



# Performacide Ready to Use Solution

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 01/05/2016 Date of issue: 01/05/2016

Version: 1.0

## SECTION 1: IDENTIFICATION

### Product Identifier

**Product Form:** Mixture

**Product Name:** Performacide Ready to Use Solution

**Product Code:** 1020XX, 1021XX, 1220XX

### Intended Use of the Product

Disinfectant/Sanitizer/Tuberculocide/Virucide\*/Fungicide/Algaecide/Slimicide/Deodorizer

\*See product label for details.

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the Substance or Mixture

**GHS-US classification**

Not classified

### Label Elements

**GHS-US Labeling** No labeling applicable

### Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Under normal conditions of use, when fully reacted and in solution, the solution is not considered hazardous. However, if the Performacide product is altered, or directions for use are not properly followed, the solution may evolve chlorine dioxide gas. At high concentrations chlorine dioxide gas can be explosive, and may be fatal if inhaled. If chlorine dioxide concentrations in solution reach  $\geq .3\%$  w/w this product may be irritating to the eyes, skin, and respiratory tract. At concentrations of 1-5% it will cause skin irritation and eye damage, and at concentrations  $> 5\%$  it will cause skin burns.

**Unknown Acute Toxicity (GHS-US)** Not available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product Identifier	% (w/w)	GHS-US classification
Chlorine dioxide	(CAS No) 10049-04-4	.01* .005 .002 .0005 .000025	Ox. Gas 1, H270 Compressed gas, H280 Acute Tox. 1 (Inhalation:gas), H330 Skin Corr. 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

\*Reference product labeling to achieve desired weight percent based on dilution.

## SECTION 4: FIRST AID MEASURES

### Description of 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).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

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**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

### **Most Important Symptoms and Effects Both Acute and Delayed**

**General:** Not expected to present a significant hazard under anticipated conditions of normal use.

**Inhalation:** Prolonged exposure may cause irritation.

**Skin Contact:** Prolonged exposure may cause skin irritation.

**Eye Contact:** May cause slight irritation to eyes.

**Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** None known.

### **Indication of Any Immediate Medical Attention and Special Treatment Needed**

Symptoms may be delayed. 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**

### **Extinguishing Media**

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire. Water spray.

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

### **Special Hazards Arising From the Substance or Mixture**

**Fire Hazard:** Not considered flammable but may burn at high temperatures. Contains an oxidizing material which in high concentration may accelerate fire.

**Explosion Hazard:** Product is not explosive. Product is not explosive but may evolve explosive chlorine dioxide gas when pressurized or heated.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### **Advice for Firefighters**

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

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition.

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

**Hazardous Combustion Products:** Chlorine oxides. Chlorine gas.

**Other Information:** Risk of explosion if heated under confinement.

### **Reference to Other Sections**

Refer to section 9 for flammability properties.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

**General Measures:** Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).

#### **For Non-Emergency Personnel**

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

**Emergency Procedures:** Evacuate unnecessary personnel.

#### **For Emergency Personnel**

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area. 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.

### **Environmental Precautions**

Prevent entry to sewers and public waters.

### **Methods and Material for Containment and Cleaning Up**

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, and spray.

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

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

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

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Reducing agents. Organic materials.

### Specific End Use(s)

Disinfectant/Sanitizer/Tuberculocide/Virucide/Fungicide/Algaecide/Slimicide/Deodorizer

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 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), OSHA (PEL), Canadian provincial governments, or the Mexican government

Chlorine dioxide (10049-04-4)		
Mexico	OEL TWA (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
Mexico	OEL TWA (ppm)	0.1 ppm
Mexico	OEL STEL (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
Mexico	OEL STEL (ppm)	0.3 ppm
USA ACGIH	ACGIH TWA (ppm)	0.1 ppm
USA ACGIH	ACGIH STEL (ppm)	0.3 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (STEL) (ppm)	0.3 ppm
USA IDLH	US IDLH (ppm)	5 ppm
Alberta	OEL STEL (mg/m <sup>3</sup> )	0.8 mg/m <sup>3</sup>
Alberta	OEL STEL (ppm)	0.3 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.1 ppm
British Columbia	OEL STEL (ppm)	0.3 ppm
British Columbia	OEL TWA (ppm)	0.1 ppm
Manitoba	OEL STEL (ppm)	0.3 ppm
Manitoba	OEL TWA (ppm)	0.1 ppm
New Brunswick	OEL STEL (mg/m <sup>3</sup> )	0.83 mg/m <sup>3</sup>
New Brunswick	OEL STEL (ppm)	0.3 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	0.28 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	0.1 ppm
Newfoundland & Labrador	OEL STEL (ppm)	0.3 ppm
Newfoundland & Labrador	OEL TWA (ppm)	0.1 ppm
Nova Scotia	OEL STEL (ppm)	0.3 ppm

