



SAFETY DATA SHEET

SECTION 1 • COMPANY AND CHEMICAL IDENTIFICATION

Selective Micro Technologies, LLC
6200 Avery Road, Suite a
Dublin, OH 43016
(855) 256-8299 (8:30 AM – 4:30 PM EST)

EMERGENCY SOURCE INFORMATION
24-Hour Emergency Chemtrec: 800-424-9300

SUBSTANCE: Aqueous chlorine dioxide
PRODUCT: Chlorine dioxide
PRODUCT/TRADE NAMES/SYNONYMS: Concentrated Chlorine Dioxide

Other trade names: chlorine dioxide, ClO₂, pure chlorine dioxide, pure ClO₂

RECOMMENDED USE: Surface disinfectant, sanitizer, antimicrobial food wash

RESTRICTIONS : For industrial and commercial use

CREATED BY: Selective Micro Technologies
CREATION DATE: 8/22/2018 REVISION DATE: 3/11/2019

SECTION 2 • HAZARD IDENTIFICATION

PRODUCT: Chlorine dioxide
SIGNAL WORD: DANGER

May intensify fire, oxidizer
Respiratory tract irritant.
Skin and Eye Irritant.

Precautionary statements: Wash exposed areas after handling, wear protective gloves, avoid breathing fumes/gas/mist/vapors/spray. Use only in a well ventilated area. If skin irritation occurs, get medical attention. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if easy to do so. If eye irritation persists, get medical attention. If inhaled, remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell. Take off contaminated clothing and wash before reuse. Keep away from heat, or other combustible materials.



SECTION 3 • COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT

COMPONENT	CASRN	RANGE
Chlorine Dioxide	10049-04-4	0.05%

SECTION 4 • FIRST AID MEASURES

CONTACT WITH LIQUID PRODUCT

SKIN: Remove contaminated clothing. Rinse skin immediately. If irritation persists, obtain medical attention.

EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye. If irritation persists, obtain medical attention.

INHALATION: Remove individual from exposure to chemical. Seek fresh air. If individual is not breathing, administer CPR. If breathing is labored, seek medical attention.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person drink large quantities of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE: Have the product container or label with you when calling a poison control center or doctor or going for treatment.

SECTION 5 • FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD: Chlorine dioxide gas, which may evolve from solution is explosive in the gas phase at concentrations greater than 10% by volume. Do not allow chlorine dioxide gas to accumulate in confined spaces.

EXTINGUISHING MEDIA: Fire-exposed containers should be watered and cooled with water fog. Decomposition can release oxygen that supports combustion and reduces effectiveness of suffocation-type extinguishing agents.

FIREFIGHTING: Wear full protective clothing and self-contained breathing apparatus with full facepiece (pressure-demand, NIOSH-approved). Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

HAZARDOUS COMBUSTION PRODUCTS: Decomposition can release oxygen that supports combustion and reduces effectiveness of suffocation-type extinguishing agents. Thermal decomposition products from incomplete combustion (pyrolysis) include carbon monoxide, carbon dioxide, and inorganic chlorine compounds.

SECTION 6 • ACCIDENTAL RELEASE MEASURES

PRODUCT:

If product is spilled, or otherwise introduced into the environment:

- Wear protective rubber gloves (see manufacturer details for tolerances)
- Wear protective goggles or other eye protection
- Wear an approved NIOSH mask to prevent inhaling fumes
- If spillage is heavily concentrated, dilute
- Soak up spillage and dispose of down drain and in accordance with local ordinance

SECTION 7 • HANDLING AND STORAGE

HANDLING: Use product as directed by label. Avoid breathing mist or vapors generated by product. Use only with adequate ventilation. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Thoroughly rinse any protective gear and handling equipment used prior to storage and reuse.

STORAGE: Observe all applicable regulations when storing this substance. Keep product in a cool, dry, ventilated area away from direct sunlight. Do not store with acids, chlorine and chlorine compounds, hypochlorites (bleach), organic solvents, sulfur and sulfite compounds, phosphorus, and combustible/flammable materials. Store in opaque container.

SECTION 8 • EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: General exhaust ventilation is sufficient for safe use of this product. Avoid breathing any vapors, mists or fumes generated by product. Local exhaust ventilation or NIOSH approved mask may be appropriate in applications, in confined spaces or where large quantities are used.

EYE PROTECTION: When using product, approved safety goggles or face shield should be worn.

EMERGENCY WASH FACILITIES: None normally required when handling intact product. Safety shower and chemical eyewash facilities may be necessary if handling large quantities.

GLOVES: Gloves made of rubber, neoprene or other chemically impervious gloves may be suitable. Consult glove manufacturer.

RESPIRATOR: Where overexposure to chlorine dioxide may occur, use appropriate respiratory protection and follow OSHA requirements at 29 CFR 1910.134 and 29 CFR 1910.1000. A NIOSH-approved air-purifying respirator or a NIOSH approved canister/cartridge respirator rated for chlorine/acid gas or specified for chlorine dioxide may be appropriate.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: For firefighting, see section 5.

