Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 26.10.2017 Version number 1801 Revision: 26.10.2017

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

· **1.1 Product identifier**

· Trade name: **Dentacid**

· Article number: 3010-0433

· **1.2 Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.

· Application of the substance / the mixture Milling additive

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

· Manufacturer/Supplier:
SIRONA Dental Systems GmbH
Fabrikstraße 31
D-64625 Bensheim
Germany
http://www.sirona.de
Tel.: +49 (0) 6251/16-1670
Fax: +49 (0) 6251/16-1818

Manufacturer: Graichen Produktions-und Vertriebs-GmbH
Darmstädterstraße 127-129
D-64625 Bensheim
Germany
Tel.: +49 6251 73103
Fax: +49 6251 77901
E-Mail: ehs@graichen-bensheim.de
www.graichen.net

· Further information obtainable from: Environment protection department

· **1.4 Emergency telephone number:** Advice centre for poisoning university Mainz phone +49(0)6131/19240 or poison information:+49(0)700/GIFTINFO

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SECTION 2: Hazards identification

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

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

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 3 H331 Toxic if inhaled.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

· **2.2 Label elements**

· Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

· Hazard pictograms

GHS05 GHS06

· Signal word Danger

· Hazard-determining components of labelling:
Ameisensäure
ethanediol

· Hazard statements
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.

· Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· Additional information: EUH071 Corrosive to the respiratory tract.

· **2.3 Other hazards**

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· Dangerous components:		
CAS: 64-18-6	Ameisensäure Flam. Liq. 3, H226; Acute Tox. 3, H331; Skin Corr. 1B, H314; Acute Tox. 4, H302	50-100%
CAS: 107-21-1 EINECS: 203-473-3	ethanediol STOT RE 2, H373; Acute Tox. 4, H302	<2.5%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· General information: Take affected persons out of danger area and lay down.
Immediately remove any clothing soiled by the product.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation: In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air or oxygen; call for doctor.
Supply fresh air; consult doctor in case of complaints.

· After skin contact: Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
Immediately wash with water and soap and rinse thoroughly.

· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing: Call for a doctor immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** Breathing difficulty
Cramp

· Hazards Danger of circulatory collapse.

· **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

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SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2 Special hazards arising from the substance or mixture** Carbon monoxide (CO)

· **5.3 Advice for firefighters**

· Protective equipment: Wear self-contained respiratory protective device.
Mouth respiratory protective device.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation

· **6.2 Environmental precautions:** Dilute with plenty of water.

· **6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

· **6.4 Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Avoid splashes or spray in enclosed areas.
When diluting always pour product into water and not vice versa.
Open and handle receptacle with care.

· Information about fire - and explosion protection: Fumes can combine with air to form an explosive mixture.
Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· Storage:

· Requirements to be met by storerooms and receptacles: Store only in the original receptacle.

· Information about storage in one common storage facility: Store away from foodstuffs.
Store away from oxidising agents.

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· Further information about storage conditions: Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.

· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.

· **8.1 Control parameters**
· Ingredients with limit values that require monitoring at the workplace: 64-18-6 Ameisensäure
MAK 9,5 mg/m³, 5 ml/m³
MAK(TRGS 900) 9,5 mg/m³, 5 ml/m³
Y; DGF, EU

107-21-1 ethanediol	
WEL	Short-term value: 104** mg/m³, 40** ppm Long-term value: 10* 52** mg/m³, 20** ppm Sk *particulate **vapour

· DNELs

107-21-1 ethanediol		
Dermal	DNEL Long-term - systemic effects	106 mg/kg bw/day (---)
Inhalative	DNEL Long-term - systemic effects	35 mg/m³ (---)
	DNEL Long-term - local effects	35 mg/m³ (---)

· PNECs

107-21-1 ethanediol	
PNEC Soil (Boden)	1.53 mg/kg (---)
PNEC Fresh water sediment (Süßwassersediment)	20.9 mg/kg (---)
PNEC freshwater (Süßwasser)	10 mg/l (---)
PNEC marine water (Meerwasser)	1 mg/l (---)

