# Material Safety Data Sheet

## Section 1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Sodium Hypochlorite 6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>EMD Chemicals Inc.</td>
</tr>
<tr>
<td></td>
<td>P.O. Box 70</td>
</tr>
<tr>
<td></td>
<td>480 Democrat Road</td>
</tr>
<tr>
<td></td>
<td>Gibbstown, NJ 08027</td>
</tr>
<tr>
<td>Synonym</td>
<td>Bleach</td>
</tr>
<tr>
<td>Material Uses</td>
<td>Laboratory Reagent</td>
</tr>
</tbody>
</table>

Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

## Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hypochlorite</td>
<td>7681-52-9</td>
<td>6</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>94</td>
</tr>
</tbody>
</table>

## Section 3. Hazards Identification

### Physical State and Appearance

Liquid.

### Emergency Overview

**DANGER! CORROSIVE!**

VAPOR HARMFUL

HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.

CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS.

### Routes of Entry

Absorbed through skin. Dermal contact. Inhalation. Ingestion.

### Potential Acute Health Effects

- **Eyes**
  - Hazardous in case of eye contact (corrosive). Causes eye burns.

- **Skin**
  - Hazardous in case of skin contact (permeator, corrosive). Skin contact produces burns.

- **Inhalation**
  - Hazardous in case of inhalation (lung corrosive).

- **Ingestion**
  - Hazardous in case of ingestion.

### Potential Chronic Health Effects

- **Carcinogenic Effects**
  - This material is not known to cause cancer in animals or humans.

  Additional information: See Toxicological Information (section 11)
Medical Conditions Aggravated by Overexposure:
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product
Non-flammable.

Auto-ignition Temperature
Not applicable.

Flash Points
Not applicable.

Flammable Limits
Not applicable.

Products of Combustion
Not applicable.

Fire Hazards in Presence of Various Substances
Not applicable.

Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of static discharge: No.
Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions
Not applicable.

Protective Clothing (Fire)
Not applicable.

Special Remarks on Fire Hazards
Not available.

Special Remarks on Explosion Hazards
Contact with acid liberates highly toxic chlorine gas. (Sodium Hypochlorite)

Section 6. Accidental Release Measures

Small Spill and Leak
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill and Leak
Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Continued on Next Page
+ Section 7. Handling and Storage

Handling
Avoid contact with eyes, skin and clothing. Do not ingest. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Storage
Keep container tightly closed. Keep container in a cool, well-ventilated area. Store in refrigerator. Store at 2-8°C.

Section 8. Exposure Controls/Personal Protection

Engineering Controls
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Face shield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Full suit.</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.</td>
</tr>
<tr>
<td>Hands</td>
<td>Gloves.</td>
</tr>
<tr>
<td>Feet</td>
<td>Boots.</td>
</tr>
</tbody>
</table>

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hypochlorite</td>
<td>AIHA WEEL (United States, 2000). STEL: 2 mg/m³ 15 minute(s). Not available.</td>
</tr>
<tr>
<td>Water</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Section 9. Physical and Chemical Properties

Odor
Chlorine like odour

Color
Clear. Colorless to light yellow.

Physical State and Appearance
Liquid.

Molecular Weight
Not applicable.

Molecular Formula
Not applicable.

pH
Not available.

Boiling/Condensation Point
The lowest known value is 99.9°C (211.8°F) (Water).

Melting/Freezing Point
May start to solidify at -0.1°C (31.8°F) based on data for: Water.

Specific Gravity
The only known value is 1.09 (Water = 1) (Sodium Hypochlorite).

Vapor Pressure
Not available.

Vapor Density
2.0-2.5 (air=1)
<table>
<thead>
<tr>
<th>Odor Threshold</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation Rate</td>
<td>0.36 (Water) compared to (n-Butyl Acetate = 1)</td>
</tr>
<tr>
<td>LogK_{ow}</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
</tbody>
</table>

**Section 10. Stability and Reactivity**

<table>
<thead>
<tr>
<th>Stability and Reactivity</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions of Instability</td>
<td>May decompose on exposure to light.</td>
</tr>
<tr>
<td>Incompatibility with Various Substances</td>
<td>Reactive with oxidizing agents, reducing agents, combustible materials, acids.</td>
</tr>
<tr>
<td>Rem/Incompatibility</td>
<td>Avoid Heat  Avoid contamination by any source including metals, dust, and organic materials. Avoid ammonia, alkalis, antimony salts, oils, arsenites, bromides, carbonates, chlorides, iodides, thiocyanates, ferrous salts, phosphates, tannic acid, and tartrates (Sodium Hypochlorite)</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Chlorine, NaOH, Na2O</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

**Section 11. Toxicological Information**

<table>
<thead>
<tr>
<th>RTECS Number:</th>
<th>Sodium Hypochlorite NH3486300 Water ZC0110000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>Acute oral toxicity (LD_{50}): 96667 mg/kg (Mouse) (Calculated value for the mixture).</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>Contains material which may cause damage to the following organs: blood, upper respiratory tract, skin, eye, lens or cornea.</td>
</tr>
<tr>
<td>Synergetic Products (Toxicologically)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Irritancy</td>
<td>Draize Test: Not available.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Slightly hazardous in case of inhalation (lung sensitizer).</td>
</tr>
<tr>
<td>Carcinogenic Effects</td>
<td>This material is not known to cause cancer in animals or humans.</td>
</tr>
<tr>
<td>Toxicity to Reproductive System</td>
<td>Not available.</td>
</tr>
<tr>
<td>Teratogenic Effects</td>
<td>Not available.</td>
</tr>
<tr>
<td>Mutagenic Effects</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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Section 12. Ecological Information

Ecotoxicity
Not available.

BOD5 and COD
Not available.

Toxicity of the Products of Biodegradation
The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number
D002

Treatment
Specified Technology - Contact your local permitted waste disposal site (TSD) for permissible treatment sites. ALWAYS CONTACT PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

Section 14. Transport Information

DOT Classification
Proper Shipping Name: HYPOCHLORITE SOLUTIONS
Hazard Class: 8
UN number: UN1791
Packing Group: III
RQ: 100 lbs. (45.36 kg)

TDG Classification
Not available.

IMO/IMDG Classification
Not available.

ICAO/IATA Classification
Not available.

Section 15. Regulatory Information

U.S. Federal Regulations
TSCA 8(b) inventory: Sodium Hypochlorite; Water
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Sodium Hypochlorite
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Hypochlorite: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: Sodium Hypochlorite
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada)
CLASS E: Corrosive liquid.

CEPA DSL: Sodium Hypochlorite; Water
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations
EINECS
Sodium Hypochlorite 231-668-3
Water 231-791-2

DSCL (EEC)
R38- Irritating to skin.
R41- Risk of serious damage to eyes.

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Sodium Hypochlorite 6%

International Lists
Australia (NICNAS): Sodium Hypochlorite; Water
Germany water class: Sodium Hypochlorite
Japan (MITI): Sodium Hypochlorite; Water
Korea (TCCL): Sodium Hypochlorite; Water
Philippines (RA6969): Sodium Hypochlorite; Water
China: No products were found.

State Regulations
Pennsylvania RTK: Sodium Hypochlorite: (environmental hazard, generic environmental hazard)
Massachusetts RTK: Sodium Hypochlorite
New Jersey: Sodium Hypochlorite 6%
California prop. 65: No products were found.

Section 16. Other Information

National Fire Protection Association (U.S.A.)

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