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Nova Scotia	OEL TWA (ppm)	0.1 ppm
Nunavut	OEL STEL (mg/m <sup>3</sup> )	0.82 mg/m <sup>3</sup>
Nunavut	OEL STEL (ppm)	0.3 ppm
Nunavut	OEL TWA (mg/m <sup>3</sup> )	0.27 mg/m <sup>3</sup>
Nunavut	OEL TWA (ppm)	0.1 ppm
Northwest Territories	OEL STEL (ppm)	0.3 ppm
Northwest Territories	OEL TWA (ppm)	0.1 ppm
Ontario	OEL STEL (ppm)	0.3 ppm
Ontario	OEL TWA (ppm)	0.1 ppm
Prince Edward Island	OEL STEL (ppm)	0.3 ppm
Prince Edward Island	OEL TWA (ppm)	0.1 ppm
Québec	VECD (mg/m <sup>3</sup> )	0.83 mg/m <sup>3</sup>
Québec	VECD (ppm)	0.3 ppm
Québec	VEMP (mg/m <sup>3</sup> )	0.28 mg/m <sup>3</sup>
Québec	VEMP (ppm)	0.1 ppm
Saskatchewan	OEL STEL (ppm)	0.3 ppm
Saskatchewan	OEL TWA (ppm)	0.1 ppm
Yukon	OEL STEL (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
Yukon	OEL STEL (ppm)	0.3 ppm
Yukon	OEL TWA (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
Yukon	OEL TWA (ppm)	0.1 ppm

### 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. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear protective gloves.

**Eye Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment.

**Environmental Exposure Controls:** Avoid release to the environment.

**Other Information:** When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Not available
Odor	: Chlorine
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available

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<b>Decomposition Temperature</b>	: Not available
<b>Flammability (solid, gas)</b>	: Not available
<b>Lower Flammable Limit</b>	: Not available
<b>Upper Flammable Limit</b>	: Not available
<b>Vapor Pressure</b>	: Not available
<b>Relative Vapor Density at 20 °C</b>	: Not available
<b>Relative Density</b>	: Not available
<b>Specific Gravity</b>	: Not available
<b>Solubility</b>	: Not available
<b>Partition Coefficient: N-Octanol/Water</b>	: Not available
<b>Viscosity</b>	: Not available
<b>Explosive Properties</b>	: Risk of explosion if heated under confinement
<b>Explosion Data – Sensitivity to Mechanical Impact</b>	: Not expected to present an explosion hazard due to mechanical impact.
<b>Explosion Data – Sensitivity to Static Discharge</b>	: Not expected to present an explosion hazard due to static discharge.

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Reducing agents. Organic materials.

**Hazardous Decomposition Products:** Thermal decomposition generates : Chlorine dioxide. Chlorine gas. Oxygen.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Prolonged exposure may cause irritation.

**Symptoms/Injuries After Skin Contact:** Prolonged exposure may cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause slight irritation to eyes.

**Symptoms/Injuries After Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** None known.

#### Information on Toxicological Effects - Ingredient(s)

**LD50 and LC50 Data:**

<b>Chlorine dioxide (10049-04-4)</b>	
<b>LD50 Oral Rat</b>	93.86 mg/kg (0.2% gas in water)
<b>LC50 Inhalation Rat</b>	32 ppm/4h

### SECTION 12: ECOLOGICAL INFORMATION

#### Toxicity

**Ecology - General:** Not classified.

<b>Chlorine dioxide (10049-04-4)</b>	
<b>LC50 Fish 1</b>	0.021 Species: Brachydanio rerio (new name: Danio rerio)

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### Persistence and Degradability

#### Performacide Ready to Use Solution

Persistence and Degradability	Not established.
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### Bioaccumulative Potential

#### Performacide Ready to Use Solution

Bioaccumulative Potential	Not established.
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Mobility in Soil Not available

### Other Adverse Effects

Other Information: Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

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

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

Ecology – Waste Materials: Avoid release to the environment.

## SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG/IMDG

UN Number Not regulated for transport

UN Proper Shipping Name Not regulated for transport

Transport Hazard Class(es) Not regulated for transport

Additional Information Not available

Transport by sea Not regulated for transport

Air transport Not regulated for transport

In Accordance With IMDG Not regulated for transport

In Accordance With IATA/ICAO Not regulated for transport

In Accordance With TDG Not regulated for transport

## SECTION 15: REGULATORY INFORMATION

### US Federal Regulations

#### Chlorine dioxide (10049-04-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 %
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### US State Regulations

#### Chlorine dioxide (10049-04-4)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic

U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)

U.S. - Colorado - Primary Drinking Water Regulations - Maximum Residual Disinfectant Level Goals (MRDLGs)

U.S. - Colorado - Primary Drinking Water Regulations - Maximum Residual Disinfectant Levels (MRDLs)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities

U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities

U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities

U.S. - Georgia - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)

U.S. - Idaho - Occupational Exposure Limits - TWAs

U.S. - Louisiana - Reportable Quantity List for Pollutants

U.S. - Maine - Air Pollutants - Hazardous Air Pollutants

U.S. - Massachusetts - Drinking Water - Maximum Contaminant Levels (MCLs)

U.S. - Massachusetts - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)

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U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2  
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
RTK - U.S. - Massachusetts - Right To Know List  
U.S. - Massachusetts - Toxics Use Reduction Act  
U.S. - Michigan - Occupational Exposure Limits - STELs  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Hazardous Substance List  
U.S. - Minnesota - Permissible Exposure Limits - STELs  
U.S. - Minnesota - Permissible Exposure Limits - TWAs  
U.S. - Missouri - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)  
U.S. - Nebraska - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)  
U.S. - New Hampshire - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
U.S. - New Jersey - Environmental Hazardous Substances List  
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - New Jersey - Special Health Hazards Substances List  
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)  
U.S. - New York - Occupational Exposure Limits - TWAs  
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour  
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities  
U.S. - Oregon - Permissible Exposure Limits - TWAs  
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups  
U.S. - Pennsylvania - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)  
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
RTK - U.S. - Pennsylvania - RTK (Right to Know) List  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour  
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual  
U.S. - South Carolina - Maximum Residual Disinfectant Levels (MRDLs)  
U.S. - Tennessee - Occupational Exposure Limits - STELs  
U.S. - Tennessee - Occupational Exposure Limits - TWAs  
U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term  
U.S. - Utah - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)  
U.S. - Vermont - Permissible Exposure Limits - STELs  
U.S. - Vermont - Permissible Exposure Limits - TWAs  
U.S. - Washington - Permissible Exposure Limits - STELs  
U.S. - Washington - Permissible Exposure Limits - TWAs  
U.S. - West Virginia - Water Quality - Groundwater Standards - Ceiling Concentrations  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater  
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet  
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

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### Canadian Regulations

<b>Performacide Ready to Use Solution</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Chlorine dioxide (10049-04-4)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Class A - Compressed Gas Class C - Oxidizing Material Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material Class F - Dangerously Reactive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

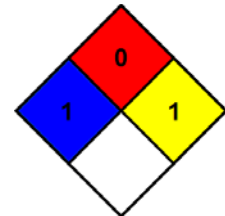
### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

<b>Revision Date</b>	: 01/05/2016
<b>Other Information</b>	: 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. 1 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 1
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Compressed gas	Gases under pressure Compressed gas
Ox. Gas 1	Oxidizing gases Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H270	May cause or intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

<b>NFPA Health Hazard</b>	: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
<b>NFPA Fire Hazard</b>	: 0 - Materials that will not burn.
<b>NFPA Reactivity</b>	: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.





## SECTION 1: IDENTIFICATION

### Product Identifier

**Product Form:** Mixture

**Product Name:** Performacide Unreacted Pouch

**Product Code:** 1020XX, 1021XX, 1220XX

**Intended Use of the Product** Disinfectant/Sanitizer/Tuberculocide/Virucide\*/Fungicide/Algaecide/Slimicide/Deodorizer

\*See product label for details.

