

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

## 1 Identification

- **Product identifier**
- **Trade name:** Pure100
- **Article number:**
- **Recommended use and restriction on use**
- **Recommended use:** Disinfectant
- **Restrictions on use:** Contact manufacturer.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
Pureline Treatment Systems, LLC  
1241 N. Ellis Street  
Bensenville, IL 60106  
(847) 963-8465  
INFO@PURELINE.COM
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924, +1 (813)248-0585

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Met. Corr.1 H290 May be corrosive to metals.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Additional information:**

There are no other hazards not otherwise classified that have been identified.  
0 percent of the mixture consists of ingredient(s) of unknown toxicity.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

- **Signal word** Warning

- **Hazard statements**

H290 May be corrosive to metals.  
H319 Causes serious eye irritation.

- **Precautionary statements**

P264 Wash thoroughly after handling.

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- P280 Wear eye protection / face protection.  
 P234 Keep only in original container.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P390 Absorb spillage to prevent material damage.  
 P406 Store in corrosive resistant container with a resistant inner liner.

- **Hazard description:**

- **WHMIS-symbols:**

As of 11 February 2015, the current WHMIS system is being replaced by the GHS system. This is the classification under the older system.

D2B - Toxic material causing other toxic effects



- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1  
 Fire = 0  
 Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1  
 FIRE 0 Fire = 0  
 REACTIVITY 0 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**



- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

10049-04-4	chlorine dioxide	 Acute Tox. 3, H301  Skin Corr. 1B, H314	0.01%
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- **Additional information:**

For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.

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## 4 First-aid measures

- **Description of first aid measures**
- **General information:**
  - Take affected persons out into the fresh air.
  - Immediately remove any clothing soiled by the product.
- **After inhalation:**
  - Supply fresh air; consult doctor in case of complaints.
  - In case of irregular breathing or respiratory arrest provide artificial respiration.
  - Provide oxygen treatment if affected person has difficulty breathing.
- **After skin contact:**
  - Immediately rinse with water.
  - If skin irritation is experienced, consult a doctor.
- **After eye contact:**
  - Protect unharmed eye.
  - Remove contact lenses if worn, if possible.
  - Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
  - Rinse out mouth and then drink plenty of water.
  - Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
  - Breathing difficulty
  - Coughing
  - Irritant to eyes.
  - Nausea in case of ingestion.
  - Gastric or intestinal disorders when ingested.
- **Danger**
  - Danger of impaired breathing.
  - May cause respiratory irritation.
- **Indication of any immediate medical attention and special treatment needed**
  - No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  - The product is not flammable.
  - Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
  - Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
  - Wear self-contained respiratory protective device.
  - Wear fully protective suit.

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· **Additional information** No further relevant information available.

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## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Wear protective equipment. Keep unprotected persons away.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

- **Environmental precautions:** Avoid release to the environment.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Do not allow to dry out

Dispose contaminated material as waste according to item 13.

Send for recovery or disposal in suitable receptacles.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Use only in well ventilated areas.

Prevent formation of aerosols.

Protect from sunlight. Do not expose to temperatures exceeding 122 °F (50 °C).

- **Information about protection against explosions and fires:** No special measures required.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

Provide ventilation for receptacles.

- **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from reducing agents.

Do not store together with acids.

Do not store together with alkalis (caustic solutions).

- **Further information about storage conditions:**

Prevent from drying out.

Photoreactive.

Keep receptacle tightly sealed.

- **Specific end use(s)** No further relevant information available.

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## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**10049-04-4 chlorine dioxide**

PEL (USA)	Long-term value: 0.3 mg/m <sup>3</sup> , 0.1 ppm
REL (USA)	Short-term value: 0.9 mg/m <sup>3</sup> , 0.3 ppm Long-term value: 0.3 mg/m <sup>3</sup> , 0.1 ppm
TLV (USA)	Short-term value: 0.83 mg/m <sup>3</sup> , 0.3 ppm Long-term value: 0.28 mg/m <sup>3</sup> , 0.1 ppm
EL (Canada)	Short-term value: 0.3 ppm Long-term value: 0.1 ppm
EV (Canada)	Short-term value: 0.9 mg/m <sup>3</sup> , 0.3 ppm Long-term value: 0.3 mg/m <sup>3</sup> , 0.1 ppm
LMPE (Mexico)	Short-term value: 0.3 ppm Long-term value: 0.1 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- **Engineering controls:** Provide adequate ventilation.

- **Breathing equipment:**

Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

Use suitable respiratory protective device in case of insufficient ventilation.

Use suitable respiratory protective device when high concentrations are present.

For spills, respiratory protection may be advisable.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Nitrile rubber, NBR

Neoprene gloves

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PVC gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Not suitable are gloves made of the following materials:** PVA gloves

- **Eye protection:**



Safety glasses

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment** Avoid release to the environment.

