

Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Chlorine Dioxide Solution

This material is produced and consumed on-site by the user as necessary.

Part Number: None

Chemical Family: Inorganic

Manufacturer's Name: Siemens Industry, Inc. - Water Technologies Business Unit

Address: 2650 Tallevast Road, Sarasota, FL 34243

Product/Technical Information Phone Number: 941.355.2971

Medical/Handling Emergency Phone Number: CHEMTREC 1.800.424.9300
24 hours a day

Transportation Emergency Phone Number: CHEMTREC 1.800.424.9300
24 hours a day

Issue Date: May 2008

Revision Number / Date: Rev 1 April 2011

SECTION 2 – COMPOSITION INFORMATION

<u>Chemical Name</u>	<u>Percent by Weight</u>	<u>CAS#</u>
Chlorine dioxide	< 0.3	10049-04-4
Water	Balance	7732-18-5

SECTION 3 – HAZARDS IDENTIFICATION

Appearance & Odor: Pale yellow solution with chlorine-like odor.

Emergency Overview: Corrosive to eyes, nose, throat, lungs, and gastrointestinal tract.

Fire & Explosion Hazards: Material is non-combustible.

Primary Route(s) of Exposure: Skin and eye contact, inhalation.

Inhalation – Acute Effects: Harmful if inhaled. Inhalation of vapors and mists may cause coughing, headaches, labored breathing, nausea, shortness of breath, and pulmonary edema.

Skin Contact – Acute Effects: Corrosive. Contact may cause irritation and redness.

Eye Contact – Acute Effects: Corrosive. Contact will irritate and be painful. Contact may injure eyes causing corneal damage.

Ingestion – Acute Effects: An unlikely route of exposure. This material will irritate the mouth, throat, and stomach if ingested.

SECTION 4 – FIRST AID MEASURES

Inhalation First Aid: Remove victim to fresh air. Give artificial respiration ONLY if breathing has stopped. **Obtain medical attention immediately.**

Material Safety Data Sheet

Skin Contact First Aid: Immediately flush for 15-20 minutes with flowing water while removing contaminated clothing and/or shoes. Remove goggles last to keep material from washing into eyes. Clothing should be washed before reuse. **Obtain medical attention immediately.**

Eye Contact First Aid: Immediately irrigate eyes with flowing water continuously for 15-20 minutes while holding eyes open. Contacts should be removed before or during flushing. DO NOT instruct person to neutralize. **Obtain medical attention immediately.**

Ingestion First Aid: Do not induce vomiting. Examine lips and mouth to determine whether the tissues are damaged which may indicate ingestion. Absence of such signs is not conclusive. Loosen clothing such as a collar, tie, belt, or waistband. If victim is not breathing, give artificial respiration. If victim is conscious, give plenty of water to dilute the stomach contents. **Obtain medical attention immediately.**

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point/Method: Not flammable

Auto Ignition Temperature: Not flammable.

Extinguishing Media: Flood with water. Use water spray to reduce vapors.

Fire Fighting Procedures: Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Use water with caution and in flooding amounts. Use water spray to cool nearby containers.

Fire & Explosion Hazards: This product is non-combustible but on decomposition releases chlorine gas which creates corrosive hydrochloric acid when mixed with water or steam.

Hazardous Products of Decomposition and/or Combustion: Elevated temperatures release chlorine dioxide gas which upon decomposition generates corrosive chlorine gas.

NFPA Ratings: HEALTH - 2 FLAMMABILITY - 0 REACTIVITY - 0

SECTION 6 – ACCIDENTAL RELEASE MEASURES

For Small Spills: Rinse with large amounts of water.

For Large Spills: Contain the spill using non-combustible materials, such as sand, and transfer the spilled material to an appropriate waste container.

DO NOT DUMP ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations.

SECTION 7 – HANDLING AND STORAGE

Handling: Keep away from heat, sources of ignition, and out of direct sunlight. Avoid breathing vapors or mists and avoid contact with incompatible materials such as paper, fabrics, cotton, leather, wood, or other combustibles.

Material Safety Data Sheet

Storage: Not applicable since under normal conditions of use, this material is not stored but is produced and consumed on-site as necessary.

SECTION 8 –PERSONAL PROTECTION/ EXPOSURE CONTROL

Respiratory Protection: If use conditions generate vapors or mists in concentrations exceeding exposure limits, wear a respirator equipped with acid gas cartridges.

Skin Protection: Wear neoprene, nitrile, or PVC gloves and boots. Wear a neoprene, nitrile, or PVC apron if use conditions generate splashes.

Eye Protection: Chemical goggles. Wear chemical goggles and face shield if splashing is likely.

Ventilation Protection: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Other Protection: Safety showers, with quick opening valves that stay open, and eye wash fountains or other means of washing the 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. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather.

Exposure Limits: Exposure limits for this material have not been established. However, for chlorine dioxide gas, a component of this material:

<u>Component</u>	<u>OSHA PEL, ppm</u>	<u>ACGIH TLV, ppm</u>
Chlorine dioxide gas	0.1 0.3 (STEL)	0.1 0.3 (STEL)

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Pale yellow solution with chlorine-like odor.

Boiling Point: 212 °F

Freezing Point: 32 °F

Specific Gravity: 1.0

SECTION 10 – STABILITY AND REACTIVITY

Stability: This material is stable under normal use conditions. Avoid exposure to direct sunlight or elevated temperature.

Incompatibilities: Corrosive to steel and stainless steel. Avoid contact with reducing agents.

Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition Products: Chlorine dioxide gas. Chlorine gas will be generated by subsequent decomposition of chlorine dioxide gas.

Material Safety Data Sheet

Conditions to Avoid: Avoid excessive heat or contamination which could cause the product to decompose. Avoid concentrating the vapors since highly concentrated vapors, greater than about 10 % in air, may explosively decompose upon shock, friction, concussion, or material contact.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicology Data: No data available for this material. However, for chlorine dioxide gas, a component of this material:

Oral LD 50 (rat) = 292 mg/kg

Inhalation LC Lo (rat) = 500 ppm/15 min

Eye irritation (rabbit) = moderate

Carcinogenicity: A 2 year mouse bioassay study indicated no clear evidence of carcinogenicity.

Mutagenicity: Positive mutagenicity findings were noted in a small fraction of mutagenesis assays conducted.

SECTION 12 – ECOLOGICAL INFORMATION

Acute Ecotoxicity: No data available for this material. However, for chlorine dioxide gas, a component of this material:

Adult Fathead minnow 96-hr LC 50 = 0.17 mg/l

Chemical Fate: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Material that cannot be used, or reprocessed for use, should be disposed of in accordance with all applicable regulations. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations.

NOTE: State and local regulations may be more stringent than federal regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Not applicable since this material is produced and consumed on-site as required.

SECTION 15 – REGULATORY INFORMATION

OSHA Hazard Communication: Corrosive

TSCA Inventory: Yes

CERCLA Section 102 (a): No

SARA Section 302: No

SARA Section 311:

Acute: Yes

Chronic: No

Fire: No

Pressure Release: No

Reactive: No

SARA Section 312 No

SARA Section 313 Yes. Chlorine dioxide gas is listed.

SECTION 16 – OTHER INFORMATION

Material Safety Data Sheet

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial, and local laws.

Revision Indicator: Legal Entity name change 04/01/11