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the Substance or Mixture

#### GHS-US classification

Comb. Dust

Acute Tox. 4 (Oral) H302

Acute Tox. 3 (Dermal) H311

Acute Tox. 3 (Inhalation:dust,mist) H331

Skin Corr. 1B H314

Eye Dam. 1 H318

STOT RE 2 H373

Full text of H-phrases: see section 16

According to test O.1 Test for Oxidizing Solids from the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria*, this product did not meet the definition of an oxidizing solid.

### Label Elements

#### GHS-US Labeling

#### Hazard Pictograms (GHS-US)



#### Signal Word (GHS-US)

: Danger

#### Hazard Statements (GHS-US)

: May form combustible dust concentrations in air.  
H302 - Harmful if swallowed.  
H311+H331 - Toxic 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.

#### Precautionary Statements (GHS-US)

: P260 - Do not breathe vapors, mist, or spray.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.  
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.

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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.  
P310 - Immediately call a poison center or doctor.  
P311 - Call a poison center or doctor.  
P314 - Get medical advice/attention if you feel unwell.  
P321 - Specific treatment (see section 4 on this SDS).  
P330 - Rinse mouth.  
P361 - Take off immediately all contaminated clothing.  
P363 - Wash contaminated clothing before reuse.  
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, territorial, provincial, and international regulations.

### Other Hazards



GHS09

Aquatic Acute 1 H400

Aquatic Chronic 3 H412

H400 - Very toxic to aquatic life.

H412 - Harmful to aquatic life with long lasting effects.

P273 - Avoid release to the environment.

**Note:** This product, in contact with air or moisture, evolves chlorine dioxide gas. The product is designed to generate chlorine dioxide solution when the pouch is placed in specified amount of water. The product design limits both the amount of gas generated and the rate of release. High amount of chlorine dioxide gas is fatal if inhaled and causes severe skin burns and eye damage.

**Unknown Acute Toxicity (GHS-US)** Not available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product Identifier	% (w/w)	GHS-US classification
Citric acid	(CAS No) 77-92-9	60 - 80	Comb. Dust Eye Irrit. 2A, H319
Sodium chlorite	(CAS No) 7758-19-2	15 - 35	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

**Note:** This product, in contact with air or moisture, evolves chlorine dioxide gas. The product is designed to generate chlorine dioxide solution when the pouch is placed in specified amount of water. The product design limits both the amount of gas generated and the rate of release. In the event of an emergency or if the pouch is accidentally wetted, the composition for the reacted chlorine dioxide is below. Please see the attached "Performacide Ready to Use Solution" SDS for full hazards of the reacted pouch solution.

Name	Product Identifier	% (w/w)	GHS-US classification
Chlorine dioxide	(CAS No) 10049-04-4	100	Ox. Gas 1, H270 Compressed gas, H280

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			Acute Tox. 1 (Inhalation:gas), H330 Skin Corr. 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
--	--	--	--

Full text of H-phrases: see section 16

The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200]. A range of concentration as prescribed by Controlled Products Regulations has been used where necessary, due to varying composition.

### SECTION 4: FIRST AID MEASURES

#### Description of 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).

**Inhalation:** Using proper respiratory protection, move the exposed person to fresh air at once. Encourage exposed person to cough, spit out, and blow nose to remove dust. Immediately call a poison center, physician, or emergency medical service.

**Skin Contact:** Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Get immediate medical advice/attention. Wash contaminated clothing before reuse.

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

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

#### Most Important Symptoms and Effects Both Acute and Delayed

**General:** Harmful if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

**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. Dust may be harmful or cause irritation.

**Skin Contact:** This material is toxic in small amounts through skin contact, and can cause adverse health effects or death. This material may be absorbed through the skin and eyes. Causes severe irritation which will progress to chemical burns.

**Eye Contact:** Causes serious eye damage. Causes permanent damage to the cornea, iris, or conjunctiva.

**Ingestion:** This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly shock.

**Chronic Symptoms:** May cause damage to organs (spleen) through prolonged or repeated exposure.

#### 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

#### Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

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

#### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Product is not flammable. Combustible Dust.

