

## SAFETY DATA SHEET

which is not required by the Art. 31. or 32. of the Regulation (EC) No. 1907/2006

Trade name: **Solumium® Dental**      Date of print: 21/07/2016  
 Revision date: 17/07/2016  
 Version: 2.2. / EN

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

#### 1.1 Product identifier      **Solumium® Dental**

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Disinfectants for the skin, mucous membrane, and for dental use (antiseptic agent)

#### 1.3 Details of the supplier of the safety data sheet

Manufacturer and supplier:

Solumium Kft.

Address:

1118 Budapest, Rozmaring u. 19.

E-mail address for the competent person responsible for the safety data sheet: [info@solumium.com](mailto:info@solumium.com), [noszt@t-online.hu](mailto:noszt@t-online.hu)

Phone

+36-1-3194323 (8:00-16:00) +36-20-470-0597

#### 1.4 Emergency telephone number

Emergency telephone number:

[http://www.who.int/gho/phe/chemical\\_safety/phe\\_poison\\_centres.xls?ua=1](http://www.who.int/gho/phe/chemical_safety/phe_poison_centres.xls?ua=1)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to **Regulation (EC) No. 1272/2008 (CLP)**: not classified

#### 2.2. Label elements

#### Labeling according to Regulation (EC) No 1272/2008 [CLP]

No specific requirement

#### 2.3. Other hazards

The mixture does not meet persistent (P), bioaccumulation (B) and toxicity (T) criteria. The mixture is not PBT or vPvB.

### SECTION 3: Composition/information on ingredients

#### Chemical characterization

Name	EC-Nr.	CAS-Nr.	REACH registration Nu	Content (%)	Classification according to 1272/2008 (CLP) <sup>3</sup>	
					Hazard categories <sup>1</sup>	H-phrases <sup>1</sup>
Chlorine dioxide...%	233-162-8	10049-04-4	Not available <sup>2</sup>	0,12 <sup>3</sup>	Acute Tox.3* Skin Corr. 1B Aquatic Acute 1	H301 H314 H400

<sup>1</sup> – See Section 16 for the full text of the abbreviations declared above.

<sup>2</sup> – The manufacturing volume of the substance does not reach the limit for registration requirement

<sup>3</sup> – Chlorine dioxide has been classified in 790/2009/EU which is the ATP 1 for the CLP regulation with a new index number 017-026-00-3. These classifications are shown above. Its concentration limits are given in the sections below.

\*– so called minimum classification in the CLP regulation.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

Immediately remove contaminated clothing.

If inhaled: Remove to fresh air, seek medical attention.

On skin contact: After contact with skin, wash with plenty of water.

On contact with eyes: Wash affected eyes under running water.

On ingestion: Drink ascorbic acid and then plenty of water, do not induce vomiting.

## SAFETY DATA SHEET

which is not required by the Art. 31. or 32. of the Regulation (EC) No. 1907/2006

Trade name: Solumium® Dental      Date of print: 21/07/2016  
Revision date: 17/07/2016  
Version: 2.2. / EN

---

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

Symptoms: tightness in the chest, coughing, difficulty breathing.

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

Treatment: Treat according to symptoms

## SECTION 5: Firefighting measures

The product is not flammable.

### 5.1. Extinguishing media

Suitable extinguishing media: the same as for the source of the fire

### 5.2. Special hazards arising from the substance or mixture

Chlorine dioxide in the air.

### 5.3. Advice for firefighter

Special protective equipment: No specific measures.

Further information: Keep containers cool by spraying with water if exposed to fire.

---

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

### 6.2. Environmental precautions

Do not empty into drains. Do not discharge into the subsoil/soil.

### 6.3. Methods and material for containment and cleaning up

For large amounts: Pump off product.

For residues: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with regulations.

Neutralize with ascorbic acid.

### 6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

---

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

When handling heated product, vapours of the product should be ventilated

### 7.2. Conditions for safe storage, including any incompatibilities

Keep in the original container only.

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place. Above 90°C the chlorine dioxide accumulated in the gas phase may decompose with explosion.

