

### EC Safety Data Sheet

in accordance with Regulation (EC) No. 1907/2006

#### 1. Identification of the substance/preparation and of the company/undertaking

*Identification of the preparation*

Trade name: **Wiolyt**

*Use of the substance/preparation*

Fabrication of dental restorations in a dental laboratory.

*Identification of the company*

Manufacturer/supplier: BEGO Bremer Goldschlägerei Wilhelm Herbst GmbH & Co.  
 Street address: Wilhelm-Herbst-Strasse 1  
 Country code/Postcode/Town or city: 28359 Bremen, Germany  
 Telephone: +49 (0)421 20280  
 Fax: +49 (0)421 2028 100  
 E-mail: info@bego.com  
 Internet: http://www.bego.com

*Emergency phone number* +49 (0)421 20280 (only during office hours)

#### 2. Hazards identification

*Hazards identification*

Hazards identification: Xn Harmful to health  
 Xi Irritating

*Information concerning particular hazards to man and the environment*

Harmful if swallowed. Irritates the eyes and skin.

*Specific hazards*

Possible harmful effects on man and possible symptoms:

Processing vapours can irritate the respiratory passages, skin and eyes. Skin contact and inhalation of aerosols/vapours from the preparation should be avoided. In the event of skin contact, there is a danger that the skin damaged by the sulphuric acid could absorb the harmful ethylene glycol. Wear suitable protective clothing, gloves and eye/face protection.

#### 3. Composition/Information on ingredients

*Composition (type of hazardous ingredients and their respective concentrations)*

*Description:* Ethylene glycol with diluted sulphuric acid  
*Hazardous ingredient* *Synonyms*  
 Ethylene glycol 1,2-dihydroxyethane, 1,2-ethanediol, ethane-1,2-diol, ethylene alcohol, ethylene dihydrate, glycol alcohol, monoethylene glycol, MEG  
 Sulphuric acid Dihydrogen sulphate, monothionic acid, oil of vitriol, vitriolic acid, dilute acid, battery acid

Ingredient	CAS no.	EC no.	EC index no.	Amount
Ethylene glycol	107-21-1	203-473-3	603-027-00-1	> 25%
Sulphuric acid	7664-93-9	231-639-5	016-020-00-8	5-10%

Ingredient	Hazard symbols	R phrases	S phrases
Ethylene glycol	Xn	R 22	S (2)
Sulphuric acid	C	R 35	S (1/2)-26-30-45

## 4. First-aid measures

### *General information*

Take the person affected out of the danger area and lay them down, making sure not to put your own safety at risk. Immediately remove any items of clothing that are contaminated, soaked or soiled by the product. Ensure that the person is in a comfortable position and keep them warm. In the event of eye contact, thoroughly rinse the eyes with water immediately and consult a doctor. In case of accident or if the person feels unwell, seek medical advice immediately (show the label and state what measures have been taken, where possible). Medical examination is necessary at the slightest suspicion of poisoning. Symptoms of poisoning may only appear after a period of hours. Monitoring by a medical professional is thus necessary for at least 48 hours.

### *If inhaled*

In the event of inhalation, take the person affected out of the danger area and into the fresh air, making sure not to put your own safety at risk. If vapours are inhaled, symptoms of poisoning may only appear after a period of hours. It is therefore essential to seek medical advice. In the event of breathing difficulties or shortness of breath, oxygen may have to be administered. If there is a danger of the person affected losing consciousness, position and transport them in a stable side position. If the person affected is unconscious but still breathing, keep them in a stable side position. If breathing stops: put the person on their back, tilt their head back and give mouth-to-nose resuscitation or artificial respiration. Do not give mouth-to-mouth resuscitation. Keep the respiratory passages free. In the event of a cardiac arrest (no heartbeat or pulse), immediately perform cardiopulmonary resuscitation. If consciousness is maintained: if possible, the person affected should deeply inhale dexamethasone-21-isonicotinate (e.g. auxilosone aerosol dosing spray): 4 puffs at the beginning, then two more puffs every five minutes until the first package is empty. Afterwards, one puff per hour.