**Explosion Hazard:** Dust explosion hazard in air.

**Reactivity:** Sodium chlorite reacts with acids to form spontaneously explosive chlorine dioxide gas (ClO<sub>2</sub>). Ammonia with chlorites produces ammonium chlorite, which is a shock-sensitive compound. Finely divided metallic or organic substances, if mixed with chlorites, are highly flammable and may be ignited on friction. A mixture of organic matter and sodium chlorite can be extremely sensitive to heat, impact, or friction. Sodium chlorite reacts very violently with organic materials containing divalent sulfur or with free sulfur (may ignite).

#### Advice for Firefighters

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

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**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. Remove containers from fire area if this can be done without risk. Do not breathe fumes from fires or vapors from decomposition.

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

**Hazardous Combustion Products:** Sodium oxides. Chlorine. Chlorine oxides. Corrosive vapors. Sulfur compounds.

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses. Risk of dust explosion.

### Reference to Other Sections

Refer to section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

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

#### For Non-Emergency Personnel

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

**Emergency Procedures:** Evacuate unnecessary personnel.

#### For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area. 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.

### Environmental Precautions

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

### Methods and Material for Containment and Cleaning Up

**For Containment:** Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions. Avoid generation of dust during clean-up of spills. Ventilate area.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Cautiously neutralize spill if necessary. Use explosion proof vacuum during cleanup, with appropriate filter. Do not mix with other materials. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant. Use only non-sparking tools. Contact competent authorities after a spill.

### Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

**Additional Hazards When Processed:** May release corrosive vapors. Accumulation and dispersion of dust with an ignition source can cause a combustible dust explosion. Keep dust levels to a minimum and follow applicable regulations.

**Precautions for Safe Handling:** Do not get in eyes, on skin, or on clothing. Do not breathe dust. Use only outdoors or in a well-ventilated area. Keep away from heat, sparks, open flames, hot surfaces. No smoking. Handle empty containers with care because they may still present a hazard.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Use only outdoors or in a well-ventilated area. Keep away from heat, sparks, open flames, hot surfaces. No smoking.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Avoid creating or spreading dust. Use explosion-proof electrical, ventilating, lighting equipment. Proper grounding procedures to avoid static electricity should be followed.

**Storage Conditions:** Keep container closed when not in use. Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up. Store in original container or corrosive resistant and/or lined container.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Combustible materials. May react with moisture. Flammable materials. Organic compounds. Wood. Oils and lubricants. Sulfur compounds.

**Storage Temperature:** < 175 °C; Sodium chlorite decomposes at 175°C

### Specific End Use(s)

Disinfectant/Sanitizer/Tuberculocide/Virucide/Fungicide/Algaecide/Slimecide/Deodorizer

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 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), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government

<b>Chlorine dioxide (10049-04-4)</b>		
Mexico	OEL TWA (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
Mexico	OEL TWA (ppm)	0.1 ppm
Mexico	OEL STEL (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
Mexico	OEL STEL (ppm)	0.3 ppm
USA ACGIH	ACGIH TWA (ppm)	0.1 ppm
USA ACGIH	ACGIH STEL (ppm)	0.3 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (STEL) (ppm)	0.3 ppm
USA IDLH	US IDLH (ppm)	5 ppm
Alberta	OEL STEL (mg/m <sup>3</sup> )	0.8 mg/m <sup>3</sup>
Alberta	OEL STEL (ppm)	0.3 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.1 ppm
British Columbia	OEL STEL (ppm)	0.3 ppm
British Columbia	OEL TWA (ppm)	0.1 ppm
Manitoba	OEL STEL (ppm)	0.3 ppm
Manitoba	OEL TWA (ppm)	0.1 ppm
New Brunswick	OEL STEL (mg/m <sup>3</sup> )	0.83 mg/m <sup>3</sup>
New Brunswick	OEL STEL (ppm)	0.3 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	0.28 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	0.1 ppm
Newfoundland & Labrador	OEL STEL (ppm)	0.3 ppm
Newfoundland & Labrador	OEL TWA (ppm)	0.1 ppm
Nova Scotia	OEL STEL (ppm)	0.3 ppm
Nova Scotia	OEL TWA (ppm)	0.1 ppm
Nunavut	OEL STEL (mg/m <sup>3</sup> )	0.82 mg/m <sup>3</sup>
Nunavut	OEL STEL (ppm)	0.3 ppm
Nunavut	OEL TWA (mg/m <sup>3</sup> )	0.27 mg/m <sup>3</sup>
Nunavut	OEL TWA (ppm)	0.1 ppm
Northwest Territories	OEL STEL (ppm)	0.3 ppm
Northwest Territories	OEL TWA (ppm)	0.1 ppm
Ontario	OEL STEL (ppm)	0.3 ppm
Ontario	OEL TWA (ppm)	0.1 ppm
Prince Edward Island	OEL STEL (ppm)	0.3 ppm
Prince Edward Island	OEL TWA (ppm)	0.1 ppm
Québec	VECD (mg/m <sup>3</sup> )	0.83 mg/m <sup>3</sup>
Québec	VECD (ppm)	0.3 ppm
Québec	VEMP (mg/m <sup>3</sup> )	0.28 mg/m <sup>3</sup>
Québec	VEMP (ppm)	0.1 ppm
Saskatchewan	OEL STEL (ppm)	0.3 ppm
Saskatchewan	OEL TWA (ppm)	0.1 ppm

