

SAFETY DATA SHEET

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS, OSHA 29CFR 1910.1200

Section 1: Chemical Product and Company Identification

PRODUCT NAME: ProKure™ V Ready to Use Solution
FORMULA: Preparation/Mixture
PRODUCT USE: Disinfectant/ Sanitizer/ Tuberculocide/ Virucide*/ Fungicide/
 Algaecide/Slimicide/ Deodorizer
 *See product label for detail.

MANUFACTURER'S NAME: ProKure Solutions
ADDRESS: 225 West Deer Valley Road
 Phoenix, AZ 85027
Safety Data Sheet Competent Person: safety@pantheonchemical.com

SUPPLIER'S NAME: ProKure Solutions
ADDRESS: 225 West Deer Valley Road
 Phoenix, AZ 85027
TELEPHONE NUMBER: 623-780-2296
TOLL FREE: 1-888-608-7888
FAX: 623-516-0414

EMERGENCY TELEPHONE NUMBER: Chemtrec 24 hrs: 1-800-424-9300

DATE PREPARED: February 18, 2016
DATE REVIEWED: April 20, 2016

Section 2: Hazards Identification

GHS Hazard Class: Not classified

GHS Label elements, including precautionary statements:

Pictograms: None.
Signal word: None.
Hazard Statements: None.
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 ProKure™ V 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

Product Composition	CAS NO.	Approx. %	Classification (GHS)
Chlorine dioxide	10049-04-4	0.01*	Ox. Gas 1, H270
		0.005	Compressed gas, H280
		0.002	Acute Tox. 1 (Inhalation: gas), H330
		0.0005	Skin Corr. 1B, H314
		0.000025	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.
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
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.

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

Advice for Firefighter

Precautionary Measures Fire:	Exercise caution when fighting any chemical fire.
Firefighter Instructions:	Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition.
Protective actions fire-fighters	Do not enter fire area without proper protective equipment, including respiratory protection
Hazard Combustion Products:	Chlorine dioxide, chlorine gas.
Further information	Risk of explosion if heated under confinement.

Reference to Other Sections

Reference to Section 9 for flammability properties.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

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:	Use appropriate personal protection equipment (PPE).
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Emergency Procedures: Evacuate unnecessary personnel.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and materials for containment and cleaning up

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

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 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 Uses: 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 (CAS#10049-04-4)

Mexico	OEL TWA (mg/m ³)	0.3 mg/m ³
Mexico	OEL TWA (ppm)	0.1 ppm
Mexico	OEL STEL (mg/m ³)	0.9 mg/m ³
Mexico	OEL STEL (ppm)	0.3 ppm
USA ACGIH	ACGIH TWA (ppm)	0.1 ppm
USA ACGIH	ACGIH STEL (ppm)	0.3 pp
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.3 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.3 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	0.9 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	0.3 ppm
USA IDLH	US IDLH (ppm)	5 ppm
Alberta	OEL STEL (mg/m ³)	0.8 mg/m ³
Alberta	OEL STEL (ppm)	0.3 ppm

Alberta	OEL TWA (mg/m ³)	0.3 mg/m ³
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 ³)	0.83 mg/m ³
New Brunswick	OEL STEL (ppm)	0.3 ppm
New Brunswick	OEL TWA (mg/m ³)	0.28 mg/m ³
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 ³)	0.82 mg/m ³
Nunavut	OEL STEL (ppm)	0.3 ppm
Nunavut	OEL TWA (mg/m ³)	0.27 mg/m ³
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 ³)	0.83 mg/m ³
Québec	VECD (ppm)	0.3 ppm
Québec	VEMP (mg/m ³)	0.28 mg/m ³
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 ³)	0.9 mg/m ³
Yukon	OEL STEL (ppm)	0.3 ppm
Yukon	OEL TWA (mg/m ³)	0.3 mg/m ³
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. Gloves, protective clothing, protective goggles. Insufficient ventilation: wear respiratory protection.