### *Skin contact*

Remove soiled or contaminated clothing, making sure not to put your own safety at risk. In the event of skin contact, immediately wash the affected areas with plenty of water and soap, then rinse well under running water (for at least 10 minutes). If available, apply polyethylene glycol (e.g. Lutrol, PEG 400), leave for several minutes and then rinse off with water. Never use alcohol, white spirits or other solvents. Consult a doctor in the event of contamination that covers a large area or is prolonged.

### *Eye contact*

In the event of eye contact, rinse with running water for at least 15 minutes with eyelids open. Rinse from the inner to the outer corner of the eye. Apply a loose bandage. Immediately consult an eye specialist.

### *Ingestion*

Do not induce vomiting. If consciousness is maintained, immediately give the person plenty of water (at least 0.5 l) in small sips (dilution effect). Rinse out mouth thoroughly with water and spit out. Ingestion followed by vomiting can lead to aspiration (inhalation) into the lungs, which can cause chemical pneumonia or asphyxia. In the event of spontaneous vomiting, hold the person's head down to keep the respiratory passages free. Under no circumstances administer cooking oil, castor oil, milk or alcohol. Consult a doctor.

### *Information for the doctor*

#### *Symptoms of acute poisoning:*

There is generally only a danger of life-threatening poisoning from ingestion or massive inhalation of aerosols. Symptoms of acute poisoning: Eyes: pain, blepharospasm; a high concentration will lead to serious irritation when in direct contact with the liquid or concentrated vapours/aerosols (hyperemia, oedema formation, nystagmus, changes to vision); corneal damage from aerosols is also possible; Skin: irritant effect, irritation, no burning expected with acid concentrations of < 10%; no absorption effects expected after brief contact; Inhalation: burning in the nose and throat, sneezing, tightness in the chest, retrosternal pain, coughing (blood), dyspnoea, risk of laryngospasm, glottic oedema, lung function impairment/damage, irritation of the mucosa; toxic pulmonary oedema cannot be ruled out, though only in extreme cases; systemic effects (CNS) can then also be expected; Ingestion/Absorption: gastro-intestinal effects (irritation, nausea, emesis) and central nervous poisoning symptoms (vertigo, hyporeflexia, epileptiform fits, convulsions, coma, respiratory paralysis, collapse) within 30 mins - 12 hours; cardiopulmonary manifestation (tachycardia, tachypnoea, hypertension, pulmonary oedema, congestive heart failure) within 12-24 hours due to

metabolic acidosis; renal insufficiency (oliguria, anuria) within 24-72 hours; CNS degeneration (facial diplegia, elevated CSF protein level, anisocoria, impaired vision, hyperreflexia, ataxia, dysphagia, brain oedema); weakened local effect due to diluted acid; systemically poss. acidosis, lactic acidosis, renal function impairment, poss. liver damage; late sequelae poss. even weeks later (particularly strictures and stenoses in the alimentary canal). Further symptoms: liver damage, hypodensity in various parts of the brain, erythrocyturia. Biochemical changes: hypokalaemia, hypocalcaemia, metabolic acidosis with anion gap and poss. osmotic gap, CSF xanthochromia, poss. oxalate crystals in the urine.

*Information for first medical attention:*

After first-aid has been administered for eye contact, possible pain relief measures, rinsing with physiological saline solution, further treatment by an eye specialist as quickly as possible. Continuously rinse contaminated skin with water, if necessary subsequently clean with water and soap. Do not apply locally anaesthetising dermatological products over large areas. In the event of mucosal irritation and inhalation of acid mist, apply glucocorticoids inhalationally and intravenously, administer oxygen and carry out all other prophylactic measures to prevent pulmonary oedemas and pneumonia. In the event of bronchospasm, apply bronchodilators. Intubation, artificial respiration and early tracheotomy may be necessary in the event of respiratory insufficiency/glottic oedema (stridor!). If necessary, administer ethanol. Once poisoning has been confirmed by the detection of EG/glycolate in the blood, the ethanol level should be kept between 0.05-0.1% by infusion. Sodium hydrogen carbonate infusion and a calcium injection may also be required. Lidocaine for cardiac arrhythmias; diazepam for convulsions.

