



MSDS No.: 2L500/G-series: E02-033105

MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCTS & COMPANY IDENTIFICATION

Selective Micro Technologies, LLC
66 Cherry Hill Drive, Suite 230
Beverly, MA 01915
978-927-6610 (9 AM - 5 PM EST)

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

SUBSTANCE: Inorganic Oxidizing Agent

TRADE NAMES/SYNONYMS: Selective Micro[®]2L500, Selectrocide[®]2L500
Selectrocide[™]1G, Selectrocide[™]5G, Selectrocide[™]12G,
Selective Micro[®]Marine-Clean, Selective Micro[®]Tap-Clean,
Selective Micro[®]Fountain-Clean

CHEMICAL FAMILY: Mixture of Inorganic Compounds

CAS NUMBER: Not Applicable

CREATED BY: Selective Micro Technologies, LLC

CREATION DATE: May 5, 2004

REVISION DATE: March 31, 2005

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

| <u>COMPONENT</u> | <u>CASRN</u> | <u>Range</u> | <u>EXPOSURE LIMITS</u> | | |
|------------------|--------------|--------------|------------------------------------|------------------------------------|--------------|
| | | | <u>OSHA</u> | <u>ACGIH</u> | <u>NIOSH</u> |
| Activator | N/A | 55-85% | None Listed | None Listed | None Listed |
| Sodium Chlorite | 7758-19-2 | 15-40% | None Listed | None Listed | None Listed |
| Inert | N/A | ≤ 2% | 15 mg/m ³ ^{^*} | 10 mg/m ³ ^{^*} | None Listed |

[^]Time-Weighted Average

^{*}Particulates Not Otherwise Regulated

SECTION 3**HAZARDS IDENTIFICATION**

EMERGENCY OVERVIEW

Intact product is not expected to produce any measurable exposure to ingredients. If product is damaged, avoid contact with dry ingredients. Dry ingredients may cause skin and eye burns. If product contents become wet, product may produce chlorine dioxide gas. See section 11 for hazards of chlorine dioxide gas.

The product is designed to release small amounts of chlorine dioxide gas into water when the pouch is filled with water, and the product design limits both the amount of gas generated and the rate of release into solution. The product produces chlorine dioxide gas when the contents are adequately wetted. Once a Selective Micro pouch (either of the 2L500 products) is filled with water or once the envelope of the Selecticide 1G, 5G, or 12G package is immersed in water, the waiting time prior to use ranges from a minimum of 6 hours to a minimum of 15 hours, as specified on the product label. The quantity of active ingredient that produces chlorine dioxide gas ranges from roughly 4 to 70 grams, and chlorine dioxide gas is not expected to be released in amounts or at a rate where significant exposures could occur in normal handling and use. If not used according to directions, some chlorine dioxide gas could be released into small, enclosed spaces in sufficient quantities to be detectable. If a chlorine-like odor is detected in such a space, leave the space and ventilate it.

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 may be 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: Aqueous 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 4**FIRST AID MEASURES**

CONTACT WITH DRY PRODUCT

SKIN: Brush off loose product. Rinse skin immediately with plenty of water, then wash area with soap and water. Call a poison control center or doctor for treatment advice.

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. Seek medical attention immediately.

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.

CONTACT WITH LIQUID PRODUCT (ACTIVATED 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.

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: Sodium chlorite in the unactivated product is a strong oxidizer, and can support combustion in the absence of air. Chlorine dioxide, which may evolve from exposure of the unactivated product to water, 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.

FLASH POINT: 185° C (sodium chlorite)

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

OCCUPATIONAL SPILL: Clean up all spills immediately, observing all protection and safety precautions. Do not allow product material to dry to a crystalline salt, which could occur if unactivated pouch is damaged or compromised. Small spills of either dry or activated product may be flushed with large quantities of water to a designated and permitted sewer system in compliance with all federal, state, and local regulations. Larger spills should be contained and neutralized by adding sufficient water to produce a dilute solution or disposed of as chemical waste in accordance with all applicable regulations. The spill scene should be flushed thoroughly with water after cleanup. Refer to Section III and Section VIII for additional precautions.

SECTION 7 HANDLING AND STORAGE

HANDLING: Use product as directed by label. Avoid breathing mist or vapors generated by activated 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 unactivated 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.

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 the activated product. Local exhaust ventilation may be appropriate in applications, in confined spaces or where large quantities are used.

EYE PROTECTION: If handling dry ingredients in product, use appropriate eye protection. None normally required when handling intact product.

HAZARDOUS DECOMPOSITION: Exposure of dry ingredients or activated product to acids or chlorine compounds can produce uncontrolled release of chlorine dioxide gas.

SECTION 11

TOXICOLOGY INFORMATION

DRY PRODUCT

CARCINOGEN STATUS: Not Listed.

TARGET ORGANS: Skin, eyes.

ADDITIONAL DATA: None.

HEALTH EFFECTS OF UNACTIVATED PRODUCT: None anticipated under normal conditions of use. Contact with dry ingredients may cause burns.

INHALATION: None anticipated under normal conditions of use.

SKIN CONTACT: None anticipated under normal conditions of use.

EYE CONTACT: None anticipated under normal conditions of use; however, eye contact with dry ingredients may cause irreversible eye damage.

INGESTION: None anticipated under normal conditions of use.

ACTIVATED PRODUCT

| | <u>CASRN</u> | <u>RANGE</u> | <u>OSHA</u> | <u>EXPOSURE LIMITS</u> | |
|------------------|--------------|--------------|----------------------|------------------------|--------------|
| | | | | <u>ACGIH</u> | <u>NIOSH</u> |
| Chlorine Dioxide | 10049-04-4 | >99% | 0.1 ppm [^] | 0.1 ppm [^] | 5ppm |
| IDLH | | | | 0.3 ppm ⁺ | |

[^]Time Weighted Average

IDLH-Immediately Dangerous to Life and Health

⁺Short Term Exposure Limit

DERMAL SENSITIZATION: A dermal sensitization test [in accordance with EPA Health Effects Test Guidelines, OPPTS 870.2600 (2003)] was conducted with guinea pigs to determine if the activated product would produce sensitization after repeated topical applications. Based on the results of the study, the activated solution is not considered to be a contact sensitizer.

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

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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**

Unactivated product should be disposed in accordance with all federal, state and local regulations.

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

SECTION 14**TRANSPORTATION INFORMATION**

D.O.T. Classification: 5.1, Oxidizer

UN Number: 1496

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 threshold.

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, LLC assumes no responsibility for accuracy of information unless the document is the most current available from an official Selective Micro Technologies, LLC distribution



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