SAFETY DATA SHEET

BACO Disinfection Solution

❖ SECTION 1) CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: On-Site Generated Mixed Oxidants Disinfection Solution 8000 ppm.

Synonyms: Hypochlorite Solution

Manufacturer's Name: BACO Environmental Engineering & Technology

Address: Sant Joan de La Salle, 42 - 08022 Barcelona, Spain.

Product Information Phone Number: (+34)653 50 44 50

Recommended Use: Product is generated as needed with minimal storage.

❖ SECTION 2) HAZARDS IDENTIFICATION

Program: GHS Hazard Statement

Signal Word: CAUTION

Hazard Statements:

H303	May be harmful if swallowed.
H316	Causes mild skin irritation.
H320	Causes eye irritation.
H402	Harmful to aquatic life

Precautionary Statements:

P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	If *swallowed*: Rinse mouth. Do not induce vomiting
P302+P362+P353	If *touches skin:* Take off contaminated clothing and wash before reuse. Rinse skin with water/shower.

P304+P340	If *inhaled:* Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	If *contacts with eyes:* Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313	Get medical advice/attention.
P391	Collect spillage.
P501	Dispose of content/container to an approved waste disposal plant.

Other Hazards: Hazards associated with On-Site Generation of chemicals are largely associated with the hydrogen gas that is generated during the electrolytic process.

❖ SECTION 3) COMPOSITION INFORMATION

Chemical Name	Common Name	Percent by Weight	CAS Number
Sodium Chloride	Salt	< 3%	7647-14-5
Sodium hypochlorite Free available chlorines	Chlorine	< 0.9%	7681-52-9
Chlorine dioxide, Ozone, Oxygen, Peroxide Hydrogen	Other oxidants	Detectable	7699-82-1
Soft water	Water	<95%	7732-18-5

Trade Secret Statement: The exact percentage of each component has been withheld as this information is considered a trade secret.

❖ SECTION 4) FIRST AID MEASURES

Inhalation: If chlorine vapors are inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, provide oxygen and get medical attention immediately.

Ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately remove clothing from affected area and wash skin with flowing water. Clothing should be discarded or washed before reuse. Obtain medical attention if irritation persists. Do not instruct person to neutralize affected skin area.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyes open. Contacts should be removed before or during flushing. Do not instruct person to neutralize. Get medical attention if irritation persists.

Note to Physician: Dilute sodium hypochlorite solutions such as these products are mildly alkaline but potentially corrosive to the digestive tract. For exposure by ingestion, do not use emesis, lavage or acid antidotes. Dilute immediately by giving milk, melted ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel, or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.

❖ SECTION 5) FIRE FIGHTING MEASURES

Fire Fighting Procedures: Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce irritating chlorine fumes.

Fire and Explosion Hazards: This product is non-flammable and non-combustible. Vigorous reaction is possible with organic materials or strong reducing agents that may result in fire.

Hazardous Products of Thermal Decomposition and/or Combustion: Oxygen and chlorine are hazardous products of decomposition of sodium hypochlorite.

Special Information: If the solution is accidentally mixed with strong acids, chlorine vapors will be released.

NFPA Ratings: Health- 1 Flammability- 0 Reactivity- 0 Other- None.

❖ SECTION 6) ACCIDENTAL RELEASE MEASURES

Collect liquid in an appropriate container or absorb with an inert material (i.e. dry sand, vermiculite, earth). Ventilate area of leak or spill, and prevent contact with incompatibles. Clean up spills immediately and wear appropriate personal protective equipment as specified in Section8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible, and dispose of in compliance with all Federal, Local, and Provincial laws and regulations (Regulations may vary in different locations). Do not allow to enter streams, rivers, lakes, or similar bodies of water. Chlorine content of the product can be neutralized by sprinkling sodium metabisulfite or sodium bisulfite on the spilled material.

❖ SECTION 7) HANDLING AND STORAGE

Handling: Wear appropriate protective equipment. Avoid contact with materials that are incompatible or prone to corrosion. Avoid breathing vapor, mist, or gas. Prevent contact with eyes, on skin, or on clothing. Do not ingest or inhale. Use with adequate ventilation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store near chemicals that may react if spillage/leakage occurs. Keep container tightly closed.

Other Comments: This substance can decompose on heating or contact with acids or reducing materials, producing corrosive gases including chlorine. This substance is a strong oxidant.

❖ SECTION 8) PERSONAL PROTECTION/EXPOSURE CONTROL

Exposure Limits: No exposure limits have been developed for sodium chloride or sodium hypochlorite.

Personal Respirator: Non required under normal use conditions. Use NIOSH/MSHA approved organic vapor-acid-gas respirator with filter (qualified to wear respirator) during large spill clean-up or other conditions that might produce irritating chlorine-like fumes (e.g. reactions with incompatibles).

