

Issued on: 07/11/2017  
Version 2.2

Valid as of 07/11/2017

## **1 Description of the substance or the mixture and of the company**

### **1.1 Trade name:**

Aqua Power I chlorine dioxide solution, 0,3 %

### **1.2 Use of substance:**

Disinfectant, biocide

**BfR (German Federal Institute for Risk Assessment) registration number: 6467638**

BAuA-Reg.-No.: N-74455

For product type 2	Disinfectant for the private sector and the public sector products)	(Healthcare and other biocide
For product type 3	(Biocide product for hygiene in the veterinary field)	
For product type 4	(Disinfectant for the sectors of foods and feed )	
For product type 5	(Potable water disinfectant)	
For product type 11	(Preservative for liquids in cooling- and process systems)	
For product type 12	(Agent to control slime formation)	

### **1.3. Supplier**

Daniel Bader  
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A-8435 Wagna  
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E-Mail: office@bader-group.eu

Qualified person:

Daniel Bader  
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### **1.4 Emergency number**

Poisoning information office of the  
Gesundheit Österreich GmbH  
Stubenring 6  
A-1010 Vienna

**Tel. No. +43 1 406 43 43**

## **Two possible hazards**

### **2.2 Classification of the mixture**

Classification according to regulation (EU) 1272/2008 (CLP)

Hazard categories:

Severe eye injury/eye irritation: Eye irritation 2

Information on hazards:

Causes severe eye irritation.

### **2.2 Labelling elements**

Hazard-determining component(s) for labelling:

Chlorine dioxide 0.3%

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Pictogram: GHS07



Signal word: Attention

**Information on hazard**

H 319 causes severe eye irritation

**Safety information**

P 264 Wash hands thoroughly after use.

P 280 Wear protective gloves / protective clothing / eye protection / face protection.

P 337 + P 313 for continuing eye irritation: Consult a physician / seek aid from a physician.

P 305 + P 351 + P 338 In case of eye contact: Carefully flush with water for several minutes. If possible, remove any contact lenses. Continue rinsing.

**2.3 Other hazards**

to be noted: A gas phase forms above the solution at 3 vol.% chlorine dioxide, and featuring the following hazards:

H330 Life-threatening danger if inhaled.

H319 Causes severe eye irritation.

H315 Causes skin irritation.

H335 May irritate the respiratory tract.

H400 Highly poisonous to aquatic organisms.

EUH018 Can form explosive / ignitable vapor/air mixture during use.

**3. Composition of the mixture**

Chemical characterization: Oxidizing liquid preparatory mixture

Description: Chlorine oxide

**Hazardous contents:**

<u>Substance name</u>	<u>Percent content</u>	<u>EU number</u>	<u>CAS number</u>	<u>REACH No.:</u>
Chlorine dioxide	< 0.3	233-162-8	10049-04-4	01-2119492305-37

further information: the product is produced of Aqua Power I potable water component A and component B.

**4. First aid measures**

**4.1 Description of first aid measures**

General Information:

For threat of loss of consciousness, position and transport in stable, lateral position.

First aid respondents: Be aware of personal protection!

Symptoms of poisoning can also arise after many hours, therefore provide physician monitoring at least 48 hours after

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the accident.

Remove affected individual from the hazardous zone and have them lie down. Administer oxygen in case of breathing difficulties.

After inhaling:

provide fresh air. Provide oxygen in case of breathing difficulties, possibly provide rescue breathing. Call a physician immediately.

Following contact with skin:

Wash immediately with copious amounts of water and soap. Remove contaminated clothing and wash before wearing again.

Call a physician in case of continued skin irritation.

Following eye contact:

Open eye wide using both hands and flush intensely at least 15 minutes with flowing water. Call an ophthalmologist immediately.

After swallowing:

Rinse mouth and drink (allow) a glass of water. Do not induce vomiting.

Consult a physician immediately and provide the packaging or labelling.

4.2 Most important acute and delayed symptoms and effects that arise

Visual impairment. Loss of consciousness. Coughing. Lack of breath. Headaches. Nausea. Dizziness.

4.3 Information on medical first aid or special treatment

Symptomatic treatment.