Personal Protective Equipment:



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

Appearance – Color:	Light clear yellow
Physical State:	Liquid
Odor:	Chlorine
pH:	Not available
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	Not available
Evaporation Rate:	Not available
Flammability (Solid, gas):	Not available
Upper/Lower Flammability or Explosive Limits:	Not available
Vapor Pressure:	Not available
Vapor Density	Not available
Relative Density (@25°C)	Not available
Solubility	Not available
Oxidizing Properties	Not available
Partition Coefficient: n-octanol/water:	Not available
Auto Ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity:	Not available
Explosive Property	Risk of explosion if heated under confinement.
Explosion Data – Sensitivity to Mechanical Impact:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge:	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).
Conditions to Avoid:	Direct sunlight, extremely high or low temperatures, and incompatible materials.
Incompatibility (Materials to avoid):	Strong acids, strong bases, strong oxidizers. Reducing agents. Organic materials.
Hazardous Decomposition Products:	Thermal decomposition generates: Chlorine dioxide. Chlorine gas. Oxygen
Hazardous Polymerization:	Will not occur

Section 11: Toxicological Information

GHS Required Criteria	Toxicity Criteria	Data	Comments	Chemical Constituent
Acute Toxicity	LD ₅₀ Oral Rat LC ₅₀ Inhalation Rat	Not available 93.86 mg/kg 32ppm/4hr	Not classified	Product Chlorine dioxide Chlorine dioxide
Skin Corrosion/Irritation		Not available	Not classified	Product
Serious Eye Damage / Eye Irritation		Not available	Not classified	Product
Respiratory or Skin Sensitization		Not available	Not classified	Product
Germ Cell Mutagenicity		Not available	Not classified	Product
Carcinogenicity		Not available	Not classified	Product
STOST -- Single Exposure		Not available	Not classified	Product
STOST – Repeated Exposure		Not available	Not classified	Product
Aspiration Hazard		Not available	Not classified	Product

STOST = Specific Target Organ Systemic Toxicity

OTHER INFORMATION:

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 after eyes.
Symptoms/Injuries After Ingestion:	May cause adverse effects.
Chronic Symptoms:	None known.

Section 12: Ecological Information

Toxicity

Ecology – General: Not classified.

	Environmental Impacts	Chemical Constituents
Toxicity	LC ₅₀ Fish 1: 0.021mg/l (Brachydanio rerio or Danio rerio)	Chlorine dioxide
Bioaccumulative potential	Not available	Product
Persistence and degradability:	Not available	Product
Mobility in soil:	Not available	Product
PBT and vPvB assessment:	Not available	Product
Other adverse effects:	Avoid release to the environment	Product

Section 13: Disposal Considerations

Waste Disposal Recommendations:

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

Additional Information:

Contaminated packaging material should be disposed of as stated above for residues and unused product.

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 IATA/ICAO:	Not regulated for transport.
In accordance with TDG:	Not regulated for transport.

Section 15: Regulatory Information

US Federal Regulations

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

Chlorine dioxide is listed on TSCA.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) Section 313

Chlorine dioxide is subject to Emission Reporting at 1.0%

US State Regulations:

Chlorine dioxide (CAS#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 (30min)

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

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)
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
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. - 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 25 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

Canadian Regulations

ProKure™MV Ready to Use Solution

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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Chlorine dioxide (CAS#10049-04-4)

DLS	Listed on the Canadian DSL (Domestic Substance List)
IDL	Listed on the Canadian IDL (Ingredient Disclosure List) – Concentration 1.0%
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

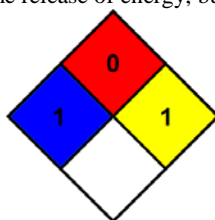
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

Section 16: Other Information

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

- NFPA Health Hazard:** 1 – Exposure could cause irritation but only minor residual injury even if no treatment is 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.



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

Revision Number: 1.0
Revision explanation Original version, GHS compliant.
Information Sources: RTECS, ECHA, REACH, OSHA 29CFR 1910.1200

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