

## Safety Data Sheet

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

#### **1.1 Product identifier**

**ELEKTROLYT MG**

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

Product is used for polishing of cobalt-based dental alloys.

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

Manufacturer/Supplier:

INTERDENT d.o.o.

*Production:*

INTERDENT d.o.o.

Street:

Opekarniška cesta 26

Dol 1

Country code /Postal code/City:

SI-3000 Celje

SI-3342 Gornji Grad

Telephone:

+386(0) 425-62-00

Fax:

+368(0) 490-62-02

#### **1.4 Emergency telephone number**

Emergency phone:

112 (EU)

+386(0) 425-62-00 (Mon – Fri: 8.00 – 16.00)

### **SECTION 2: Hazards Identification**

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

Classification according to Regulation (EC) No 1272/2008:

Acute toxicity (oral)	Hazard Category 4	H302: Health harmful if swallowed.
Skin corrosion/irritation	Hazard Category 2	H315: Cause skin Irritation.
Serious eye damage/eye irritation	Hazard Category 2	H319: Extremely irritates eyes.

#### **2.2 Label elements**

Labelling according to Regulation (EC) No. 1272/2008:

**Hazard pictograms:**

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**Signal word: WARNING**

**Hazard statements:**

H302 Health harmful if swallowed.

H315 Cause skin irritation.

H319 Extremely irritates eyes.

**Precautionary statement:**

*Prevention:*

P264 Wash your hands after use.

P270 Do not eat or drink when working with the product

P280 Wear protecting gloves, protecting clothes and protecting glasses.

*Response:*

P301+P312 WITH CONSUMPTION: If you feel unwell, call the CENTER FOR POISONING or your doctor.

P302+P352: WITH SKIN CONTACT: Wash with plenty of soap and water.

P332+P313: If skin irritation occurs: Get medical advice / attention.

P304+P340 WITH BREATHING: Take the sufferer on fresh air and let him rest in position which let him easier breathing,

P305+ P351+P338: WITH EYE CONTACT: Rinse out with water carefully for a few minutes. Remove the contact lenses, if you wear them and if you can do it easily. Continue with washing.

P337+P313: If the eyes irritation continues, look for the medical help.

P362+P364: Take off contaminated clothing and wash it before reuse.

*Disposal:*

P501 Dispose of contents/containers in accordance with local regulation

**Component on the label:**

Ethylene glycol, Sulfuric acid

**2.3 Other hazards**

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PBT and vPvB evaluations are in chapter 12.5

### SECTION 3: Composition / information on ingredients

#### 3.1 Substance

See section 3.2.

#### 3.2 Mixture

Chemical name	CAS Nr. EC-Number INDEX number	%	Classification according to EC 1272/2008	
			Hazardous class/hazardous category	Hazardous phrases
<b>Ethane-1,2-diol (Ethylene glycol)</b>	603-027-00-1 203-473-3 107-21-1	> 25	Acute Tox. 4 *	H302
<b>Sulfuric acid</b>	016-020-00-8 231-639-5 7664-93-9	5-10	Skin Irrit. 2 Eye irrit. 2	H315 H319

### SECTION 4: First Aid Measures

#### 4.1 Description of first aid measures

##### *Common warnings:*

Remove injured person from contaminated area and lay he/she on the floor. Remove contaminated clothing. In case of eyes contact, rinse the eyes with water and seek for medical attention. In case of accident seek for medical attention (if possible show safety data sheet). Medical attention is needed in case of poisoning. Symptoms of poisoning are seen later so medical attention is needed at least 48h after accident.

##### *Inhalation:*

In case of inhalation bring injured person to fresh air. Symptoms of poisoning do not appear immediately, so medical attention is needed immediately. Bring fresh air. Free the air ways. Place and transport injured person in lateral position. If injured person does not breath then give him/her artificial breathing.

##### *Skin contact:*

Rinse skin with water and then with soap. Remove contaminated clothes.

##### *Eye contact:*

Rins open lids with a lot of water for 15 minutes immediately. Seek for medical attention.

##### *Ingestion:*

Rinse mouth with water. Injured person must drink 0,5L of water in small gulps – to get diluting effect. Do not induce vomiting. Seek medical attention.

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

Symptoms: No information available

Effects: No information available

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

Symptomatic treatment, other data not available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

*Suitable:*

Extinguishing dust, carbon dioxide, sprayed jet of water; in case of big fire use on alcohol resistant foam

*Unsuitable:*

Very voluminous sprayed jet of water

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

The product itself is not combustible. Vapors are heavier than air. Hazardous conflagration gases or vapors may form due to ambient fire. In the event of fire, sulfuric acid vapors, sulfur dioxide and sulfur trioxide may be released. In case of contact with light metals, hydrogen gas may form (risk of explosion).