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Yukon	OEL STEL (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
Yukon	OEL STEL (ppm)	0.3 ppm
Yukon	OEL TWA (mg/m <sup>3</sup> )	0.3 mg/m <sup>3</sup>
Yukon	OEL TWA (ppm)	0.1 ppm

### 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 toxic gases may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. 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. Corrosion-proof clothing.

**Hand Protection:** Wear protective gloves.

**Eye Protection:** Chemical safety goggles and face shield.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment.

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Other Information:** When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: White Powder
Odor	: Chlorine
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Soluble in water.
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.

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**Explosion Data – Sensitivity to Static Discharge** : Not expected to present an explosion hazard due to static discharge.

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Sodium chlorite reacts with acids to form spontaneously explosive chlorine dioxide gas (ClO<sub>2</sub>). Ammonia with chlorites produces ammonium chlorite, which is a shock-sensitive compound. Finely divided metallic or organic substances, if mixed with chlorites, are highly flammable and may be ignited on friction. A mixture of organic matter and sodium chlorite can be extremely sensitive to heat, impact, or friction. Sodium chlorite reacts very violently with organic materials containing divalent sulfur or with free sulfur (may ignite).

**Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials. Sparks, heat, open flame and other sources of ignition.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Combustible materials. May react with moisture. Flammable materials. Organic compounds. Wood. Oils and lubricants.

**Hazardous Decomposition Products:** Thermal decomposition generates : Corrosive vapors. Sodium oxides. Chlorine gas. Chlorine oxides. Chlorine dioxide.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### Information on Toxicological Effects - Product

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

#### LD50 and LC50 Data:

Performacide Unreacted Pouch	
ATE US (oral)	540.98 mg/kg body weight
ATE US (dermal)	351.48 mg/kg body weight
ATE US (dust, mist)	0.75 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

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

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

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**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. Dust may be harmful or cause irritation.

**Symptoms/Injuries After Skin Contact:** This material is toxic in small amounts through skin contact, and can cause adverse health effects or death. This material may be absorbed through the skin and eyes. Causes severe irritation which will progress to chemical burns.

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

**Symptoms/Injuries After Ingestion:** This material is harmful orally and can cause adverse health effects or death in significant amounts. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly shock.

**Chronic Symptoms:** May cause damage to organs (spleen) through prolonged or repeated exposure.

#### Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

Citric acid (77-92-9)	
LD50 Oral Rat	5400 mg/kg
LD50 Dermal Rat	> 2000 mg/kg

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<b>Sodium chlorite (7758-19-2)</b>	
LD50 Oral Rat	165 mg/kg
LD50 Dermal Rabbit	107.2 mg/kg
LC50 Inhalation Rat	230 mg/m <sup>3</sup> (Exposure time: 4 h)
ATE US (dust, mist)	0.23 mg/l/4h
<b>Sodium chlorite (7758-19-2)</b>	
IARC Group	3
<b>Chlorine dioxide (10049-04-4)</b>	
LD50 Oral Rat	93.86 mg/kg (0.2% gas in water)
LC50 Inhalation Rat	32 ppm/4h

## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity

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

<b>Citric acid (77-92-9)</b>	
LC50 Fish 1	1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
<b>Sodium chlorite (7758-19-2)</b>	
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])
<b>Chlorine dioxide (10049-04-4)</b>	
LC50 Fish 1	0.021 Species: Brachydanio rerio (new name: Danio rerio)

### Persistence and Degradability

<b>Performacide Unreacted Pouch</b>	
Persistence and Degradability	May cause long-term adverse effects in the environment.
<b>Citric acid (77-92-9)</b>	
Persistence and Degradability	Readily biodegradable in water.