Subsequent observation for pneumonia and pulmonary oedema. Treat skin and mucous membrane with antihistamines and corticoid preparations. Stomach flushing following paraffin oil administration with added animal charcoal.

Circulation monitoring.

**5. Measures to combat fire**

**5.1 Extinguishing medium**

Suitable extinguishing medium

Water spray, foam, carbon dioxide (CO<sub>2</sub>).

Attune means of extinguishing to the specific environment.

Non-suitable means of extinguishing for safety reasons

Full stream of water

**5.2 Dangers arising specifically from the mixture**

Chlorine dioxide gas (ClO<sub>2</sub>), chlorine (Cl<sub>2</sub>), oxygen (O<sub>2</sub>).

Danger of bursting due to high temperatures and an increase in pressure in the closed container

**5.3 Information of combatting fire**

Do not inhale gases from fire.

Wear breathing apparatus depending on ambient conditions.

Full protection overall.

**6. Measures in case of unintentional release**

**6.1 Personally-related safety measures**

Wear protective gear. Keep unprotected persons away.

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Provide adequate ventilation.

### 6.2 Environmental protection measures

Prevent flow into the sewage system/surface water/ground water.

### 6.3 Methods and material for retention and cleaning

Confine larger quantities and pump into PE containers.

Dilute smaller quantities with water and absorb with liquid-binding material (sand, gravel; diatomaceous earth or universal absorbent).

Treat material taken up as per the Disposal section.

## 7 Handling and Storage

### 7.1 Protective measures for safe handling

#### Information on safe handling

Protect from heat and direct sunlight.

Open and handle the container with caution.

Provide adequate ventilation and punctiform suctioning at critical points.

#### Information on fire and explosion protection

non-combustible liquids

Chlorine dioxide solutions are explosive at volume concentrations > 10%.

When heating, the critical concentrations above the aqueous solution must be evaluated.

Usual measures to prevent fire.

### 7.2 Conditions for safe storage considering incompatibilities

Store in the original container at a dry and well ventilated location.

Do not store together with acids.

Store separate from foodstuffs.

Store separate from combustible substances.

Keep container well closed.

Store per TRGS 510: 6.1B

## 8 Limitation and monitoring of exposure/personal protective gear

### General protective- and hygiene measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove contaminated, saturated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with eyes and skin.

Do not inhale dust.

### Personal protective gear:

Gloves: Protective gloves



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Glove material: PVC (polyvinylchloride), PE (polyethylene).

The selection of a suitable glove depends not only on the material, but also on further quality characteristics and differs from manufacturer to manufacturer.

Because the product is a preparation of a number of substances, the resistance of the glove material cannot be evaluated in advance and must therefore be checked before use.

Penetration time for glove material: The exact break-through time is to be determined from the glove manufacturer and is to be respected.

Eye protection: Tightly sealing safety glasses



Bodily protection: Protective work clothing

Breathing protection: Required for aerosol or mist formation and for inadequate ventilation.

Gas filter device (DIN EN 141)

### 8.1 Parameters to be monitored

Work place limit value for chlorine dioxide (CAS: 10049-04-4) per TRGS900: 0.1 ml/m<sup>3</sup> resp.. 0.28 mg/m<sup>3</sup>

## 9 Physical-chemical properties

### 9.1 Data on the basic physical and chemical properties

Form:	liquid
Colour:	yellowish
Odour:	slightly pungent odour

Freezing point:	- 25 °C
Boiling point/boiling range	102 °C

### 9.2 Other data

Flash point:	not applicable
Flammability:	not flammable
Danger of explosion:	not explosive

Vapor pressure:	20 °C	approx. 14 mbar
Relative density:	20 °C	1,210 kg/m <sup>3</sup>
dynamic viscosity:	20 °C	2.4 mPa's
Solubility in water:		complete

pH value at 20 °C	< 3
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## **10 Stability and reactivity**

### **10.1 Reactivity**

no dangerous reactions under indicated storage conditions and handling as required

### **10.2 Chemical stability**

Stable under indicated storage conditions.

### **10.3 Possibility of dangerous reactions**

Corrosive to metals.

Risk of fire with combustible substances if aqueous portion is dried.

Poisonous gases will result from contact with acids.