### 7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

---

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

An occupational exposure level of 0.28 mg/m<sup>3</sup> (0.1 ppmv) for 8 hour, and a short term of 0.84 mg/m<sup>3</sup> (0.3 ppmv) have been assigned by OSHA. There is a DNEL value of 0.308 mg/m<sup>3</sup> in the registration document. The PNEC value for fresh water is 0,021 µg/L

### 8.2. Exposure controls

Respiratory protection: None

## SAFETY DATA SHEET

which is not required by the Art. 31. or 32. of the Regulation (EC) No. 1907/2006

Trade name: Solumium® Dental      Date of print: 21/07/2016  
Revision date: 17/07/2016  
Version: 2.2. / EN

Hand protection: None  
Eye protection: None  
Body protection: None  
General safety and hygiene measures:  
Do not breathe vapour/spray. Apply ventilation.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Data refer to the product as a diluted aqueous solution.

- a) Appearance: liquid
- b) Color: yellow
- c) Odour: specific, similar to chlorine
- d) Odour threshold: 0.1 ppmv
- e) pH-value: 4,5-5,5
- f) Melting point/freezing point: 0°C
- g) Boiling range: no data
- h) Flash point: not flammable
- i) Evaporation rate: no data
- j) Flammability (solid, gaseous): not flammable
- k) Ignitable, explosive range: not flammable
- l) Vapour pressure:  $P = c \cdot \exp(12.732 - 3102/T)$ , where P is the vapor pressure of chlorine dioxide in Hgmm above a solution with a c concentration of chlorine dioxide in g/L, and T is the absolute temperature in Kelvin. Ishi, G. Chemical engineering (Japan) **22(3)** (1958)
- m) Vapour density: no data
- n) Density: 1,00 g/cm<sup>3</sup>
- o) Solubility: see the formula by Ishi above
- p) Partition coefficient n-octanol/water: no data
- q) Self-ignition temperature: not flammable
- r) Decomposition temperature: no data
- s) Viscosity: same as water
- t) Explosive properties: chlorine dioxide can decompose with a puff in the gas phase if its concentration is above 10 % (v/v) there, and can detonate when its concentration is above 40 % (v/v), therefore accumulating chlorine dioxide above an aqueous solution shall be avoided.
- u) Oxidising properties: oxidising

### 9.2. Other information

Not applicable.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Oxidising organic matter.

### 10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

## SAFETY DATA SHEET

which is not required by the Art. 31. or 32. of the Regulation (EC) No. 1907/2006

Trade name: Solumium® Dental      Date of print: 21/07/2016  
Revision date: 17/07/2016  
Version: 2.2. / EN

---

### 10.3. Possibility of hazardous reactions

Not known

### 10.4. Conditions to avoid

Under fire or when heated the product evolves gaseous chlorine dioxide which is toxic

### 10.5. Incompatible materials

Substance that can be oxidised

### 10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

---

## SECTION 11: Toxicological information

Information is related to pure chlorine dioxide. Specific concentration limits for the aqueous solutions of chlorine dioxide are given from the 1. ATP as well as from the registration document.

### 11.1. Information on toxicological effects

#### Acute toxicity – oral:

Rats      LD50 = 94 mg/kg  
0.3-0.4 mg/kg chlorine dioxide when consumed by healthy adults caused no harmful effect. The 1. ATP classifies any aqueous solution as Acute Tox. 3. In the registration solution of 0.6-2.0% is classified as Acute Tox. 3

#### Acute toxicity – vapour inhalation:

Rats      LC50 = 89 mg/m<sup>3</sup> (4h)

### 11.2. Irritation/Corrosion

**Skin corrosion/Skin irritation:** Aqueous solutions of  $\geq 5\%$  are classified as Skin Corr. 1B, and those of  $1\% \leq C < 5\%$  as Skin Irrit. 2 according to the 1. ATP. In the registration document solutions of 0.6-2% are considered as Skin Corr. 1B, a more severe specific concentration limit.

**Eye damage/Irritation:** Solutions of  $3\% \leq C < 5\%$  are classified as Eye Dam. 2 and those of  $0,3\% \leq C < 3\%$  as Eye Irrit. 2 according to the 1. ATP. In the registration document solutions of 0.6-2% are not considered as irritative to eye at all, based, however, on negative tests performed in more diluted, 10-20 ppm solutions.

### 11.3. Sensitisation

 not classified

**11.4. Mutagenicity** Not classified. Based on available data, the classification criteria are not met.

**11.5. Carcinogenicity** Not classified. Based on available data, the classification criteria are not met.

**11.6. Reproductive toxicity** Not classified. Based on available data, the classification criteria are not met.

**11.7. STOT-single exposure** The pure chlorine dioxide is not classified, however, in the 1. ATP aqueous solutions of  $\geq 3\%$  are classified as STOT SE 3.

