

Trade name: Wirolyt (REF 52460)

Current version : 4.0.3, issued: 29.01.2015

Replaced version: 4.0.2, issued: 16.12.2014

Region: GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name

Wirolyt (REF 52460)**1.2 Relevant identified uses of the substance or mixture and uses advised against****Relevant identified uses of the substance or mixture**

Manufacturing of dental prosthesis in a dental laboratory

1.3 Details of the supplier of the safety data sheet**Address**BEGO Bremer Goldschlägerei
Wilh. Herbst GmbH & Co. KG
Wilhelm-Herbst-Str. 1
28359 Bremen

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Information provided by / telephone

Research & Development Department - Materials, alloys and ceramics; +49/ 421/ 2028 – 130 (Chief Development Officer alloys)

Advice on Safety Data Sheet

msds@bego.com

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Eye Dam. 1; H318

Met. Corr. 1; H290

Skin Corr. 1A; H314

STOT RE 2; H373o

Classification in accordance with Directive 67/548/EEC or 1999/45/EC

C; R35

Xn; R22

Classification information

Product is classified as "Corrosive" based on the extrem pH-value, see:

- Regulation 1272/2008 (CLP), Annex. I, number 3.2.2.2 / 3.2.3.1.2);

- Directive 1999/45 (DPD) (see remark to Annex II part B, number 4.1.).

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Hazard pictograms**

GHS05



GHS08

Signal word

Danger

Hazardous component(s) to be indicated on label:

ethanediol

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Hazard statements

H290 May be corrosive to metals.
 H314 Causes severe skin burns and eye damage.
 H373o May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements

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.

2.3 Other hazards

PBT assessment
 No data available.
 vPvB assessment
 No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures

Hazardous ingredients

No	Substance name	Classification	Classification (EC)	Additional information	
	CAS / EC / Index / REACH no	67/548/EEC	1272/2008 (CLP)	Concentration	%
1	ethanediol				
	107-21-1 203-473-3 603-027-00-1 01-2119456816-28	Xn; R22	Acute Tox. 4; H302 STOT RE 2; H373o	> 90.00	%-b.w.
2	sulphuric acid				
	7664-93-9 231-639-5 016-020-00-8 -	C; R35	Skin Corr. 1A; H314 Met. Corr. 1; H290	> 5.00 - < 15.00	%-b.w.

Full Text for all R-phrases , H-phrases and EUH-phrases: pls. see section 16

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
2	B	Skin Irrit. 2; H315: C >= 5% Eye Irrit. 2; H319: C >= 5% Skin Corr. 1A; H314: C >= 15%	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

No	Route, target organ, concrete effect
1	H373 oral; kidney; -

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

After inhalation

Ensure supply of fresh air. Remove affected person from the immediate area.

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After skin contact

When in contact with the skin, clean with soap and water. Seek medical attention.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

After ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Let plenty of water be drunk in small gulps. Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide; Extinguishing powder; Water spray jet; Foam

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Sulphur oxides; Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Adapt extinguisher and fire-fighting measures to fire in the environment. Use self-contained breathing apparatus. Wear protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid contact with skin, eyes and clothing. Refer to protective measures listed in sections 7 and 8.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Pick up with absorbent material (e.g., sand, kieselguhr, acid binder, universal binder, sawdust). When picked up, treat material as prescribed under heading "Disposal considerations".

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Product inherent handling risks must be minimised taking the appropriate measures for protection and preventive actions. The working process should be designed to rule out the release of hazardous substances or skin contact as far as possible by the state of the art.

General protective and hygiene measures

Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Avoid contact with eyes and skin. Remove soiled or soaked clothing immediately. Do not inhale gases/vapours/aerosols. Have emergency shower available. Provide eye wash fountain in work area.

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Advice on protection against fire and explosion

No special measures necessary.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels

Keep only in the original container. Containers which are opened must be carefully closed and kept upright to prevent leakage.

Advice on storage assembly

Do not store together with: explosive substances; Peroxides; Oxidizing agents

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
	2000/39/EWG		
	Ethylene glycol		
	STEL	104	mg/m ³ 40 ml/m ³
	TWA	52	mg/m ³ 20 ml/m ³
	Skin resorption / sensibilisation	Skin	
	List of approved workplace exposure limits (WELs) / EH40		
	Ethane 1,2-diol		
	particulate		
	TWA	10	mg/m ³
	Skin resorption / sensibilisation	Sk	
	List of approved workplace exposure limits (WELs) / EH40		
	Ethane 1,2-diol		
	vapour		
	STEL	104	mg/m ³
	TWA	52	mg/m ³
	Skin resorption / sensibilisation	Sk	
2	sulphuric acid	7664-93-9	231-639-5
	List of approved workplace exposure limits (WELs) / EH40		
	Sulphuric acid		
	mist		
	TWA	0.05	mg/m ³

DNEL and PNEC values

DNEL values (worker)

No	Substance name	Route of exposure	Exposure time	Effect	CAS / EC no	Value
1	ethanediol				107-21-1 203-473-3	
	dermal	Long term (chronic)		systemic	106	mg/kg/day
	inhalative	Long term (chronic)		local	35	mg/m ³

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DNEL value (consumer)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	ethanediol			107-21-1 203-473-3	
	dermal	Long term (chronic)	systemic	53	mg/kg/day
	inhalative	Long term (chronic)	local	7	mg/m ³

PNEC values

No	Substance name		CAS / EC no	
	ecological compartment	Type	Value	
1	ethanediol		107-21-1 203-473-3	
	water	fresh water	10	mg/l
	water	marine water	1	mg/l
	water	Aqua intermittent	10	mg/l
	water	fresh water sediment	37	mg/kg dry weight
	water	marine water sediment	3.7	mg/kg dry weight
	soil	-	1.53	mg/kg
	sewage treatment plant	-	199.5	mg/l

8.2 Exposure controls**Appropriate engineering controls**

No data available.