## 5. Fire-fighting measures

*Suitable extinguishing media*

CO<sub>2</sub>, extinguishing powder, extinguishing foam or water spray. Tailor fire-fighting measures to the surroundings. Suppress vapours with spray. Fight large fires with water spray or alcohol-resistant foam.

*Unsuitable extinguishing media for safety reasons*

A water jet.

*Special exposure hazards arising from the substance or product itself, its combustion products or resulting gases; further information*

The product is hardly flammable. Vapours are heavier than air. Surrounding fire may generate hazardous combustion gases or vapours. Immediately cool surrounding canisters and containers. Sulphuric acid vapours, sulphur dioxide and sulphur trioxide may be released in the event of fire. Contact with light metals may lead to the formation of hydrogen gas (danger of explosion!).

*Special protective equipment for fire fighting*

Use a suitable respiratory protective device (self-contained breathing apparatus) that is independent of the ambient air. Wear protective clothing for fire fighting to avoid skin and eye contact. A suitable, airtight full protection suit must be worn when entering the hazard area.

*Other information*

Containers at risk must be kept cool using a water spray. Suppress vapours using a water spray. Prevent extinguishing water from entering surface bodies of water or ground water.

## 6. Accidental release measures

*Personal precautions*

Clear the area at risk. Alert neighbouring areas. To eliminate the danger, the area at risk may only be entered if the appropriate protection measures are applied (respiratory protective device, safety glasses, safety boots, protective gloves). Keep unprotected persons away. Particular danger of slipping in the event of product leakage/spillage. Ensure sufficient fresh air. The formation of explosive mixtures with air is possible. Remove ignition sources. Avoid contact with the substance. Do not pick up with bare hands. Avoid contact with skin and eyes. Do not inhale vapours/aerosols. Wear protective equipment as specified in Section 8 of this Safety Data Sheet.

*Environmental precautions*

Do not allow to enter the ground. Do not allow to enter the sewerage system/surface water/ground water. Drinking water hazard only possible if large quantities penetrate into the ground or water bodies. Contact the relevant authorities if there is a possibility of contamination of water bodies (sewerage system, surface water, ground).

*Clean-up method*

Wear rubber gloves. Neutralise with a diluted sodium hydroxide solution or by throwing on lime, lime sand or sodium carbonate. Clean up with liquid-binding material (e.g. sand, clay mineral, diatomite (kieselguhr), vermiculite, universal binder). Transfer the contents of leaking containers, any residues and contaminated material into a labelled and lockable receptacle. Dilute and wash away small quantities with plenty of water. Immediately clean the affected surfaces using plenty of water. If necessary, re-clean and ventilate thoroughly. Dispose of as normal waste as specified in Section 13 of this Safety Data Sheet.

## 7. Handling and storage

*Handling**Information on safe handling:*

Keep containers closed tight. Only use in well ventilated areas. Avoid contact with eyes and skin. Do not inhale gas/smoke/vapour/aerosol. Wear suitable protective clothing, gloves and eye/face protection.

*Information on fire and explosion protection:*

The product is not flammable and scarcely combustible. Keep away from ignition sources. Do not smoke.

*Storage**Requirements to be met by storerooms and containers*

Do not use food containers – risk of confusion! Containers must be clearly and permanently labelled. Keep in original container whenever possible. Keep locked away. Keep container closed tight and store in a cool, dry, well ventilated place. Suitable container material for the ready-to-use solution: glass, plastic, solvent-resistant material. Do not smoke in the storage area. The floor must be leakproof, jointless and non-absorbent.