### 5.3 Advice for firefighters

*Special protective equipment for firefighting:*

Use suitable breathing apparatus that is independent of ambient air. Use protective clothing for fire-fighting so as to avoid skin and eye contact. Stay in the danger zone only with suitable, impervious chemical protection suit.

*Other instructions*

Cool endangered containers with water spray jet. Suppress vapors with water spray jet. Avoid penetration of fire-fighting water in surface waters or groundwater.

## SECTION 6: Accidental release measures

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

Keep unprotected persons away. Increased risk of slipping due to leaking or spilt product. Provide for adequate fresh air. Formation of explosive mixtures with air possible. Keep away sources of ignition. Avoid contact with substance. Do not pick up with unprotected hands. Avoid contact with skin and eyes. Do not inhale vapors/

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aerosols. Wear protective clothing in accordance with section 8 of this safety data sheet.

### 6.2 Environmental precautions

Do not allow to enter subsoil/earth. Do not allow to enter sewer system / surface waters / groundwater.

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

Wear rubber gloves. Neutralize with diluted caustic soda or by throwing on lime, lime sand or soda. Collect with liquid-binding material (e.g. sand, clay mineral, diatomaceous earth, vermiculite, universal binder). Put leaky receptacles, residues and contaminated material in identified and sealable containers. If necessary, clean again and air thoroughly. Disposal as waste in accordance with section 13 of this safety data sheet. Before cleaning, the product overflowing needs to be neutralized with lime.

### 6.4 Reference to other sections

Safe handling: see section 7. Personal protection equipment: see section 8. Disposal: see section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Keep containers tightly sealed. Use only in well ventilated areas. Avoid contact with eyes and skin. Do not inhale gas/smoke/vapor/aerosol. Do not eat, drink or smoke during work. In case of accident shower and eye rinsing must be installed nearby.

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

Keep under lock and key. Keep containers tightly sealed and store in a cool, dry and well-ventilated place. Suitable material for containers/equipment: material, solvent-resistant. The floor should be tight, have no joints and be non-absorbent. The product is not combustible. Keep away from ignition sources – do not smoke.

### 7.3. Specific end use(s)

Product is designed for electrolyte polishing in dental laboratory. When electrolyte is wasted, put it into original package. Use protecting equipment in accordance with point 8.

## **SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

Council Directive 98/24/EC with all implementations and amendments  
Official Gazette RS, No. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18, 78/19

### **Ingredients with limit values that have to be considered and measured in the**

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working place		
Ethylene glycol		
MV	Current exposure: 104 mg/m <sup>3</sup> , 40 ppm Long-term exposure: 52 mg/m <sup>3</sup> , 20 ppm Y, BAT	
Oral	DNEL	500 mg/kg ATE
Sulfuric acid		
MV	Current exposure: 0,05 (I) mg/m <sup>3</sup> Long-term exposure: 0,05 (I) mg/m <sup>3</sup> Y, EU, mist	

\*I – inhalable fraction

## 8.2 Exposure controls

Personal protective equipment in accordance with Regulation (EU) 2016/425 and list of harmonized standards for personal protection equipment 2018/C 209/03.

*Common protection and hygienic measures:*  
Avoid contact with skin, eyes and clothes. Contaminated clothes took of immediately. Do not breath vapor, aerosol or gases. Do not eat, drink or smoke during work. Protect food. Wash hands before meal and after meal.

*Respiratory protection:*  
Not necessary if proper use. In case of higher concentration on work use of full mask (EN 136:1998) or half mask (EN 140:1999/AC:2000) with respiratory protection filter A2 (organic gases) or E2 (acid gases) (EN 14387:2004+A1:2008).

*Hand protection:*  
Use solvent-resistant safety gloves from made of material resistant on liquid (nitride or butyl rubber) with at least 10 cm long sleeve. Nitride gloves: thickness 0,4 mm. Butyl rubber gloves: thickness 0,7 mm, EN 374-3:2003/AC:2006.

*Eye protection:*  
Tightly sealing safety goggles with lenses made of safety glass- EN 166:2001.

*Body protection:*  
Wear protecting clothes (EN13034:2005+A1:2009, EN ISO 6350:2005 (and tightly shoes (EN ISO 20345:2012).

### 8.2.2 Control of environment protection

Common instructions: Do not wash rinse with fresh water or to drainage system. If the

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aquaducte or drainage system is contaminated, inform competent authorities immediately.

