

Trade name: Wiolyt**Product no.:** 52460, 52462**Current version :** 3.1.0, issued: 22.11.2012**Replaced version:** 3.0.0, issued: 30.05.2012**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****Wiolyt****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

Telephone no. +49/ 421/ 2028 – 0

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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/ 551/ 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****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 Directive 1999/45/EC****Hazard symbols**

Corrosive

Hazardous component(s) to be indicated on label, contains:

ethane-1,2-diol

R phrases

22

Harmful if swallowed.

35

Causes severe burns.

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S phrases

7/9	Keep container tightly closed and in a well-ventilated place.
26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
46	If swallowed, seek medical advice immediately and show this container or label.
28.2	After contact with skin, wash immediately with plenty of water and soap.

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**Chemical characterization**

Mixture (preparation)

Hazardous ingredients

No	Substance name		Additional information	
	CAS / EC / Index / REACH no	Classification 67/548/EEC	Concentration	%-b.w.
1	ethane-1,2-diol			
	107-21-1 203-473-3 603-027-00-1 -	Xn; R22	> 90.00	%-b.w.
2	sulphuric acid			
	7664-93-9 231-639-5 016-020-00-8 -	C; R35	< 10.00	%-b.w.

Full Text for all R-phrases: pls. see section 16

No	Note	Specific concentration limits
2	B	R36/38: C >= 5% R35: 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)".

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.

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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. Summon 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

Full 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.

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.

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Requirements for storage rooms and vessels

Keep only in the original container. Containers which are opened must be carefully resealed 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	ethane-1,2-diol	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

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). The glove manufacturer's instructions and information regarding storage, care and replacement; 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

No data available.

10.2 Chemical stability

No data available.

10.3 Possibility of hazardous reactions

No data available.

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			
LD50		2140	mg/kg
Species	rat		
Reference substance	sulphuric acid (25%)		
LDLo		135	mg/kg
Species	Human		
Reference substance	sulphuric acid		
LD50		4700	mg/kg
Species	rat		
Reference substance	Ethane-1,2-diol		
LDLo		786	mg/kg
Species	Human		
Reference substance	Ethane-1,2-diol		
LD50		5500	mg/kg
Species	mouse		
Reference substance	Ethane-1,2-diol		

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Acute dermal toxicity	
No data available	

Acute inhalational toxicity	
LC50	510 mg/m ³
Duration of exposure	2 h
Species	rat
Reference substance	sulphuric acid
LC50	320 mg/m ³
Duration of exposure	2 h
Species	mouse
Reference substance	sulphuric acid

Skin corrosion/irritation	
Species	rabbit
Reference substance	sulphuric acid
Evaluation	irritant
Species	rabbit
Reference substance	Ethane-1,2-diol
Evaluation	irritant

Serious eye damage/irritation	
Duration of exposure	30 s
Species	rabbit
Reference substance	sulphuric acid
Evaluation	corrosive

Respiratory or skin sensitisation	
No data available	

Germ cell mutagenicity	
No data available	

Reproduction toxicity	
No data available	

Carcinogenicity	
No data available	

STOT-single exposure	
No data available	

STOT-repeated exposure	
No data available	

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

Fish toxicity	
LC50	> 10000 mg/l
Duration of exposure	48 h
Species	Leuciscus idus
Reference substance	Ethane-1,2-diol
LC50	> 18500 mg/l
Duration of exposure	96 h
Species	Oncorhynchus mykiss
Reference substance	Ethane-1,2-diol

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Daphnia toxicity	
EC50	29 mg/l
Duration of exposure	24 h
Species	Daphnia magna
Reference substance	sulphuric acid
EC50	74000 mg/l
Duration of exposure	24 h
Species	Daphnia magna
Reference substance	Ethane-1,2-diol

Algae toxicity	
IC50	> 10000 mg/l
Duration of exposure	7 d
Species	Scenedesmus quadricauda
Reference substance	Ethane-1,2-diol

Bacteria toxicity	
Duration of exposure	> 10000 mg/l 16 h
Species	Pseudomonas putida
Reference substance	Ethane-1,2-diol

12.2 Persistence and degradability

Biodegradability	
Reference substance	Ethane-1,2-diol
Evaluation	readily biodegradable
Reference substance	sulphuric acid
Remarks	The methods for the assessment of the biodegradability cannot be applied for inorganic substances.

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.

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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, pls. 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

SECTION 15: Regulatory information

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

EU regulations

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/EC

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.

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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

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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.