*Mixed storage information*

If possible, only substances belonging to the same storage class should be stored together. Do not store together with any of the following substances: medicines, food and animal feed, including supplements, infectious, radioactive and explosive substances; highly toxic, toxic, oxidizing and self-igniting substances; highly flammable solids. Do not store together with substances with which dangerous chemical reactions are possible.

*Further information on storage conditions*

Protect against heat and direct sunlight. Remove heat and ignition sources.

*Storage class*

VCI (Chemical Industry Association) storage class: LGK 10 – Combustible liquids (not storage class LGK 3A or LGK 3B).

Combustible liquid products which have a vapour pressure of not more than 3 bar at 50 °C, provided that they are water-miscible and have a flash point > 55 °C or are not water-miscible and have a flash point > 100 °C.

*Specific use(s)*

Observe instructions for use.

## 8. Exposure controls and personal protection

### *Exposure limit values*

<i>Designation</i>	<i>CAS no.</i>	<i>Workplace limit value (8 h)</i>	<i>Short-term value (15 mins)</i>	<i>Source<sup>1</sup></i>
Ethylene glycol	107-21-1	10 ml/m <sup>3</sup> , 26 mg/m <sup>3</sup>	20 ml/m <sup>3</sup> , 52 mg/m <sup>3</sup>	AGS
Ethylene glycol	107-21-1	20 ml/m <sup>3</sup> , 52 mg/m <sup>3</sup>	40 ml/m <sup>3</sup> , 104 mg/m <sup>3</sup>	EU
Sulphuric acid	7664-93-9	0.1 mg/m <sup>3</sup> respirable aerosols		DFG

### *Exposure limitation and monitoring*

See Section 7. No further-reaching measures necessary.

### *Workplace exposure limitation and monitoring*

### *General protective and hygiene measures*

Avoid contact with eyes, skin and clothing. With ethylene glycol, there is a danger of skin absorption. Do not inhale gases/vapours/aerosols. Take off contaminated or soaked clothing immediately. Keep away from foodstuffs. Do not eat, drink, smoke or blow your nose while working. Wash hands before breaks and at the end of work. Use hand protection cream as a preventive measure. Other suitable skincare measures according to BGI 540 "Hand and skin protection" (A 023). Observe minimum standards for protective measures when handling work materials in accordance with TRGS 500.

### *Personal protection equipment*

#### *Respiratory protection*

Not necessary under conditions of normal use. Ventilate the working area well. Respiratory protection is required if there is an occurrence of vapours/aerosols, and high concentration in the air. Observe time limits for wearing equipment. Observe rules for the use of respiratory protective devices (BGR 190).

Mask type: Full mask (DIN EN 136) or half mask (DIN EN 140).

Respiratory filter: Filter class E2 (acidic gases) or A2 (organic gases).

Respirator: Self-contained closed-circuit breathing apparatus (for concentrations above the limit for the use of filter devices, for oxygen levels below 17% by volume or in uncertain conditions)

#### *Hand protection*

Use solvent-resistant gloves made of nitrile rubber/nitrile latex (NBR, 0.35 mm), butyl rubber (butyl, 0.5 mm) or fluorinated rubber (FKM, 0.4 mm) with a gauntlet of at least 10 cm in length. Check gloves are impervious before use. Clean gloves before taking them off, then keep them in a well ventilated place. Do not wear gloves made of polychloroprene (CR, 0.5 mm) for longer than 2 hours in direct contact with the product. Glove material made of natural rubber/natural latex (NR) or polyvinyl chloride (PVC) is not suitable. Gloves made of fabric or leather are completely unsuitable. Use skin care product. Use unpowdered and allergen-free products.

#### *Eye protection*

Tightly fitting safety eyeshield with lenses made of safety glass. Sealed safety glasses are required if there is a possibility of the eyes coming into contact with liquids. If harmful vapours or aerosols may occur, the eyes can best be protected by using a full mask.