### SECTION 9: Physical and chemical properties

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

<b>Aggregation</b>	Liquid
<b>Colour</b>	Colourless
<b>Odour</b>	Odourless
<b>Aqueus solubility</b>	Mixed without restriction
<b>pH</b>	1 (100% solution)
<b>Vapour pressure</b>	0,13 g/m <sup>3</sup> (20°C)
<b>Density</b>	1,2 g/mL (20°C)

#### Individual substances

	<b>Ethane-1,2-diol</b>	<b>Sulfuric acid</b>
<b>Molecular mass</b>	n.a.	n.a.
<b>Dynamic viscosity</b>	21 mPas (20°C)	23 mPas (20°C)
<b>Melting temperature</b>	-12,4°C	-10°C
<b>Boiling point</b>	197°C	295-315°C
<b>Inflammation point</b>	410°C	n.a.
<b>Flash point</b>	111°C	n.a.
<b>Explosion limits</b>	3,2 vol % - lower	n.a.
	53 vol % - upper	n.a.
<b>Vapour pressure</b>	0,08 hPa (20°C)	< 0,01 hPa (20°C)
<b>Relative density</b>	n.a.	n.a.
<b>Density</b>	1,11 g/cm <sup>3</sup> (20°C)	1,84 g/cm <sup>3</sup> (20°C)
<b>pH</b>	n.a.	< 1
<b>Solubility in water</b>	1,000 g/l (20°C)	soluble (20°C) – heat loosen
<b>Solubility in ethanol</b>	n.a.	soluble
<b>Division coefficient water/n-octanol</b>	n.a.	n.a.
<b>Soluble/qualitative</b>	Soluble in polar solutions	n.a.
<b>Thermal decomposition</b>	n.a.	n.a.
<b>Oxidant properties</b>	non oxidant	non oxidant

#### 9.2 Other information

No additional information relevant to safe use.

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### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity**

Not reactive under normal conditions and proper use.

#### **10.2 Chemical stability**

Stable under normal conditions and proper use.

#### **10.3 Possibility of hazardous reaction**

No hazardous reactions by proper use and proper storage and handling.

#### **10.4 Conditions to avoid**

Do not heat.

#### **10.5 Incompatible materials**

No data available.

#### **10.6 Hazardous decomposition products**

No decomposition known by proper use. Decomposition products in event of fire: sulfuric dioxide, sulfur trioxide, carbon monoxide (see section 5).

### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

The product has a harmful and irritating effect on the mucous membranes of the eyes and skin. Sensitizing effects are not known. Swallowing larger amounts may cause intoxication and acid burns in mouth / stomach / gastrointestinal area. Harmful if swallowed. Irritates eyes and skin.

Individual substances:

**Chemical name:** Ethylene glycol

**Acute toxicity:**

#### **Important LD/LC50 values for classification**

<b>Oral 4820</b>	5840 mg/kg (rat)
<b>Dermal LD50</b>	9530 mg/kg (rabbit)

**Skin corrosion/irritation:** Not classified

**Serious eye damage/irritation:** Not classified

**Respiratory or skin sensitization:** Not classified

**Germ cell mutagenicity:**

Not classified

**Carcinogenicity:** Data not available.



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**Reproductive toxicity:** Not classified.

**Teratogenicity:** Not classified

**STOT-single exposure:** Not classified as STOT – single exposure.

**STOT-repeated exposure:** Not classified as STOT – repeated exposure.

**Aspiration hazard:** Not classified as aspiration hazard.

**Chemical name:** Sulfuric acid

**Acute toxicity:**

### Important LD/LC50 values for classification

<b>Oral 4820</b>	2140 mg/kg (rat)
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**Skin corrosion/irritation:** Severe skin burns.

**Serious eye damage/irritation:** Serious eye damage.

**Respiratory or skin sensitization:** Not classified

**Germ cell mutagenicity:**

Not classified

**Carcinogenicity:** Data not available.

**Reproductive toxicity:** Not classified.

**Teratogenicity:** Not classified

**STOT-single exposure:** Not classified as STOT – single exposure.

**STOT-repeated exposure:** Not classified as STOT – repeated exposure.

**Aspiration hazard:** Not classified as aspiration hazard.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Data for Sulfuric acid:**

*Toxicity of water*

LC50/96 h > 16 mg/l (fish)

LC50/48 h > 100 mg/l (Daphnia magna)

LC50/72 h > 100 mg/l (algae)

### 12.2 Persistence and degradability

*Data for ethylene glycol*

Ethylene glycol is easily biodegradable 90-100%. (active mud; connected to: chemical need for oxygen; Time of exposure: 10d) (OECD 301 A)

*Data for sulfuric acid*

Methods for biological degradability could not be used for organic compound.

### 12.3 Bioaccumulative potential

*Data for ethylene glycol*

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No bioaccumulation expected

*Data for sulfuric acid*

Low possibility for bio accumulation.