### Bioaccumulative Potential

<b>Performacide Unreacted Pouch</b>	
Bioaccumulative Potential	Not established.
<b>Citric acid (77-92-9)</b>	
Log Pow	-1.72 (at 20 °C)

**Mobility in Soil** Not available

### Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Sewage Disposal Recommendations:** This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

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

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

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

## SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG/IMDG

### UN Number

UN-No.(DOT)	: UN 2923
DOT NA no.	: UN2923
UN-No. (TDG)	: UN2923
UN-No. (IMDG)	: UN2923



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**UN-No. (IATA)** : UN2923

### **UN Proper Shipping Name**

**Proper Shipping Name (DOT)** : CORROSIVE SOLIDS, TOXIC, N.O.S. (Sodium chlorite; Citric acid), 8;6.1, II, Marine Pollutant

**Proper Shipping Name (TDG)** : CORROSIVE SOLID, TOXIC, N.O.S. (Sodium chlorite; Citric acid), 8;6.1, II, Marine Pollutant

**Proper Shipping Name (IATA)** : CORROSIVE SOLID, TOXIC, N.O.S. (Sodium chlorite; Citric acid), 8;6.1, II, Marine Pollutant

**Proper Shipping Name (IMDG)** : CORROSIVE SOLID, TOXIC, N.O.S. (Sodium chlorite; Citric acid), 8;6.1, II, Marine Pollutant

**Transport Document Description (DOT)** : UN2923 CORROSIVE SOLIDS, TOXIC, N.O.S. (Sodium chlorite; Citric acid), 8;6.1, II, Marine Pollutant

**Transport Document Description (TDG)** : UN2923 CORROSIVE SOLID, TOXIC, N.O.S. (Sodium chlorite; Citric acid), 8;6.1, II, Marine Pollutant

### **Transport Hazard Class(es)**

**Department Of Transportation (DOT) Hazard Classes** : 8 - Class 8 - Corrosive material 49 CFR 173.136

**Hazard Labels (DOT)** : 8 - Corrosive  
6.1 - Poison



**DOT Symbols** : G - Identifies PSN requiring a technical name

**Packing Group (DOT)** : II - Medium Danger

**DOT Special Provisions (49 CFR 172.102)** : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.

IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.

T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

**DOT Packaging Exceptions (49 Cfr 173.xxx)** : 154

**DOT Packaging Non Bulk (49 Cfr 173.xxx)** : 212

**DOT Packaging Bulk (49 Cfr 173.xxx)** : 240

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### TDG Primary Hazard Classes

: 8 - Class 8 - Corrosives

### Tdg Subsidiary Classes

6.1

### Hazard Labels (TDG)

: 8 - Corrosive substances  
6.1 - Toxic substances



### Packing Group (TDG)

: II - Medium Danger

### TDG Special Provisions

: 16 - 1) The technical name of the most dangerous substance related to the primary class must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(i)(A) of Part 3, Documentation. The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4, Dangerous Goods Safety Marks.

2) subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical: a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the "Food and Drugs Act".

### Explosive Limit And Limited Quantity Index

: 1

### Passenger Carrying Road Vehicle Or Passenger

: 15

### Carrying Railway Vehicle Index

### Class (IMDG)

: 8 - Corrosive substances

### Subsidiary Risks (Imdg)

: 6.1.

### Danger Labels (IMDG)

: 8 - Corrosive substances, 6.1 - Toxic substances



### Packing Group (IMDG)

: II

### Class (IATA)

: 8 - Corrosives

### Subsidiary Risks (IATA)

: 6.1.

### Hazard Labels (IATA)

: 8 - Corrosive, 6.1 - Toxic



### Packing Group (IATA)

: II - Medium Danger

### Marine Pollutant

: P



### Additional Information

#### Emergency Response Guide (ERG) Number

: 154

#### Other Information

: This product meets the limited quantities exemption as follows: DOT: Not

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regulated as dangerous goods when shipped in inner packagings equal to or less than 1 kg. Otherwise, the above descriptions apply.