#### *Body protection*

Wear acid-resistant protective clothing. Personal protection equipment must be selected according to the concentration and quantity of hazardous substance in the particular workplace. Check the chemical resistance of the protective equipment (supplier).

### *Limitation and monitoring of environmental exposure*

Not necessary.

<sup>1</sup> the German Committee on Hazardous Substances (AGS), the European Union, the German Research Foundation (DFG)

## 9. Physical and chemical properties

### General information

#### Appearance

State of matter: Liquid  
 Colour: Colourless

Odour: Odourless

### Important health, safety and environmental information

#### Information on the product

pH: 1 (100% aqueous solution)  
 Flash point: Not applicable.  
 Explosive properties: Formation of explosive vapour/air mixtures possible  
 Vapour pressure: 0.13 g/m<sup>3</sup> (at 20 °C)  
 Density: 1.2 g/ml (20 °C)  
 Solubility in water: fully miscible (20 °C)

#### Individual substances:

	<i>Ethylene glycol</i>	<i>Sulphuric acid</i>
pH:	No information.	No information.
Change of state:		
Boiling point:	197.6 °C (101.3 kPa)	Approx. 310 °C
Melting temperature:	-13 °C	Approx. -15 °C
Flash point:	111 °C	Not applicable.
Decomposition temperature:	> 200-250 °C	Approx. 338 °C
Flammability:	No information.	Not applicable.
Explosive properties:	Formation of explosive vapour/air mixtures possible	
Lower explosion limit (LEL)	1.8% by vol.	Not applicable.
Upper explosion limit (UEL)	12.8% by vol.	Not applicable.
Ignition temperature:	410 °C	Not applicable.
Oxidizing properties:	Not applicable.	Not applicable.
Vapour pressure:	5.3 Pa (20 °C)	Approx. 0.01 Pa (20 °C)
Relative density:	1.11 g/cm <sup>3</sup> (20 °C)	1.84 g/cm <sup>3</sup> (20 °C)
Bulk density:	Not applicable.	Not applicable.
Solubility:		
Water solubility:	1 g/ml miscible (20 °C)	Soluble (20 °C)
Liposolubility:	Partially soluble.	Insoluble.
Solubility in organic solvents:		
– Ethanol	Readily soluble	Soluble
– Ether	Sparingly soluble	
Dynamic viscosity:	21 mPa·s (20 °C)	26.9 mPa·s (20 °C)
Relative vapour density:	2.14	Approx. 3.4
Vapour saturation:	No information.	No information.
Evaporation rate:	No information.	No information.
Solvent separation test:	Not applicable.	Not applicable.

#### Other information

Not applicable.

## 10. Stability and reactivity

### Conditions to avoid

No hazardous reactions under conditions of normal use and when stored and handled correctly. Product is stable. Do not heat. Protect from moisture. No further data available.

### Substances to avoid

acetylides; aldehydes; alkali hydroxides, alkali metals and compounds; aluminium; ammoniac; aniline; combustible substances; carbides; chromyl chloride; alkaline earth metals and compounds; halogen and halogen oxygen compounds; hydrides; base liquors; lithium silicide; nitrates; nitrides; nitriles; organic solvents; organic nitro compounds; perchloric acid; permanganates; peroxides; phosphor; phosphorus oxides; picrates; acids; strong oxidizing agents; water; inappropriate contact with metals and metal alloys - on contact with metals and light metals (e.g. iron, zinc, aluminium): formation of hydrogen (danger of explosion!).

### Hazardous decomposition products:

No decomposition under conditions of normal use. Decomposition products in the event of fire: sulphur dioxide, sulphur trioxide, carbon monoxide (see Section 5).

### Further information:

Product is non-flammable, but combustible and hygroscopic. Exothermic reaction with water. Corrosive towards metals. Not compatible with metals, various plastics, glass, animal/plant tissues. Forms an explosive mixture with air in a vapour/gaseous state.