Skin Protection: Wear latex, neoprene, or rubber gloves and other protective clothing as appropriate to prevent skin contact.

Eye Protection: Safety glasses with face shield are recommended.

Ventilation Protection: Use local exhaust at points of vapor emission.

Other Protection: Safety showers and eye wash fountains, or other means of washing eyes with a gentle flow of cool to tepid tap water should be readily available in all areas where this material is handled or stored.

❖ SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Colorless to light yellow-green liquid with slight chlorine odor.

Vapor Pressure and Density: Not determined.

Boiling Point: Approximately 100° C.

Melting Point: Approximately 0° C.

Specific Gravity: 1.03 at 25° C.

Solubility in Water: Complete.

Volatile Percentage: Not applicable.

pH: 8-10.

Flash Point/Method: Not Applicable.

Evaporation Rate: Not applicable.

Auto Ignition Temperature: Not Applicable.

Decomposition Temperature: Sodium hypochlorite decomposes above 110° C.

Upper/Lower Explosion Limit: Not Applicable.

Viscosity: Not applicable (Approximately that of water).

❖ SECTION 10) STABILITY AND REACTIVITY

Stability: Stable under normal pressures and temperatures. Slowly decomposes on contact with air. Decomposition rate increases with concentration, decreased pH, and elevated temperature. Exposure to sunlight and heavy metals also accelerates decomposition.

Hazardous Decomposition Products: Oxygen and Chlorine gas.

Hazardous Polymerization: None expected.

Incompatibilities: This material is incompatible with strong oxidizing agents, acids, heavy metals, reducing agents, organics, ether, and ammonia. Extended exposure to the product causes corrosion of many metals including stainless steel.

Conditions to Avoid: Avoid using combustible material to absorb large spills. Avoid excessive heat or light exposure and contact with incompatibles. Avoid mixing with acids; lowering the pH of the solution may result in release of chlorine vapors.

❖ SECTION 11) TOXICOLOGICAL INFORMATION

Inhalation- Acute: Inhalation of chlorine vapors causes coughing and choking, burning sensation, labored breathing, shortness of breath, severe respiratory tract irritation, and pulmonary edema.

Inhalation- Chronic: No chronic inhalation effects of this product are known.

Skin Contact- Acute: Skin contact may cause irritation, redness, blisters, and dermatitis.

Skin Contact- Chronic: Repeated or prolonged skin contact may cause skin sensitization.

Eye Contact- Acute: Eye contact causes severe irritation with redness and pain.

Ingestion- Acute: Ingestion may cause pain and inflammation of the mouth, pharynx, esophagus, and stomach; erosion of mucous membranes; vomiting; hemorrhage; circulatory collapse; cold and clammy skin; cyanosis and shallow respiration; confusion; delirium; coma; edema of pharynx; glottis and larynx with stridor and obstruction; and perforation of esophagus and stomach.

Ingestion- Chronic: No chronic ingestions effects of this product are known.

Carcinogenicity/Mutagenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Reproductive Effects: No reproductive effects for this product are known.

Neurotoxicity: None are known.

Other Effects: None are known.

Target Organs: Skin, eyes, respiratory tract, and digestive system.

❖ SECTION 12) ECOLOGICAL INFORMATION

Ecotoxicity: This product is toxic to aquatic organisms. Do not allow to enter streams, lakes, etc.

❖ SECTION 13) DISPOSAL CONSIDERATIONS

Material that cannot be used or reprocessed for use, and empty containers should be disposed of in accordance with all applicable Federal, State, Local, and Provincial regulations. Product containers should be thoroughly emptied before disposal. NOTE: state and local regulations may be more strict than federal regulations.

❖ SECTION 14) TRANSPORTATION INFORMATION

D.O.T. Shipping Information: See product label and Bill of Lading.

❖ SECTION 15- REGULATORY INFORMATION

CERCLA SECTION 103 (40CFR302.4): Yes CAS# 7681-52-9 RQ: 100 lbs.

SARA SECTION 302 (40CFR355.30): No.

TSCA SECTION 304 (40CFR355.40): No.

SARA SECTION 313 (40CFR372.65): No.

OSHA PROCESS SAFTEY (29CFR1910.119): No.

CALIFORNIA PROPOSITION 65: No.

RCRA (40CFR261 Subpart C): If this product becomes a waste, it does not meet the definition of a characteristic waste, and no other EPA hazardous waste codes are applicable.

❖ SECTION 16) OTHER INFORMATION

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NFPA Ratings: Health- 1, Flammability- 0, Reactivity- 0, Special Notice Key- None.

HMIS Ratings: Health- 1, Flammability- 0, Reactivity- 0, Protective Equipment- B (Protective eyewear, gloves).