EXPOSURE LIMITS:

PRODUCT	CASRN	OSHA	ACGIH	NIOSH
Chlorine dioxide (airborne)	10049-04-4	0.1 ppm/8hrs	0.1 ppm/10hrs 0.3 ppm STEL	0.1 ppm/10hrs 0.3 ppm STEL

**SECTION 9 • PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Light green to yellow liquid.
UPPER/LOWER FLAMMABILITY LIMITS: NA
ODOR: Chlorine like smell
VAPOR PRESSURE: NA
ODOR THRESHOLD: 0.1 PPM
VAPOR DENSITY: NA
pH: >6
RELATIVE DENSITY: NA
MELTING/FREEZING POINT: 32 degrees F.

SOLUBILITY: COMPLETE
INITIAL BOILING POINT & BOILING RANGE: NA
FLASH POINT: NA
EVAPORATION RATE: NA
FLAMMABILITY: NA
PARTITION COEFFICIENT: NA
AUTO-IGNITION TEMPERATURE: NA
DECOMPOSITION TEMPERATURE: NA
VISCOSITY: .894 cp at 25 degree s C.

SECTION 10 • STABILITY AND REACTIVITY

STABILITY: Product is stable under normal storage conditions.

CONDITIONS TO AVOID: Avoid the accumulation of high concentrations of gasses emitted from product.

INCOMPATIBILITIES: Avoid accidental contact with other chemicals such as strong oxidizing agents, excessive heat, sunlight.

HAZARDOUS DECOMPOSITION: Chlorine, hydrochloric acid gas, oxygen

SECTION 11 • TOXICOLOGY INFORMATION

CARCINOGEN STATUS: Not Listed.

TARGET ORGANS: Skin, eyes.

ADDITIONAL DATA: None.

DERMAL SENSITIZATION: A dermal sensitization test [in accordance with EPA Health Effects Test Guidelines, OPPTS 870. 2500 (1998)] was conducted with rabbits and pigs to determine if the product would produce sensitization after repeated topical applications. Based on the results of the study, the solution was moderately irritating.

ACUTE INHALATION: LC₅₀ >2.07 mg/L (male and female rats): single exposure acute inhalation of the aqueous solution of chlorine dioxide.

CARCINOGEN STATUS:

OSHA: Not Listed.

NTP: Not Listed.

IARC: Not Listed.

TARGET ORGANS: Skin, eyes, respiratory tract, mucous membranes.

ADDITIONAL DATA: None.

HEALTH EFFECTS FROM EXPOSURE TO ACTIVATED PRODUCT: None anticipated under normal conditions of use.

POTENTIAL HEALTH EFFECTS FROM EXPOSURE TO CHLORINE DIOXIDE GAS:

INHALATION: Chlorine dioxide gas is a strong respiratory irritant. High exposure may cause bronchospasm and pulmonary edema, which maybe delayed in onset. May also cause severe headache. All symptoms may be delayed and long lasting. Prolonged exposure may cause bronchitis.

SKIN CONTACT: Skin irritant. Gas phase may be absorbed, causing tissue and blood cell damage.

EYE CONTACT: Eye irritant. Exposure may cause visual disturbance such as seeing haloes around lights.

INGESTION: Liquid solutions of chlorine dioxide gas can be irritating and in high concentrations cause chemical burns. Not anticipated from this product.

ADDITIONAL DATA: May have increased effects with exposure to chlorine, other chlorine oxides, and chlorine-fluorine compounds.

SECTION 12 • ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY: Not applicable.
DEGRADABILITY: Decomposes in water.
BIOCONCENTRATION FACTOR (BCF): Not applicable.
OCTANOL/WATER PARTITION COEFFICIENT: Not applicable.

SECTION 13 • DISPOSAL INFORMATION

Used/activated product sachets are considered inert; consult with appropriate agencies to determine appropriate disposal methods.

SECTION 14 • TRANSPORTATION INFORMATION

Transportation of activated chlorine dioxide not necessary, as this product is intended for use on site.

SECTION 15 • REGULATORY INFORMATION

US FEDERAL REGULATIONS:

Clean Air Act: Not applicable.

CERCLA SECTION 103 (40 C.F.R. § 302.4): Not applicable.

SARA SECTION 302 (40 C.F.R. § 355.30): Not applicable.

SARA SECTION 304 (40 C.F.R. § 355.40): Not applicable.

SARA (EPCRA) SECTION 313 (40 C.F.R. § 372.65): Chlorine dioxide produced from activated product is listed under SARA 313, with a 25,000-pound threshold for manufactured product.

OSHA PROCESS SAFETY (29 C.F.R. § 1910.119): Not regulated.

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40 C.F.R. § 370.21): 10,000 lb

ACUTE HAZARD: Irritant.

CHRONIC HAZARD: None known.

FIRE HAZARD: Oxidizer

REACTIVITY HAZARD: Oxidizer.

SUDDEN RELEASE HAZARD: Not applicable.

STATE REPORTING REQUIREMENTS:

California Proposition 65: Not regulated.

New Jersey: See Section II.

SECTION 16 • OTHER**DISCLAIMER OF WARRANTY**

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user, and WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. Nothing is intended as a recommendation for uses that infringe valid patents or as extending license under valid patents. Appropriate warnings and safe- handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or transmission of this document, in whole or in part, is not permitted. Selective Micro Technologies assumes no responsibility for accuracy of information unless the document is the most current available from an official Selective Micro distribution system. Selective Micro neither represents nor warrants that the format, content or product formulas contained in this document comply with the laws of any other country except in the United States of America.