791
 Class: 8
 Packing Group: III
 Proper Shipping Name: Hypochlorite Solutions (Sodium Hypochlorite)



Limited Quantity: <1.3 gallons
 (Product is exempt from certain regulations when shipping limited quantities)

SECTION 15 - REGULATORY INFORMATION

EPA Registration No.:
Cal DPR Registration No.:

<u>Listed Hazardous Chemical</u>	<u>CAS No.</u>	<u>EPCRA EHS</u>		<u>CERCLA HS</u>	<u>CAA 112r</u>	<u>EPCRA 313</u>	<u>Prop 65 Listed</u>
		<u>RQ (lbs)</u>	<u>TPQ (lbs)</u>	<u>RQ (lbs)</u>	<u>TQ (lbs)</u>		
Sodium Hypochlorite	7681-52-9			100			

Legend

EPCRA- Emergency Planning and Community Right-to-Know Act
 CERCLA- Comprehensive Environmental Response, Compensation and Liability Act
 CAA- Clean Air Act
 RQ- Release Quantity
 TPQ- Threshold Planning Quantity
 EPA- Environmental Protection Agency
 DPR- Department of Pesticide Registration

SECTION 16 - OTHER INFORMATION

NFPA



NFPA Rating Explanation Guide					
RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD	RATING SYMBOL	SPECIAL HAZARD
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	COR	Corrosive
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	OX	Oxidizing
0	No hazard	Will not burn	Stable	☢	Radioactive
				☒	Reacts violently or explosively with water
				☒OX	Reacts violently or explosively with water and oxidizing

HMIS III

2 HEALTH

0 FLAMMABILITY

1 REACTIVITY

C PERSONAL PROTECTION

PERSONAL PROTECTION INDEX					
A	☒			G	☒ + ☒ + ☒
B	☒ + ☒			H	☒ + ☒ + ☒ + ☒
C	☒ + ☒ + ☒			I	☒ + ☒ + ☒
D	☒ + ☒ + ☒			J	☒ + ☒ + ☒ + ☒
E	☒ + ☒ + ☒			K	☒ + ☒ + ☒ + ☒
F	☒ + ☒ + ☒ + ☒			X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions
A	n	o	p	q	r
Safety Glasses	Splash Goggles	Face Shield & Eye Protection	Gloves	Boots	Synthetic Apron
t	u	w	y	z	Full Suit
Dust Respirator	Vapor Respirator	Dust & Vapor Respirator	Full Face Respirator	Airline Hood or Mask	Additional Information

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