### 12.4 Mobility in soil

*Data for ethylene glycol:* The substance from the surface of the earth will not evaporate into the atmosphere. Adsorption to solid soil phase is not expected.

*Data for sulfuric acid:* Adverse effects due to the decrease in pH of soil.

### 12.5 Results of PBT and vPvB assessment

*The results apply to ethylene glycol:* This substance is not considered to be persistent, bio accumulative or toxic (PBT). Also is not considered to be very persistent and very bio accumulative.

### 12.6 Other adverse effect

Do not rinse in surface water or sanitary sewer system.

## SECTION 13: Disposal consideration

### 13.1 Waste treatment methods

Directive 2008/98/EC, Official Gazette RS 37/15, 69/15

*Methods of disposal:* Remove disposal in accordance with local legislation.

*Removing of residues:* Separate residues. Because of pollution risk, remove residues and disposals as industrial disposal or hazardous disposals. (Ur. l. RS 84/98, 45/00 in 13/03).

*Contaminated packaging:* Keep waste separate. Because of possible pollution, remove as industrial waste or hazardous waste (Ur. L. RS 104/00, 12/02).

*Classification number of the waste:* 11 01 05\* - acidic pickling solutions

## SECTION 14: Transport Information

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN 3264	UN 3264	UN 3264
<b>14.2 UN proper shipping name</b>	corrosive liquid, acidic, inorganic, n.o.s.	corrosive liquid, acidic, inorganic, n.o.s.	corrosive liquid, acidic, inorganic, n.o.s.

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14.3 Transport hazard class(es)			
Class	8	8	8
Classification code	C1	/	/
Hazard label	8	/	/
Hazard identification	80	/	/
Tunnel code	(E)	/	/
EmS number	/	8-15	/
14.4 Packing group	III	III	III
14.5 Environmental hazards	No data available		
14.6 Special precautions for user	No special precautions		
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	No data available		

### **SECTION 15: Regulatory information**

#### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Product is classified in accordance with directive EC 1907/2006 and 1272/2008 and additional changes or national legislation Ur.l. RS 101/2002 and Ur.l.RS 16/2008 and its amendments or respective national laws Official Gazette RS 101/2002 and 16/2008 Ur.l.RS.

#### **15.2 Chemical safety assessment**

No data available from component's supplier.

### **SECTION 16: Other information**

#### *Revision:*

Version 06 issued on January 2020 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008.

#### *Legend of abbreviations:*

ADR – European agreement concerning the international carriage of dangerous goods by road  
CAS – Chemical Abstracts Service  
CLP – Classification, Labeling and Packaging  
CMR – Carcinogenic, Mutagenic or toxic for Reproduction

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DNEL - Derived no-effect level  
EC<sub>50</sub>: Half maximal effective concentration  
EmS – Emergency Schedule  
GHS – Globally Harmonised System of Classification and Labeling of Chemicals  
IATA – International Air Transport Association  
IUCLID – International Uniform Chemical Information Database  
IMDG – International Maritime Dangerous Goods Code  
LC<sub>50</sub>: Lethal concentration, 50%  
LD<sub>50</sub>: Median lethal dose; the dose causing 50% lethality  
MARPOL – International convention for the prevention of pollution from ships  
NOEC - No-observed-effect concentration  
NOAEL – No-observed-adverse-effect level  
NTP- National Toxicology Program  
OEL - Occupational exposure limit  
OECD - Organisation for Economic Co-operation and Development  
PBT – Persistent Bioaccumulative Toxic  
PNEC: Predicted no-effect concentration  
Ppm – parts per million  
REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals  
RTECS – The Registry of Toxic Effects of Chemical Substances  
RID – Regulation concerning the international carriage of dangerous goods by rail  
vPvB – very Persistent and very Bioaccumulative

### *References:*

Safety data sheets of the substances for the product  
Directive EC 1907/2006 and 1272/2008 with all amendments  
Council Directive 98/24/EC, Council Directive 80/ 1107/EEC with all implementations and amendments (Official Gazette RS, No. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18, 78/19);  
Directive 2008/98/EC with all amendments, Official Gazette RS 37/15, 69/15.  
Martindale: The Extra Pharmacopoeia, 13. edition  
European convention about international transport of hazardous material ADR

### *Disclaimer of expressed and implied warranties:*

The information contained in the safety data sheet have been translated from the manufacturer, revised in accordance with the Slovenian legislation. Guidelines for the safe use, handling, disposal, storage and transportation and cannot be used as a guarantee. The information relates only to the specific product and is not suitable for combining with other materials or for use in another process as described in the instructions.