

Trade name: Wirolyt (REF 52460)

Current version : 5.0.1, issued: 05.07.2016

Replaced version: 5.0.0, issued: 20.01.2016

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

Uses advised against

No data available.

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

Telephone no. +49/ 421/ 2028 – 0

Fax no. +49/ 421/ 2028 – 115

e-mail msds@bego.com

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)**

Acute Tox. 4; H302

Eye Dam. 1; H318

Met. Corr. 1; H290

Skin Corr. 1A; H314

STOT RE 2; H373o

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)

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

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

GHS05



GHS07



GHS08

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Signal word

Danger

Hazardous component(s) to be indicated on label:

ethanediol

Hazard statements

H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H373o May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection.
 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.
 P501 Dispose of contents/container to a facility in accordance with local and national regulations.

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	Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration %
1	ethanediol		
	107-21-1 203-473-3 603-027-00-1 01-2119456816-28	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 -	Skin Corr. 1A; H314 Met. Corr. 1; H290	> 5.00 - < 10.00 %-b.w.

Full Text for all 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; kidneys; -

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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.

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

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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.

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
	2000/39/EWG		
	sulphuric acid (mist)		
	Mist		
	TWA	0.05	mg/m ³

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DNEL and PNEC values**DNEL values (worker)**

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	106 mg/kg/day
	inhalative	Long term (chronic)	local	35 mg/m ³

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.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Colour			
liquid			
colourless			
Odour			
slightly sweetish			
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		

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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		

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 (result of the ATE calculation for the mixture)	
No	Product Name
1	Wirolyt (REF 52460)
ATE (Mixture)	554.94
Method	Calculation method according Regulation (EC) No 1272/2008, (CLP), annex I, part 3, section 3.1.3.6.

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	sulphuric acid	7664-93-9	231-639-5
LD50		2140	mg/kg bodyweight
Species	rat		
Source	ECHA		

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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	

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		kidneys	
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.

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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		

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		

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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.

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

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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 and the IBC Code

Not relevant

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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Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is not subject to Part 1 or 2 of Annex I.

Other regulations

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

15.2 Chemical safety assessment

No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

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 H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

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.

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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

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

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