## 11. Toxicological information

### Toxicology tests

The product is harmful to health and causes irritation. Swallowing large quantities may cause poisoning and burning in the mouth/stomach/intestine region. Harmful if swallowed. Irritates the eyes and skin. The hazardous ingredients are classified according to Annex I of EC Directive 67/548/EEC.

### Acute toxicity

<i>Individual substances:</i>	<i>Ethylene glycol</i>	<i>Sulphuric acid</i>
LD <sub>0</sub> (oral, human):	786 mg/kg	135 mg/kg
LD <sub>50</sub> (oral, rat):	4,700 mg/kg	2,140 mg/kg (25% solution)
LD <sub>50</sub> (oral, mouse):	5,500 mg/kg	
LD <sub>50</sub> (inhalational, rat):		510 mg/m <sup>3</sup> /2h (pure substance)
LD <sub>50</sub> (inhalational, mouse):		320 mg/m <sup>3</sup> /2h

### Specific effects in animal test

No relevant, characteristic or specific effects.

### Irritation/corrosive effect (skin, eyes)

The product has an irritating effect on the mucosae of the eyes and the respiratory organs.

<i>Individual substances:</i>	<i>Ethylene glycol</i>	<i>Sulphuric acid</i>
Eye, rabbit	Slight irritation	Burning
Skin, rabbit	Slight irritation	Burning
Skin, rabbit	555 mg	0.25 mg
Eye, rabbit	100 mg/1h, 500 mg/24h	5 mg/30 s
Eye, rat, rabbit	12 mg/m <sup>3</sup> /3 d	

### Sensitising effect (skin, respiratory tract)

No sensitising effects are known.

### Effects after repeated or prolonged exposure (subacute, subchronic, chronic toxicity)

No subacute, subchronic or chronic toxic effects are known.

*Carcinogenic, mutagenic and reprotoxic effects*

No CM effects are known. Animal tests showed that prolonged exposure to ethylene glycol above the limit values can lead to reproductive disorders.

<i>Individual substances:</i>	<i>Ethylene glycol</i>	<i>Sulphuric acid</i>
Bacterial mutagenicity:	No information.	Ames test: negative
Foetal damage:	Not to be feared if workplace limit value is kept to	Negative in animal test.

*Practical experience*

<i>Affected organs</i>	Central nervous system, kidneys, liver, eyes, teeth, cardiovascular system
<i>If inhaled</i>	Causes burning to the mucosa and can be harmful to health if inhaled. Inhaling aerosols can lead to cramps, inflammation and oedema of the larynx and bronchi, chemical pneumonitis and pulmonary oedema. Harmful effect on the tissue of the mucosae and upper respiratory passages, and also on the eyes and skin.
<i>Skin contact</i>	Pronounced irritation. Can be absorbed via the skin (danger of skin absorption). Causes wounds which are difficult to heal.
<i>Eye contact</i>	Pronounced irritation. Danger of burns and damage to the cornea. Danger of blindness!
<i>Ingestion</i>	Ingestion leads to a danger of burns and is harmful to health in the mouth, throat, oesophagus and the gastrointestinal tract.
<i>Absorption</i>	Ethylene glycol is metabolised into glycoaldehyde, glycolic acid and glyoxal and these are then converted into glyoxylic acid, formic acid and oxalic acid. The metabolites show a much higher toxicity than ethylene glycol itself. The metabolite considered chiefly responsible for the toxicity is glycolic acid, which, in the event of exposure to ethylene glycol, causes acute as well as reproductive and developmental toxicity. Tissue damage, pronounced pain, agitation, sensation of heat, convulsions, shock, cardiac arrhythmias, shortness of breath (dyspnoea), respiratory arrest, loss of consciousness, coughing, headaches, nausea, vomiting, diarrhoea and CNS disorders. Danger of perforation for the oesophagus and stomach. After a latency period of several weeks, possible obstruction of the gastric outlet (pylorus stenosis). Systematic effects after latency period: fatigue, ataxia (impaired coordination), loss of consciousness, renal damage.