Personal protective equipment**Respiratory protection**

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection

Safety glasses with side protection shield (EN 166)

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Check in any case suitability of protective glove for the specific workplace conditions (e.g. mechanical resistance, product compatibility, antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Replace immediately protective gloves if worn or damaged. Make sure that operations are designed so that it is not necessary to wear continuously protective gloves.

Other

Normal chemical work clothing.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Form/Colour
liquid
colourless
Odour
slightly sweetish

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Odour threshold	
No data available	
pH value	
Value	< 1
Reference temperature	20 °C
Concentration	100 %
Boiling point / boiling range	
No data available	
Melting point / melting range	
No data available	
Decomposition point / decomposition range	
No data available	
Flash point	
Value	101 °C
Auto-ignition temperature	
No data available	
Oxidising properties	
No data available	
Explosive properties	
No data available	
Flammability (solid, gas)	
No data available	
Lower flammability or explosive limits	
No data available	
Upper flammability or explosive limits	
No data available	
Vapour pressure	
No data available	
Vapour density	
No data available	
Evaporation rate	
No data available	
Relative density	
No data available	
Density	
Value	1.175 g/cm ³
Solubility in water	
Reference temperature	20 °C
Remarks	Completely miscible
Solubility(ies)	
No data available	
Partition coefficient: n-octanol/water	
No data available	
Viscosity	
Value	19.035 mPa*s
Type	dynamic
Value	16.2 mm ² /s
Reference temperature	20 °C
Type	kinematic

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9.2 Other information

Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

None, if handled according to order.

10.4 Conditions to avoid

In case of addition of water warming up. If diluting put acid in water, not reverse. If diluting or dissolving in water always appears strong heating up. Reactions with alkalies and metals.

10.5 Incompatible materials

Metals; Water

10.6 Hazardous decomposition products

In case of fire the following can be released: Sulphurous oxides (SO_x)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
	LD50	> 5000	mg/kg bodyweight
	Species	rat	
	Source	ECHA	
	Evaluation/classification	Based on available data, the classification criteria are met.	
2	sulphuric acid	7664-93-9	231-639-5
	LD50	2140	mg/kg bodyweight
	Species	rat	
	Source	ECHA	

Acute dermal toxicity

No data available

Acute inhalational toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/irritation

No data available

Respiratory or skin sensitisation

No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
	Route of exposure	Skin	
	Species	Human	
	Source	ECHA	
	Evaluation	non-sensitizing	

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Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Type of examination		Bacterial Reverse Mutation Test	
Species		Salmonella typhimurium	
Method		OECD 471	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

Reproduction toxicity	
No data available	

Carcinogenicity	
No data available	

STOT-single exposure	
No data available	

STOT-repeated exposure			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Route of exposure		oral	
NOAEL		150	mg/kg bw/d
Duration of exposure		12	months
Species		rat	
Target organ		kidney	
Method		OECD 452	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are met.	

Aspiration hazard	
No data available	

Delayed and immediate effects as well as chronic effects from short and long-term exposure	
Corrosive effect of product in contact with skin, eyes and mucous membranes. Harmful if swallowed.	

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
LC50		>	50000 mg/l
Duration of exposure		96	h
Species		Pimephales promelas	
Source		ECHA	
2	sulphuric acid	7664-93-9	231-639-5
LC50		42	mg/l
Duration of exposure		96	h
Species		Gambusia affinis	

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Toxicity to fish (chronic)	
No data available	

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
EC50	>	100	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		
2	sulphuric acid	7664-93-9	231-639-5
EC50		29	mg/l
Duration of exposure		24	h
Species	Daphnia magna		

Toxicity to Daphnia (chronic)	
No data available	

Toxicity to algae (acute)	
No data available	

Toxicity to algae (chronic)	
No data available	

Bacteria toxicity			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
EC50		58	mg/l
Duration of exposure		120	h
Species	activated sludge		

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	ethanediol	107-21-1	203-473-3
Type	DOC decrease		
Value	90	- 100	%
Duration		10	day(s)
Method	OECD 301 A		
Source	ECHA		
Evaluation	readily degradable		

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	No data available.
vPvB assessment	No data available.

12.6 Other adverse effects

No data available.

12.7 Other information

Other information	
Do not discharge product unmonitored into the environment.	

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SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information**14.1 Transport ADR/RID/ADN**

Class	8
Classification code	C1
Packing group	II
Hazard identification no.	80
UN number	UN2796
Technical name	SULPHURIC ACID
Tunnel restriction code	E
Label	8

14.2 Transport IMDG

Class	8
Packing group	II
UN number	UN2796
Proper shipping name	SULPHURIC ACID
EmS	F-A+S-B
Label	8

14.3 Transport ICAO-TI / IATA

Class	8
Packing group	II
UN number	UN2796
Proper shipping name	Sulphuric acid
Label	8

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annexe XVII.	No 3
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Restriction of occupation

Adhere to the national sanitary and occupational safety regulations when using this product.

Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Remarks Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

15.2 Chemical safety assessment

No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

EC Directive 67/548/EC resp. 1999/45/EC as amended in each case.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Full text of the R-, H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

R22	Harmful if swallowed.
R35	Causes severe burns.
H302	Harmful if swallowed.
H318	Causes serious eye damage.

Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)

B Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Department issuing safety data sheet

UMCO Umwelt Consult GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 183, Tel.: +49(40)79 02 36 300, Fax: +49(40)79 02 36 357, e-mail: umco@umco.de

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This information is based on our present state of knowledge and experience.
The security data sheet describes products with a view to the security requirements.
However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.