



Chlorine Dioxide Electrolyte Powder

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 11/09/2018 Date of issue: 10/10/2018

Version: 1.1

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Substance

Product Name: Chlorine Dioxide Electrolyte Powder

CAS No: 7758-19-2

Product Code: 193-0101-01

Formula: NaClO₂

1.2. Intended Use of the Product

Use of the substance/mixture: No use specified

1.3. Name, Address, and Telephone of the Responsible Party

Company

Advanced Calibration Designs, Inc.

2024 W. McMillan Street

Tucson, Arizona 85705 USA

1-520-290-2855

1.4. Emergency Telephone Number

Emergency Number : 1-833-737-2444 +1 833-737-2444 (International)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Ox. Sol. 1	H271
Acute Tox. 3 (Oral)	H301
Acute Tox. 2 (Dermal)	H310
Acute Tox. 2 (Inhalation:dust,mist)	H330
Skin Corr. 1B	H314
Eye Dam. 1	H318
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 3	H412

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H271 - May cause fire or explosion; strong oxidizer.
H301 - Toxic if swallowed.
H310+H330 - Fatal in contact with skin or if inhaled.
H314 - Causes severe skin burns and eye damage.
H373 - May cause damage to organs through prolonged or repeated exposure.
H400 - Very toxic to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.
P220 - Keep/Store away from combustible material, oxidizable materials, and incompatible materials.
P221 - Take any precaution to avoid mixing with combustible material, oxidizable materials, and incompatible materials.
P260 - Do not breathe vapors, mist, or spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

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P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P283 - Wear fire/flammable resistant/retardant clothing.
P284 - [In case of inadequate ventilation] wear respiratory protection .
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P306+P360 - If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P310 - Immediately call a poison center or doctor.
P314 - Get medical advice/attention if you feel unwell.
P320 - Specific treatment is urgent (see section 4 on this SDS).
P330 - Rinse mouth.
P361 - Take off immediately all contaminated clothing.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P371+P380+P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Oxidation or acidification may generate explosive and corrosive chlorine dioxide gas. Take appropriate precautions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name : Chlorine Dioxide Electrolyte Powder
CAS No : 7758-19-2

Name	Product Identifier	%	GHS-US classification
Sodium chlorite	(CAS No) 7758-19-2	100	Ox. Sol. 1, H271 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

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First-aid Measures After Inhalation: First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

First-aid Measures After Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor.

First-aid Measures After Eye Contact: Get immediate medical advice/attention. Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid Measures After Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Toxic if swallowed. Fatal in contact with skin. Fatal if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

Symptoms/Injuries After Inhalation: Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death. May be corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: This material is fatal through skin contact in small amounts. This material can be absorbed through the skin and eyes. Causes severe irritation which will progress to chemical burns.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: This material is toxic in small amounts orally, and can cause adverse health effects or death. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: May cause fire or explosion; strong oxidizer.

Explosion Hazard: Product is not explosive but may evolve explosive chlorine dioxide gas when pressurized or heated. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Oxidizer: increases the burning rate of combustible materials. May form explosive chlorine dioxide gas on contact with incompatible materials (such as acid). May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Keep away from combustible material. Do not get in eyes, on skin, or on clothing. Do not breathe dust.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area. Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. Use only non-sparking tools.

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Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Do not take up in combustible material such as: saw dust or cellulosic material. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May cause or intensify fire; oxidizer. May release corrosive and flammable gas.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from heat, sparks, open flames, hot surfaces, combustible materials, incompatible materials. - No smoking. Handle empty containers with care because they may still present a hazard. Use only outdoors or in a well-ventilated area. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Keep container closed when not in use. Keep in fireproof place. Store locked up. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Products: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

No use specified

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when toxic gases may be released. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Face shield. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear protective gloves.

Eye Protection

: Chemical goggles or face shield.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Solid

Appearance

: White crystalline powder

Odor

: No data available

Odor Threshold

: No data available

pH

: No data available

Evaporation Rate

: No data available

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Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: 175 °C (347 °F)
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Solubility	: 39 grams per 100cc cold water
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Oxidizing Properties	: May cause fire or explosion; strong oxidizer.

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Oxidizer: increases the burning rate of combustible materials. May form explosive chlorine dioxide gas on contact with incompatible materials (such as acid). May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.
- 10.2. Chemical Stability:** May cause fire or explosion; strong oxidizer.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, ignition sources, combustible materials, incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Thermal decomposition generates: Chlorine. Chlorine dioxide. Sodium oxides. Corrosive vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Oral: Toxic if swallowed. Dermal: Fatal in contact with skin. Inhalation:dust,mist: Fatal if inhaled.

Chlorine Dioxide Electrolyte Powder (7758-19-2)	
ATE (Oral)	165.00 mg/kg body weight
ATE (Dermal)	107.20 mg/kg body weight
ATE (Dust/Mist)	0.23 mg/l/4h
Sodium chlorite (7758-19-2)	
LD50 Oral Rat	165 mg/kg
LD50 Dermal Rabbit	107.2 mg/kg
LC50 Inhalation Rat	230 mg/m ³ (Exposure time: 4 h)
LC50 Inhalation Rat	0.23 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Sodium chlorite (7758-19-2)	
IARC group	3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death. May be corrosive to the respiratory tract.

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Symptoms/Injuries After Skin Contact: This material is fatal through skin contact in small amounts. This material can be absorbed through the skin and eyes. Causes severe irritation which will progress to chemical burns.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: This material is toxic in small amounts orally, and can cause adverse health effects or death. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Sodium chlorite (7758-19-2)	
LC50 Fish 1	100 - 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	0.026 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	> 100 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	0.25 - 0.33 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])

12.2. Persistence and Degradability

Chlorine Dioxide Electrolyte Powder (7758-19-2)	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

Chlorine Dioxide Electrolyte Powder (7758-19-2)	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : SODIUM CHLORITE
Hazard Class : 5.1
Identification Number : UN1496
Label Codes : 5.1
Packing Group : II
Marine Pollutant : Marine pollutant
ERG Number : 143



14.2. In Accordance with IMDG

Proper Shipping Name : SODIUM CHLORITE
Hazard Class : 5.1
Division : 5.1
Identification Number : UN1496
Packing Group : II
Label Codes : 5.1
EmS-No. (Fire) : F-H
EmS-No. (Spillage) : S-Q
Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : SODIUM CHLORITE
Packing Group : II
Identification Number : UN1496
Hazard Class : 5.1
Label Codes : 5.1



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Division : 5.1

ERG Code (IATA) : 5L

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Chlorine Dioxide Electrolyte Powder (7758-19-2)	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
Sodium chlorite (7758-19-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations

Sodium chlorite (7758-19-2)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 03/23/2016

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Dermal)	Acute toxicity (dermal) Category 2
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Ox. Sol. 1	Oxidizing solids Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H271	May cause fire or explosion; strong oxidizer
H301	Toxic if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)