*Further information:*

Handle the product with the caution usually exercised with chemicals.

**12. Ecological information**

*Ecotoxicity*

Harmful effect on aquatic organisms. Toxic effect on fish and algae. Harmful effect due to pH-adjustment. Still forms caustic mixtures with water, despite dilution. Only causes minimal biological oxygen consumption. Neutralisation possible in purification plants. Drinking water hazard if large quantities penetrate into the ground and/or water bodies. Do not allow to enter water bodies, waste water or the ground!

<i>Acute toxicity for</i>	<i>Ethylene glycol</i>	<i>Sulphuric acid</i>
<i>Fish (LC<sub>50</sub>):</i>		
Onchorhynchus mykiss	> 18,500 mg/l/96 h	
Leuciscus idus	> 10,000 mg/l/48 h	

*Daphnia (EC<sub>50</sub>):*

Daphnia magna	74,000 mg/l/24 h	29 mg/l/24 h (Pure substance)
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*Algae (IC<sub>5</sub>):*

Scenedesmus quadric.	> 10,000 mg/l/7 d
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*Bacteria (EC<sub>50</sub>, EC<sub>5</sub>):*

Photobacterium phosph.	112,000 mg/l/5 mins (Microtox test)
Pseudomonas putida	> 10,000 mg/l/16 h (EC <sub>5</sub> )
Microcystis aeruginosa	2,000 mg/l/8 d (EC <sub>5</sub> )

*Protozoa (EC<sub>5</sub>):*

Entosiphon sulcatum	> 10,000 mg/l/72 h (EC <sub>5</sub> )
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*Mobility*

No information.

*Persistence and degradability*

Ethylene glycol is easily biodegradable. The methods for determining biodegradability are not applicable for inorganic substances.

<i>Oxygen consumption for</i>	Ethylene glycol
Theor. oxygen demand (ThOD)	1.26 g/g
Chem. oxygen demand (COD)	1.29 g/g
Biol. oxygen demand (BOD <sub>5</sub> )	0.81 g/g

*Bioaccumulation potential*

Accumulation in organisms is not to be expected (low bioaccumulation potential). When handled and used correctly, no ecological problems are to be feared.

*Other harmful effects*

No information.

*Further information*

No information.

### 13. Disposal considerations

In Germany, the Recycling and Waste Disposal Law (KrW-/AbfG) requires that waste is primarily recovered/recycled. Waste producers are obliged to distinguish between "recyclable waste" and "waste for disposal", and they must carry out waste categorisation according to the nature of the waste and, in particular, its origin. Furthermore, the individual federal states of Germany impose other special requirements concerning waste disposal. It is recommended to contact the responsible authorities and/or waste disposal companies to obtain further information about recycling and disposal.

*Product residues*

Products that have been used or are no longer usable must be put back into the original container. Polishing baths contain heavy metal ions. Do not dispose of as waste water. Dispose of contaminated packagings correctly together with the waste product or, alternatively, empty packaging completely and clean. Water, possibly with added detergent, is recommended for cleaning contaminated packagings. Neutralisation of washing water required.

*Waste categorisation according to the Waste List Ordinance (AVV)*

The waste code number, as specified by AVV, is dependent on the origin of the waste, and can therefore vary according to sector of industry and according to process. Waste is hazardous due to the ingredients. Obligatory verification of disposal. Proposals for waste categorisation:

Waste code	Waste designation
07 07 04	Other organic solvents, washing liquids and mother liquors
11 01 05	Acidic pickling solutions

*Packaging*

Disposal in accordance with the waste regulations. Packagings contaminated with the product are regarded as hazardous waste. Proposal for waste categorisation:

Waste code	Waste designation
15 01 10	Packagings which contain residues of, or are contaminated with, hazardous substances

Unless expressly specified otherwise, cleaned and non-contaminated packagings can be recycled without verification.

