

Safety Data Sheet

SDS# 003

Aqueous Chlorine Dioxide 0.3%



Crystal Clear Lab™

Chlorine Dioxide Solution 0.3% (3,000 ppm)

SECTION 1: IDENTIFICATION

Product Identifier: Chlorine Dioxide 0.3% Aqueous Solution (3,000 ppm)

Synonyms: CDS; ACD; Aqueous Chlorine Dioxide 0.3%

Manufacturer: Crystal Clear Lab

Address: 13854 C Plaza, Omaha, NE 68144

Telephone Number: 531-867-7189

24-Hour Emergency Contact: 1-833-875-0643

Recommended Uses: Concentrated odor remover; surface stain lifter; water clarifier for emergency storage.

Restrictions on Use: Use only as directed. Not intended for ingestion. Do not use as a drug, dietary supplement, disinfectant, sanitizer, or pesticide unless separately registered and labeled for that use.

SECTION 2: HAZARD IDENTIFICATION

GHS Classification: Oxidizing Liquids - Category 3; Skin Irritation - Category 2; Eye Irritation - Category 2A; Specific Target Organ Toxicity, Single Exposure (Respiratory) - Category 3.

Official OSHA pictograms:



Signal Word: WARNING

Hazard Statements: May intensify fire; oxidizer. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

SPECIFIC LABEL WARNINGS

Severe Eye and Skin Irritant. Do not breathe vapors. Open container slowly in a well-ventilated area. Keep Out of Reach of Children.

STORAGE / OPENING WARNING: Refrigerate before opening. Keep bottle cold and upright. Open slowly in a well-ventilated area while directing the opening away from the face and eyes. A warm container may release accumulated chlorine dioxide gas rapidly, creating an immediate inhalation and eye-sting hazard.

Precautionary Statements: Keep away from heat, sunlight, combustible materials, and contamination. Do not breathe vapors or mist. Wear protective gloves and eye/face protection. Wash thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do; continue rinsing. IF ON SKIN: Wash with plenty of water. IF INHALED: Move to fresh air and keep comfortable for breathing. Seek medical attention if symptoms persist. Dispose according to applicable regulations.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

All percentages are w/w.

Component	CAS No.	Formula	Concentration
Chlorine Dioxide	10049-04-4	ClO ₂	0.3% (3,000 ppm)
Water	7732-18-5	H ₂ O	99.7%

SECTION 4: FIRST-AID MEASURES

Inhalation: Move to fresh air immediately and keep at rest. Seek medical attention if irritation, coughing, breathing difficulty, or other symptoms persist.

Skin Contact: Remove contaminated clothing. Rinse skin thoroughly with water and mild soap. Seek medical attention if irritation persists.

Eye Contact: Immediately rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing and seek medical advice.

Ingestion: Rinse mouth. Do not induce vomiting. Dilute with water only if the person is conscious. Seek immediate medical attention.

A warm or agitated container may release chlorine dioxide vapor rapidly. If exposure occurs during opening, leave the area and move to fresh air.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability: Does not burn, but combustibles wetted with this solution and subsequently dried may ignite and burn vigorously.

Extinguishing Media: Use measures appropriate to surrounding circumstances and environment.

Hazardous Combustion Products: None from the solution itself; chlorine dioxide, chlorine, and oxygen may be released on decomposition.

Flash Point / Flammability Limits / Auto-Ignition: Not applicable.

Mechanical Impact / Static Discharge Sensitivity: Not applicable for this water solution.

Protective Equipment: Use self-contained breathing apparatus or an appropriate full-face respirator in confined or high-vapor areas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ventilate the area. Avoid breathing vapors or mist. Wear protective gloves, clothing, and eye/face protection.

Environmental Precautions: Prevent uncontrolled discharge to natural waterways, storm drains, septic systems, and confined spaces.

Small Consumer Spill (up to 4 oz): Avoid breathing fumes. Wipe with a damp cloth or paper towel and rinse the area with water. Thoroughly rinse absorbent cloth or paper with water before disposal.

Spill over 4 oz: Ventilate. Dilute with excess water to reduce concentration. Contain and collect with non-combustible absorbent material such as sand, earth, diatomaceous earth, or vermiculite. Dispose according to local regulations.

Bulk / Workplace: Prevent further leakage if safe. Do not allow residues to dry on organic absorbent material.

SECTION 7: HANDLING AND STORAGE

SPECIFIC LABEL WARNINGS

Severe Eye and Skin Irritant. Do not breathe vapors. Open container slowly in a well-ventilated area. Keep Out of Reach of Children.

STORAGE / OPENING WARNING: Refrigerate before opening. Keep bottle cold and upright. Open slowly in a well-ventilated area while directing the opening away from the face and eyes. A warm container may release accumulated chlorine dioxide gas rapidly, creating an immediate inhalation and eye-sting hazard.

Handling: Keep container upright. Avoid eye and skin contact. Do not breathe vapor or mist. Wear goggles and nitrile gloves when opening or dispensing. Do not open near the face. Do not shake. Open slowly while cold and in a well-ventilated area.

Refrigeration Before Opening: Refrigerate the product before every opening. Do not open a warm bottle. Cooling reduces vapor pressure and the rate of chlorine dioxide gas release.

Storage: Keep refrigerated, tightly closed, upright, and protected from light. Store in a cool, dry, well-ventilated location away from heat, direct sunlight, children, combustible materials, reducing agents, organic materials, acids, and reactive metals. Do not freeze unless the product label specifically permits it.