- **Risk management measures** See Section 7 for additional information.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Greenish-Yellow.
Odor:	Chlorine-like
Odor threshold:	0.1 ppm (ClO <sub>2</sub> gas)
pH-value:	6.0-8.0

- **Change in condition**

Melting point/Melting range:	0 °C (32 °F)
Boiling point/Boiling range:	100 °C (212 °F)

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Auto-ignition temperature:** Not determined.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure:** Not determined.

- **Density at 20 °C (68 °F):** 1.001 g/cm<sup>3</sup> (8.353

- **Relative density** lbs/gal) Not determined.

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- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
  - Photoreactive.
  - Keep away from heat and direct sunlight.
  - Do not expose to temperatures exceeding 50 °C/122 °F.
- **Possibility of hazardous reactions**
  - Reacts with reducing agents.
  - Contact with acids releases toxic gases.
  - Toxic fumes may be released if heated above the decomposition point.
  - Reacts with peroxides and other radical forming substances.
- **Conditions to avoid** Avoid acids.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
  - Chlorine
  - Chlorine compounds

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
  - on the skin:** Slight irritant effect on skin and mucous membranes.
  - on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Additional toxicological information:**
  - Irritant
  - May cause respiratory irritation.

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- **Carcinogenic categories**

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Probable Routes of Exposure**

Inhalation.

Eye contact.

Skin contact.

Ingestion.

- **Acute effects (acute toxicity, irritation and corrosivity):**

Irritating to eyes.

Inhalation may cause irritation to the respiratory system.

May cause gastro-intestinal irritation if ingested.

- **Repeated Dose Toxicity:** No further relevant information available.

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** The material is harmful to the environment.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:**

Toxic for fish

Toxic for water fleas

- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

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The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1760
- **UN proper shipping name**



Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 5 L (1.3 gal).

- **DOT** Corrosive liquids, n.o.s. (0.01% chlorine dioxide, stabilized)
- **ADR** 1760 CORROSIVE LIQUID, N.O.S. (0.01% chlorine dioxide, stabilized)
- **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (0.01% chlorine dioxide, stabilized)
- **Transport hazard class(es)**

- **DOT**



- **Class** 8 Corrosive substances
- **Label** 8

- **ADR**



- **Class** 8 (C9) Corrosive substances
- **Label** 8

- **IMDG, IATA**



- **Class** 8 Corrosive substances
- **Label** 8
- **Packing group**
- **DOT, ADR, IMDG, IATA** III
- **Environmental hazards:**
- **Marine pollutant:** No

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- **Special precautions for user** Warning: Corrosive substances
- **Danger code (Kemler):** 80
- **EMS Number:** F-A,S-B
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations** On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L

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- **ADR**
- **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml
- **UN "Model Regulation":** UN1760, Corrosive liquids, n.o.s. (chlorine dioxide), 8, III

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65 (California)**

- **Chemicals known to cause cancer:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

10049-04-4 | chlorine dioxide

D, CBD

- **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**

EPA Product Registration : 88341-4.

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of

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non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**

**FIRST AID**

**IF IN EYES:**

Hold eye open and rinse slowly and gently with water for 15-20 minutes.

Remove contact lenses, if present, after the first 15 minutes.

Call a poison control center or doctor immediately for treatment advice.

**IF ON SKIN OR CLOTHING:**

Take off contaminated clothing.

Rinse skin immediately with plenty of water for 15-20 minutes.

Call a poison control center or doctor for treatment advice if burning or irritation of the skin persists.

**IF SWALLOWED:**

Have person drink a glass of water immediately if able to swallow.

Call a poison control center or doctor immediately for treatment advice.

Do not induce vomiting unless told to do so by the poison control center or doctor.

Do not give anything by mouth to an unconscious person.

**IF INHALED:**

Move person to fresh air and monitor for respiratory distress.

If cough or difficulty in breathing develops, consult a physician immediately.

If person is not breathing, call 911 or an ambulance, then give artificial respiration.

Call a poison control center or doctor for further treatment advice.

**STORAGE AND DISPOSAL**

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Keep product in tightly closed container when not in use. Don't drop, roll, or skid drum. Keep upright. Always replace cover. Store in a cool, dry well-ventilated area away from heat or open flame.

**EMERGENCY HANDLING:** In case of contamination or decomposition, do not reseal container. If possible, isolate container in open and well ventilated area. Flood with large volumes of water. If fire occurs, extinguish fire by applying large quantities of water. Any unopened drums near the fire should be cooled by spraying with water.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Refillable Container. Refill this container with Pure100 only. Do not reuse this container for any other purpose. Cleaning or pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times. To pressure rinse the container before final disposal, empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds, after the flow begins to drip.

**· IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

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· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **State Right to Know Listings**

Contact manufacturer.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

· **Other regulations, limitations and prohibitive regulations**

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 05/29/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Met. Corr. 1: Corrosive to metals, Hazard Category 1

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

· **Sources**

SDS Prepared by:

ChemTel Inc.

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Tampa, Florida USA 33602-2902

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Trade name: **Pure100**

Website: [www.chemtelinc.com](http://www.chemtelinc.com)

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