

# SAFETY DATA SHEET



Revision date: 20-Feb-2023

Revision Number 4

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** CHLORINE DIOXIDE SOLUTION

**Product Code(s)** 000000050832

### Other means of identification

### Recommended use of the chemical and restrictions on use

**Recommended use** Water treatment chemical.

**Uses advised against** No information available

### Supplier

Ixom Operations Pty Ltd  
ABN: 51 600 546 512  
Level 8, 1 Nicholson Street  
Melbourne 3000  
Australia

Telephone Number: +61 3 9906 3000

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Not classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS)

### Label elements

### **Hazard statements**

### Other hazards which do not result in classification

#### **General Hazards**

**Poisons Schedule (SUSMP)** None allocated

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Chemical name	CAS No.	Weight-%
Water	7732-18-5	>99%
Hydrochloric acid	-	0.5%
Chlorine dioxide	10049-04-4	<0.3%
Other non-hazardous components	-	to 100%

### 4. FIRST AID MEASURES

#### Description of first aid measures

<b>General advice</b>	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.
<b>Inhalation</b>	Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician if irritation persists.
<b>Skin contact</b>	Wash skin with soap and water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

#### Most important symptoms and effects, both acute and delayed

**Symptoms** No information available.

#### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

#### Suitable Extinguishing Media

**Suitable Extinguishing Media** Use extinguishing agent suitable for type of surrounding fire.

**Unsuitable extinguishing media** No information available.

#### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** Non-combustible. Decomposes on heating emitting toxic fumes.

#### Special protective actions for fire-fighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes, and clothing. Avoid breathing dust / fume / gas / mist / vapours / spray. Evacuate personnel to safe areas. Do not touch or walk through spilled material. Use personal protective equipment as required. Wash thoroughly after handling.

**For emergency responders** Clear area of all unprotected personnel. Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk.

**Methods for cleaning up** Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Use personal protection equipment. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

**General hygiene considerations** Avoid contact with skin, eyes, and clothing. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing is recommended.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a cool, well-ventilated place. Keep container closed when not in use.

**Incompatible materials** Metals. Reducing agents. Sulfur compounds.

**Poisons Schedule (SUSMP)** None allocated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Limits** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Chlorine dioxide: 8hr TWA = 0.28 mg/m<sup>3</sup> (0.1 ppm), 15 min STEL = 0.83 mg/m<sup>3</sup> (0.3 ppm)  
Hydrogen chloride: Peak Limitation = 7.5 mg/m<sup>3</sup> (5 ppm)

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

Peak Limitation - a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### **Appropriate engineering controls**

#### **Engineering controls**

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### **Individual protection measures, such as personal protective equipment**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES.



#### **Eye/face protection**

Glasses.

#### **Skin and body protection**

Wear suitable protective clothing. Boots. Overalls.

#### **Hand protection**

Impervious gloves.

#### **Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

#### **Environmental exposure controls**

No information available.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear
<b>Color</b>	Yellowish
<b>Odor</b>	Sharp

Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	ca. 1	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	ca. 1	None known
Water solubility	Miscible in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	Not applicable	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

## 10. STABILITY AND REACTIVITY

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Incompatible materials.

Incompatible materials

Incompatible materials Metals. Reducing agents. Sulfur compounds.

Hazardous decomposition products

Hazardous decomposition products Chlorine. Hydrochloric acid. Oxygen, which will support combustion.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity****Information on likely routes of exposure**

**Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

<b>Inhalation</b>	May cause irritation.
<b>Eye contact</b>	May cause irritation.
<b>Skin contact</b>	May cause irritation.
<b>Ingestion</b>	May cause gastrointestinal discomfort if consumed in large amounts.

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

Refer to component information below.

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Chlorine dioxide	= 292 mg/kg ( Rat )	-	= 32 ppm ( Rat ) 4 h

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

**Ecotoxicity** Avoid contaminating waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea

Chlorine dioxide	-	LC50: =0.021mg/L (96h, Danio rerio)	-	-
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**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Mobility**

**Mobility in soil** No information available.

**Other adverse effects****13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**14. TRANSPORT INFORMATION****ADG**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

**IATA**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

**IMDG**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Australia**

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Not classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS)

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)** None allocated

**National pollutant inventory**

Subject to reporting requirement

Chemical name	National pollutant inventory
Chlorine dioxide - 10049-04-4	10 tonne/yr Threshold category 1

**International Inventories**

**AIIC**

All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals or are exempt.

**Legend:**

**AIIC-** Australian Inventory of Industrial Chemicals

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## 16. OTHER INFORMATION

**Reason(s) For Issue:** 5 Yearly Revised Primary SDS  
Change in Hazardous Chemical Classification  
Change in Personal Protective Equipment (PPE)

**Issuing Date:** 20-Feb-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

**Revision Note:**

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian Industrial Chemicals Introduction Scheme (AICIS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)



Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.**

**Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**End of Safety Data Sheet**