Pressure / Gas Release Hazard: Chlorine dioxide can partition from solution into the container headspace. Warming increases gas release and internal pressure. A warm container may vent gas rapidly when opened, creating an immediate inhalation or eye-sting hazard.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Substance	OSHA PEL	ACGIH TLV	ACGIH STEL
Chlorine Dioxide	0.1 ppm TWA	0.1 ppm TWA	0.3 ppm

Engineering Controls: Use local exhaust or effective general ventilation. Open only in a well-ventilated area. Provide eyewash access where routinely handled.

Eye / Face Protection: Chemical splash goggles; use a face shield if splashing or rapid gas release is possible.

Skin Protection: Nitrile gloves and protective clothing appropriate to exposure.

Respiratory Protection: Avoid breathing vapors. If concentrations may exceed exposure limits, use properly selected NIOSH-approved respiratory protection under a respiratory-protection program.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Property	Value
Appearance	Clear yellow liquid	Odor	Sharp, chlorine-like
Concentration	0.3% (3,000 ppm)	pH	Approximately 5 at 25°C
Melting / Freezing Point	Approximately 0°C	Boiling Point	Approximately 100°C
Flash Point	Not applicable	Evaporation Rate	Similar to water
Flammability	Not flammable	Vapor Pressure	Similar to water; dissolved ClO ₂ may enter headspace
Density	Approximately 1 g/cm ³	Mechanical / Static Sensitivity	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable in dilute aqueous solution when refrigerated and protected from light, heat, and contamination. Decomposes over time, particularly with sunlight, heat, or contaminants.

Reactivity: Reactive oxidizing agent. At 0.3%, generally stable in solution under recommended conditions, but may react with reducing agents, organic materials, acids, combustible substances, or certain metals.

Temperature / Pressure Relationship: Warming accelerates chlorine dioxide transfer from solution into the container headspace and may increase internal pressure. Refrigerate before opening and open slowly while cold in a well-ventilated area.

Conditions to Avoid: Warm storage, opening while warm, sunlight, heat, acidic or alkaline environments, agitation, and contamination with organic or reactive material.

Incompatible Materials: Strong acids, reducing agents, organic materials, combustible substances, and certain metals such as powdered iron and copper.

Hazardous Decomposition Products: Chlorine dioxide gas, chlorine, and oxygen.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Harmful if swallowed.

Skin Corrosion / Irritation: Causes skin irritation; prolonged contact may cause rash or burning.

Serious Eye Damage / Irritation: Causes serious eye irritation. Concentrated vapor released during warm opening may cause immediate eye stinging.

Inhalation: Vapor may cause respiratory irritation, coughing, throat irritation, or breathing discomfort.

Respiratory or Skin Sensitization: Not classified.

Germ Cell Mutagenicity / Carcinogenicity / Reproductive Toxicity: Not classified.

LD50: Rat: 292 mg/kg (chlorine dioxide gas; source value).

STOT / Aspiration Hazard: Not classified in source SDS.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: Not expected to be harmful to aquatic life at typical use concentrations; avoid uncontrolled release.

Persistence / Biodegradability: Not considered persistent. Decomposes to chloride and oxygen when exposed to sunlight or organic matter.

Bioaccumulation Potential: Low.

Mobility in Soil: Soluble in water.

SECTION 13: DISPOSAL CONSIDERATIONS

Consumer Quantities: Avoid breathing fumes. Ventilate. For small spills, absorb with a damp material and rinse the material thoroughly with water before disposal. Follow local requirements.

Larger Quantities: Dilute with excess water only where allowed, or collect with non-combustible absorbent material and place in a compatible container for disposal. Do not allow residue to dry on organic absorbents.

Restrictions: Avoid discharge to natural waterways, storm drains, and septic systems. Dispose according to federal, state, and local regulations.

SECTION 14: TRANSPORT INFORMATION

Transport Item	Source Classification
UN Number	UN1760
Proper Shipping Name	Corrosive Liquid, N.O.S. (Chlorine Dioxide Solution)
Class	8
Packing Group	III
Note	May qualify as Limited Quantity if ≤1 L in compliant packaging; carrier classification and packaging rules control.

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication: Classified under 29 CFR 1910.1200 as stated in Section 2.

TSCA: All components listed.

SARA 302: Not subject per source SDS.

SARA 313: Not subject per source SDS.

California Proposition 65: No listed substances per source SDS.

WHMIS: Not classified per source SDS.

SECTION 16: OTHER INFORMATION

Date of Last Revision: 30-Aug-2026

Revision Note: Revised product uses, supplemental label warnings, refrigeration-before-opening requirements, slow-opening and ventilation controls, pressure/gas-release explanation, PPE guidance, and storage instructions. Official OSHA GHS pictograms embedded without modification.

Supersedes: All previous versions.

Disclaimer

This Safety Data Sheet is provided as guidance for safe handling, use, processing, storage, transportation, and disposal. It includes considerations for consumer-sized retail packaging. The information is believed accurate as of issue but is not a guarantee of product specifications or fitness for a particular purpose. The user is responsible for safe, lawful, and compliant use. Product labeling, packaging, transport classification, and all claims must comply with applicable federal, state, local, carrier, and marketplace requirements.

End of Safety Data Sheet