## 14. Transport information

*Information on classification*

*Transport by Road (ADR, Dir. 94/55/EC), by Rail (RID, Dir. 96/49/EC), by Inland Waterway (ADNR)*

UN number:	3264
Identification of the product:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid)
Class:	8
Classification code:	C1
Packaging group:	III
Danger label:	8
Danger number:	80

*Transport by Sea (IMDG Code)*

UN number:	3264
Proper Technical Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid)
Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid)
Class:	8
Packaging group:	III
Sea-polluting substance:	No.
Danger label:	8

*Transport by Air (ICAO-TI/IATA-DGR)*

UN/ID number:	3264
Identification of the product:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid)
Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid)
Class:	8
Packaging group:	III
Danger label:	Corrosive (RCM)

*Further information:*

Product predominantly contains inorganic ingredients. Cause of danger is sulphuric acid.

## 15. Regulatory information

The product is classified according to the specifications of EC Directive 67/548/EEC, Annex I.  
 Dangerous ingredients for the purpose of labelling: Ethylene glycol, sulphuric acid.  
 A Chemical Safety Assessment for these substances is not available.

### Labelling

Code letters for the hazard symbol, hazards identifications

Xn Harmful.  
 Xi Irritant.

Hazard information (R phrases):

R 22 Harmful if swallowed.  
 R 36/38 Irritating to eyes and skin.

Safety advice (S phrases):

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S 37 Wear suitable gloves.  
 S 45 In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible).  
 in addition (only if intended for the general public):  
 S 1/2 Keep locked up and out of the reach of children.  
 S 13 Keep away from food, beverages and animal feedingstuffs.  
 S 25 Avoid contact with eyes.  
 S 64 If swallowed, rinse mouth with water (only if the person is conscious).

Additional labelling

Not applicable.

Special labelling

of particular preparations:

Not applicable.

Notes on labelling:

Even if the package does not contain more than 125 ml, the R and S phrases must still be given in accordance with Article 10 No. 4 Directive 1999/45/EC.

### EC regulations

No information.

### National regulations

Employment restriction:

Observe §22 JArbSchG and §5 MuSchV!

ChemVerbotsV:

The product may not be supplied to the end-consumer for entertainment and decorative purposes.

12. BImSchV (StörfallV):

Product is not subject to the Ordinance on Hazardous Incidents (StörfallV.).

Clean Air Regulations (TA-Luft):

Not applicable.

Water hazard class:

WHC 1 (slightly hazardous to water)  
 Classification of components as per VwVwS, Appendix 2  
 Ethylene glycol (Code no. 105: WHC 1)  
 Sulphuric acid (Code no. 182: WHC 1)

Relevant TRGS (Technical Rules for Hazardous Substances):

TRGS 500 Protection measures: minimum standards  
 TRGS 526 Laboratories

Relevant accident prevention regulations (UVV, BGV, BGR):

BGI 536 Hazardous chemicals  
 BGI 564 Working with hazardous substances – for employees  
 BGI 660 Industrial safety measures for working with hazardous substances  
 BGI 595 Irritating substances / corrosive substances  
 BGI 621 Solvents

Other regulations, restrictions and prohibitions.

VCI (Chemical Industry Association) storage class: LGK 10 – Combustible liquids  
(not LGK 3A or LGK 3B).

*Other information*

Swiss toxic class: 4

## 16. Other information

*List of relevant R phrases*

R 22	Harmful if swallowed.
R 35	Causes severe burns.
R36/38	Irritating to eyes and skin.

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Reasons for amendment: Complete revision.  
Replaces the version of: 20.12.2002

Restrictions on use: The product is to be used exclusively for the intended purpose of electrolytic polishing of cobalt-chrome alloys in the dental laboratory in an "Eltropol" polishing unit.

The information contained in this document is based on our current knowledge. Its purpose is, in particular, to describe our product with regard to the dangers emanating from it and the safety precautions to be taken. It does not represent a warranty of product properties or qualities.