**11.8. STOT-repeated exposure** not classified

**11.9. Aspiration hazard** Not classified due to lack of data.

**11.10. Toxicokinetics** No data

**11.11. Genetic toxicity:** Not classified. Based on available data, the classification criteria are not met.

---

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Aquatic toxicity

##### Short-term toxicity to fish:

Danio rerio: LC50 = 0,021 mg/l (96 hours)

Based on the toxicity data the M factor is 10. Therefore, aqueous solutions more diluted than 0.3% are not classified as Aquatic Acute 1.

## SAFETY DATA SHEET



which is not required by the Art. 31. or 32. of the Regulation (EC) No. 1907/2006

Trade name: Solumium® Dental Date of print: 21/07/2016  
Revision date: 17/07/2016  
Version: 2.2. / EN

---

### 12.2. Persistence and degradability

In the original container the solution is stabile; however, it degrades quicly in natural environment and under UV radiation.

### 12.3. Bioaccumulative potential

No data.

### 12.4. Mobility in soil:

No data

### 12.5. Results of PBT and vPvB assessment

The product is not PBT neither vPvB.

### 12.6. Other adverse effects

Chlorine dioxide has IR absoption, therefore it effects global warming.

---

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods** The products becoming useless and the contaminated containers not suitable for product storage must be decontaminated by ascorbic acid and then they can be washed with water.

---

## SECTION 14: Transport information

Land transport (ADR/RID/GGVSE)

Sea transport (IMGD-Code/GGVSee)

Air transport (ICAO-IATA/DGR)

- 14.1. UN number** Not dangerous goods  
**14.2. UN proper shipping name** Not dangerous goods  
**14.3. Transport hazard class(es)** Not dangerous goods  
**14.4. Packaging group** Not dangerous goods  
**14.5. Environmental hazards** Marine pollutant: no  
**14.6. Special precautions for users** EmS number: Not dangerous goods

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not relevant.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislations specific for the substance or mixture

- 15.1. Information regarding relevant Community safety, health and environmental provisions:** Chlorine dioxide is listed as existing active biocid ingredient on the homepage of the European Commision.  
**15.2. Chemical Safety Assessment:** In accordance with REACH Chemical Safety Assessment has not been carried out for the substance by the supplier of the safety data sheet.
- 

## SECTION 16: Other information

The information given corresponds with our actual knowledge and experience. This information is meant to describe our product in view of possible safety requirements.

**16.1. Indication of changes** Classifications according to EU Directive of 67/548 were removed with minor spelling improvments. New link for poison centers worldwide is given.

### 16.2. Abbreviations and acronyms

Carc.: Carcinogenicity  
CAS number: Chemical Abstracts Service number  
CLP: Classification Labelling Packaging Regulation  
CSR: Chemical Safety Report

## SAFETY DATA SHEET

which is not required by the Art. 31. or 32. of the Regulation (EC) No. 1907/2006

**Trade name: Solumium® Dental**      Date of print: 21/07/2016  
Revision date: 17/07/2016  
Version: 2.2. / EN

---

DNEL: Derived No Effect Level  
EC: European Commission  
EC number: EINECS and ELINCS number  
EC50: Half maximal effective concentration  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
Irrit.: Irritation  
LC50: Lethal concentration, 50 %  
LD50: Median Lethal dose  
PBT: Persistent, Bioaccumulative and Toxic  
PNEC: Predicted No Effect Concentration  
REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals  
Resp.: Respiratory  
Sens.: Sensitisation  
STOT: Specific Target Organ Toxicity  
STOT SE: Specific target organ toxicity — single exposure  
STOT RE: Specific target organ toxicity — repeated exposure  
Tox.: Toxicity  
vPvB: Very Persistent and Very Bioaccumulative

**16.3. Key literature references and sources for data** 1. ATP, Adaptation to the Technical Progress of the CLP regulation. Registration document published on the website of the European Chemical Agency.

### 16.4. Full text of abbreviations

#### *Hazard symbol(s)*

#### *H- Phrases*

H301                      Toxic if swallowed  
H314                      Cause sever skin burnes and eye damage  
H400                      Very toxic to aquatic life

#### *Hazard classes*

Acute Tox. 3              Acute Toxicity 3  
Aquatic Acute            Hazardous to the aquatic environment  
Eye irrit. 2                Serious eye irritation 2  
Skin Irrit. 1B             Skin irritation 1B  
STOT SE 2                 Specific target organ toxicity – single exposure 2