

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: OptiDOS CLO**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against -**
- **Application of the substance / the mixture Biocide**
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 BWT AG
 Walter Simmer Straße 4
 A - 5310 Mondsee
 AUSTRIA
 Tel.: +43/6232/5011-0
 Fax: +43/6232/4058
 email: office@bwt.at
- **Further information obtainable from:**
 Abteilung F&E Chemikalienbeauftragter
 Tel.: +43/6232/5011-1427
 email: msds-info@bwt-group.com
- **1.4 Emergency telephone number:**
 Vergiftungsinformation Wien
 Tel.: +43/1-406 43 43

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Liq. 2	H272	May intensify fire; oxidiser.
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GHS05 corrosion

Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1B	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.



GHS09 environment

Aquatic Acute 1	H400	Very toxic to aquatic life.
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GHS07

Acute Tox. 4	H302	Harmful if swallowed.
STOT SE 3	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
 The product is classified and labelled according to the CLP regulation.

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 · **Hazard pictograms**


GHS03 GHS05 GHS07 GHS09

 · **Signal word** *Danger*

 · **Hazard-determining components of labelling:**

chlorine dioxide

 · **Hazard statements**

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H400 Very toxic to aquatic life.

 · **Precautionary statements**

P221 Take any precaution to avoid mixing with combustibles.

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.

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/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

 · **2.3 Other hazards**

 · **Results of PBT and vPvB assessment**

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

 · **3.2 Chemical characterisation: Mixtures**

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

 · **Dangerous components:**

CAS: 10049-04-4	chlorine dioxide	 Acute Tox. 3, H301	10-25%
EINECS: 233-162-8		 Skin Corr. 1B, H314	
		 Aquatic Acute 1, H400	

 · **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

 · **4.1 Description of first aid measures**

 · **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

 · **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

 · **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

 · **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

 · **After swallowing:**

Call for a doctor immediately.

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- Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Water spray
Carbon dioxide
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Hydrogen chloride (HCl)
Chlorine gas
Can form explosive gas-air mixtures.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
- **6.3 Methods and material for containment and cleaning up:**
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Provide ventilation for receptacles.

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- **Information about storage in one common storage facility:**
 - Do not store together with acids.
 - Store away from flammable substances.
 - Store away from metals.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Store in dry conditions.
 - Store in a cool place.
 - Keep container tightly sealed.
- **Storage class: 5.1B**
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - Filter B
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
 - PVC or PE 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.

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· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Apron
SECTION 9: Physical and chemical properties
· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Fluid
· Colour:	Light yellow
· Odour:	Pungent
· Odour threshold:	Not determined.

· **pH-value at 20 °C:** >11· **Change in condition**

· Melting point/Melting range:	-25 °C
· Boiling point/Boiling range:	103 °C

· **Flash point:** Not applicable.· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:**· **Decomposition temperature:** Not determined.· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapour pressure at 20 °C:** 14 mbar

· Density at 20 °C:	1.2 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· Dynamic at 20 °C:	2.4 mPas
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.0 %
· Water:	90.0 %

· **9.2 Other information** No further relevant information available.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.3 Possibility of hazardous reactions**
 Reacts with acids releasing chlorine dioxide (ClO₂).
 Reacts with flammable substances.
 Corrosive action on metals.
- **10.4 Conditions to avoid** T > 60 °C
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Chlorine

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
 Harmful if swallowed.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
 Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
 Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
 May cause respiratory irritation. May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability**
 Anorganic product, is not eliminable from water by means of biological cleaning processes.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
 Danger to drinking water if even small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Very toxic for aquatic organisms
 Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

· Recommendation: Disposal must be made according to official regulations.

· Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number

· ADR, IMDG, IATA

UN3098

· 14.2 UN proper shipping name

· ADR

3098 OXIDIZING LIQUID, CORROSIVE, N.O.S. (chlorine dioxide), ENVIRONMENTALLY HAZARDOUS

· IMDG

OXIDIZING LIQUID, CORROSIVE, N.O.S. (chlorine dioxide), MARINE POLLUTANT

· IATA

OXIDIZING LIQUID, CORROSIVE, N.O.S. (chlorine dioxide)

· 14.3 Transport hazard class(es)

· ADR, IMDG



· Class

5.1 Oxidising substances.

· Label

5.1+8

· IATA



· Class

5.1 Oxidising substances.

· Label

5.1+8

· 14.4 Packing group

· ADR, IMDG, IATA

II

· 14.5 Environmental hazards:

Product contains environmentally hazardous substances: chlorine dioxide

· Marine pollutant:

Yes

Symbol (fish and tree)

· Special marking (ADR):

Symbol (fish and tree)

· 14.6 Special precautions for user

Warning: Oxidising substances.

· EMS Number:

F-A,S-Q

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

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· Transport/Additional information:
· ADR

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
- **Transport category** 2
- **Tunnel restriction code** E

· IMDG

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":** UN3098, OXIDIZING LIQUID, CORROSIVE, N.O.S. (chlorine dioxide), ENVIRONMENTALLY HAZARDOUS, 5.1 (8), II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
P8 OXIDISING LIQUIDS AND SOLIDS
E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.

· Relevant phrases

- H301 Toxic if swallowed.
- H314 Causes severe skin burns and eye damage.
- H400 Very toxic to aquatic life.

· 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
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- 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)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Ox. Liq. 2: Oxidising Liquids, Hazard Category 2
- Met. Corr. 1: Corrosive to metals, Hazard Category 1
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
- *** Data compared to the previous version altered.**