### **10.4 Conditions to be avoided**

heat and UV radiation

### **10.5 Incompatible materials**

Combustible substances, metals, acids, reducing agents

### **10.6 Dangerous decomposition products**

Chlorine compounds, chlorine dioxide

## **11 Toxicological data**

### **11.1 Data on toxicological effects**

#### Acute toxicity:

#### classification-relevant LD/LC50 values:

Oral                    LD50:                    292 mg/kg (rat), literature value

#### Irritation:

Skin:                    corrosive effect on skin and mucous membranes.

Eye                     Corrosivity. Conjunctivitis.

Respiratory tract: Irritation of upper respiratory tract.

## **12 Environmental data**

### **12.1 Toxicity**

#### Ecotoxicity:

#### Aquatic toxicity

10049-04-4, chlorine dioxide, method LC50 2.563 mg/l 96 h Brachydano Rerio (zebra danio)

DIN EN ISO 15088

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Mobility:  
no data available

Persistence and degradability:  
is nearly completely degraded in biological cleaning stages.

PBT properties:  
no data available

**General Information**

Water hazard class 2 (self-classification): hazard to water  
Also poisonous to fish and plankton in water. Avoid release to the environment.

**13 Information on disposal**

**13.1 Procedure for waste treatment**

**Product:**

Recommendation: May not be disposed of together with household garbage. Do not allow to flow into sewage system.  
Disposal varies by country and community, therefore the type of disposal should be checked with local authorities (local government).

**European Waste disposal directory:**

15 00 00 packaging, absorbents, wiping cloths, filter materials, and protective clothing (unless otherwise stated).  
15 01 00 packaging (including separately collected communal packing waste).  
06 00 00 waste from inorganic-chemical processes.  
06 13 00 waste from inorganic chemical processes unless otherwise stated.  
06 13 01 inorganic plant protection agents, wood protection agents, and other biocides

Product waste code: 190899

**Unclean packaging:**

to be disposed of as are containers with hazardous residual substances.

15 01 10 (packaging containing residual hazardous substances or contaminated by hazardous substances)

**Clean packaging:**

may be provided to recycling.  
Recommended cleaning agent: Water

**14 Information on transport**

**14.1 UN number**

UN 3287

**14.2 Proper UN shipping description**

**ADR/RID**

UN 3287 POISONOUS INORGANIC LIQUID SUBSTANCE, UNLESS OTHERWISE STATED. (chlorine dioxide)

**IMDG-Code / ICAO-TI / IATA-DGR**

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Oxidizing liquid, corrosive, n.o.s. (chlorine oxides)  
EMS number: F-A, S-Q

#### 14.3 Transport hazard classes



6.1  
Danger label: 6.1  
Classification code: T4

#### 14.4 Packaging group

Packaging group: II (medium danger)  
limited quantity (LQ): 100 ml  
Transport category: 2  
Danger number: 60  
other relevant data on land transport/container ship transport/ air transport: excepted quantity: E4

#### 14.5 Environmental hazards

Environmental hazard: yes



#### 14.6 Tunnel limitations

Tunnel limitation code: D/E

#### 14.5 Other relevant data:

Special regulations: 274

### 15 Legal requirements

#### 15.1 Requirements as to safety, health- and environmental protection/ specific legal requirements for the substance or the mixture

##### National regulations:

Water hazard class: WGK 2 (self-classification): water hazard.  
Substance safety assessment: was not carried out.

Use biocide products carefully. Always read label and product information before use.



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**16 Other information**

Aqua Power I chlorine dioxide solution: do not mix with other products.

Legend:

ADR	European agreement on the international transport of dangerous goods on roads
CAS	Chemical abstract service
EU	European Union
IATA-DGR	International Air Transport Association-Dangerous Goods Regulations
ICAO-TI	International Civil Aviation Organization-Technical Instructions
IMDG-Code	International Maritime Code for Dangerous Goods
IUCLID	International Uniform Chemical Information Database
LC	Lethal concentration
LD	Lethal dose
RID	Regulation for the international transport of hazardous goods by rail
TRGS	Technical regulations for hazardous substances
WGK	Water hazard classification

The information is based on the current state of our knowledge; it does not constitute assurance of product properties and does not give rise to any contractual legal relationship.