### Transport by sea

<b>Dot Vessel Stowage Location</b>	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
<b>Dot Vessel Stowage Other</b>	: 40 - Stow "clear of living quarters"
<b>Subsidiary Risks (IMDG)</b>	: 6.1
<b>Limited Quantities (IMDG)</b>	: 1 kg
<b>Special Provisions (IMDG)</b>	: 274
<b>Excepted Quantities (IMDG)</b>	: E2
<b>IBC Packing Instructions (IMDG)</b>	: IBC08
<b>IBC Special Provisions (IMDG)</b>	: B2,B4
<b>Packing Instructions (IMDG)</b>	: P002
<b>Tank Instructions (IMDG)</b>	: T3
<b>Tank Special Provisions (IMDG)</b>	: TP33
<b>Stowage Category (IMDG)</b>	: B
<b>EMS-NO. (Fire)</b>	: F-A
<b>EMS-NO. (Spillage)</b>	: S-B

### Air transport

<b>DOT Quantity Limitations Passenger Aircraft/Rail (49 CFR 173.27)</b>	: 15 kg
<b>DOT Quantity Limitations Cargo Aircraft Only (49 CFR 175.75)</b>	: 50 kg
<b>Subsidiary Risks (IATA)</b>	: 6.1
<b>CAO Packing Instructions (IATA)</b>	: 863
<b>CAO Max Net Quantity (IATA)</b>	: 50kg
<b>PCA Packing Instructions (IATA)</b>	: 859
<b>PCA Limited Quantities (IATA)</b>	: Y844
<b>PCA Limited Quantity Max Net Quantity (IATA)</b>	: 5kg
<b>PCA Max Net Quantity (IATA)</b>	: 15kg
<b>PCA Excepted Quantities (IATA)</b>	: E2
<b>CAO Max Net Quantity (IATA)</b>	: 50kg
<b>CAO Packing Instructions (IATA)</b>	: 863
<b>Special Provision (IATA)</b>	: A3,A803
<b>Erg Code (IATA)</b>	: 8P

## SECTION 15: REGULATORY INFORMATION

### US Federal Regulations

<b>Performacide Unreacted Pouch</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard Delayed (chronic) health hazard
<b>Citric acid (77-92-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard
<b>Sodium chlorite (7758-19-2)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Chlorine dioxide (10049-04-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Subject to reporting requirements of United States SARA Section 313	
<b>SARA Section 313 - Emission Reporting</b>	1.0 %

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### US State Regulations

#### Citric acid (77-92-9)

U.S. - Texas - Effects Screening Levels - Long Term

U.S. - Texas - Effects Screening Levels - Short Term

#### Sodium chlorite (7758-19-2)

U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1

U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2

U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity

U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1

U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2

RTK - U.S. - Massachusetts - Right To Know List

U.S. - Minnesota - Chemicals of High Concern

RTK - U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups

RTK - U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Texas - Effects Screening Levels - Long Term

U.S. - Texas - Effects Screening Levels - Short Term

#### Chlorine dioxide (10049-04-4)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

### Canadian Regulations

#### Performacide Unreacted Pouch

WHMIS Classification

Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Class E - Corrosive Material

Class F - Dangerously Reactive Material



#### Citric acid (77-92-9)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

#### Sodium chlorite (7758-19-2)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification

Class C - Oxidizing Material

Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Class E - Corrosive Material

#### Chlorine dioxide (10049-04-4)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification

Class A - Compressed Gas

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	Class C - Oxidizing Material Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material Class F - Dangerously Reactive Material
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

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

**Revision Date** : 02/08/2016  
**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. 1 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 1
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 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Comb. Dust	Combustible Dust
Compressed gas	Gases under pressure Compressed gas
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Ox. Gas 1	Oxidizing gases 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
Comb. Dust	May form combustible dust concentrations in air
H270	May cause or intensify fire; oxidizer
H271	May cause fire or explosion; strong oxidizer
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

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- NFPA Health Hazard** : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- NFPA Fire Hazard** : 0 - Materials that will not burn.
- NFPA Reactivity** : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

