

Material Safety Data Sheet

Bleach

ACC# 91020

Section 1 - Chemical Product and Company Identification

MSDS Name: Bleach**Catalog Numbers:** S72823**Synonyms:****Company Identification:**

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7681-52-9	Sodium hypochlorite	5.0	231-668-3
497-19-8	Sodium carbonate anhydrous	<1.0	207-838-8
7732-18-5	Water	Balance	231-791-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear pale yellow liquid.

Danger! Corrosive. Causes eye and skin burns. Causes digestive tract burns. Harmful if inhaled. Causes respiratory tract irritation. May cause methemoglobinemia.

Target Organs: Blood.

Potential Health Effects

Eye: May cause irreversible eye injury. Contact with liquid is corrosive to the eyes and causes severe burns.

Skin: Causes skin burns.

Ingestion: May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood.

Inhalation: Harmful if inhaled. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. May cause pulmonary edema and severe respiratory disturbances.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation

and ingestion.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

Extinguishing Media: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Discard contaminated shoes.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium hypochlorite	none listed	none listed	none listed
Sodium carbonate anhydrous	none listed	none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs: Sodium hypochlorite: No OSHA Vacated PELs are listed for this chemical. Sodium carbonate anhydrous: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear pale yellow

Odor: odor of hypochlorites

pH: Not available.

Vapor Pressure: 14 mm Hg

Vapor Density: 2.58

Evaporation Rate: >1.0

Viscosity: Not available.

Boiling Point: 100 deg C

Freezing/Melting Point: 0 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.07

Molecular Formula: Not available.

Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, combustible materials.

Incompatibilities with Other Materials: Sodium hypochlorite is incompatible with amines, ammonia, ammonium acetate, ammonium carbonate, ammonium nitrate, ammonium oxalate, ammonium phosphate, cellulose, and ethyleneimine, strong acids, reducing agents, amines, and ammonia salts.

Hazardous Decomposition Products: Hydrogen chloride, chlorine, sodium oxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 7681-52-9: NH3486300

CAS# 497-19-8: VZ4050000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 7681-52-9:

Draize test, rabbit, eye: 10 mg Moderate;

Draize test, rabbit, eye: 1.31 mg Mild;

Oral, mouse: LD50 = 5800 mg/kg;

CAS# 497-19-8:

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, eye: 50 mg Severe;

Draize test, rabbit, skin: 500 mg/24H Mild;

Inhalation, mouse: LC50 = 1200 mg/m³/2H;

Inhalation, rat: LC50 = 2300 mg/m³/2H;

Oral, mouse: LD50 = 6600 mg/kg;

Oral, mouse: LD50 = 6600 mg/kg;

Oral, rat: LD50 = 4090 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 7681-52-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 497-19-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a

hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	HYPOCHLORITE SOLUTIONS	No information available.
Hazard Class:	8	
UN Number:	UN1791	
Packing Group:	III	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7681-52-9 is listed on the TSCA inventory.

CAS# 497-19-8 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 7681-52-9: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7681-52-9: immediate.

CAS # 497-19-8: immediate.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 7681-52-9 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7681-52-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 497-19-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations European Labeling in Accordance with EC Directives

Hazard Symbols:

C

Risk Phrases:

R 31 Contact with acids liberates toxic gas.
R 34 Causes burns.

Safety Phrases:

S 28 After contact with skin, wash immediately with...
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 50 Do not mix with ... (to be specified by the manufacturer).
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7681-52-9: 2
CAS# 497-19-8: 1
CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

CAS# 7681-52-9 is listed on Canada's DSL List.
CAS# 497-19-8 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7681-52-9 is listed on the Canadian Ingredient Disclosure List.
CAS# 497-19-8 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/28/1998

Revision #5 Date: 11/20/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.