· Additional information: The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· Personal protective equipment:
· General protective and hygienic measures: Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
· Respiratory protection: Short term filter device:
· Protection of hands: Acid resistant gloves
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· Material of gloves Butyl rubber, BR
Neoprene gloves
Fluorocarbon rubber (Viton)
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· Penetration time of glove material Value for the permeation: Level ≤ 0,7 mm 480min (8h) EN374
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· Eye protection: Tightly sealed goggles
· Body protection: Protective work clothing

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· General Information
· Appearance:
Form: Fluid
Colour: Red

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· Odour:	Acrid
· Odour threshold:	Not determined.
· pH-value at 20 °C:	1,6
· Change in condition	
Melting point/freezing point:	- 25 °C
Initial boiling point and boiling range:	100 °C
· Flash point:	71 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	500 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Not determined.
· Explosion limits:	
Lower:	15,0 Vol %
Upper:	47,0 Vol %
· Vapour pressure at 20 °C:	28 hPa
· Density at 20 °C:	1,15 g/cm³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
· Solvent content:	
Organic solvents:	0,0 %
Water:	22,3 %
Solids content:	2,5 %
· **9.2 Other information**	No further relevant information available.

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SECTION 10: Stability and reactivity

· **10.1 Reactivity**	No further relevant information available.
· **10.2 Chemical stability**	
· Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions**	Violent reaction with air and oxidising agents. Forms explosive gas mixture with air. Reacts with alkali (lyes). Reacts with amines. Reacts with peroxides. Reacts with catalysts.
· **10.4 Conditions to avoid**	No further relevant information available.
· **10.5 Incompatible materials:**	No further relevant information available.
· **10.6 Hazardous decomposition products:**	Carbon monoxide and carbon dioxide

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SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· Acute toxicity: Harmful if swallowed.
Toxic if inhaled.

· LD/LC50 values relevant for classification:		
64-18-6 Ameisensäure		
Oral	LD50	1,200 mg/kg (rat)
Inhalative	LC50/4h	7.4 mg/l (rat)
107-21-1 ethanediol		
Oral	LD50	5,840 mg/kg (rat)
Dermal	LD50	9,530 mg/kg (rabbit)

· Primary irritant effect:	
· Skin corrosion/irritation	Causes severe skin burns and eye damage.
· Serious eye damage/irritation	Causes serious eye damage.
· Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
· CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)	
· Germ cell mutagenicity	Based on available data, the classification criteria are not met.
· Carcinogenicity	Based on available data, the classification criteria are not met.
· Reproductive toxicity	Based on available data, the classification criteria are not met.

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· STOT-single exposure Based on available data, the classification criteria are not met.
· STOT-repeated exposure Based on available data, the classification criteria are not met.
· Aspiration hazard Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

· **12.1 Toxicity**

107-21-1 ethanediol	
Bacteria ISO 8192	1,995 mg/l (Bacteria)

· Aquatic toxicity:

107-21-1 ethanediol	
EC50 (48h)	>100 mg/l (daphnia magnia/gr. Wasserfloh)
EC50 (96h)	6,500 mg/l (Desmodesmus subspicatus/Grünalge)
LC50 (96h)	72,860 mg/l (Fish)
NOEC	8,590 mg/l / 7d (daphnia magnia/gr. Wasserfloh)
NOEC (Fish)	15,380 mg/l / 7d (Fish)

· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· Additional ecological information:
· General notes: Must not reach sewage water or drainage ditch undiluted or unneutralised.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **12.5 Results of PBT and vPvB assessment**
· PBT: Not applicable.
· vPvB: Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· European waste catalogue	
16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 03 00	off-specification batches and unused products
16 03 05*	organic wastes containing hazardous substances

· Uncleaned packaging:
· Recommendation: Non contaminated packagings may be treated like household garbage.
· Recommended cleansing agents: Water, if necessary together with cleansing agents.

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SECTION 14: Transport information

· **14.1 UN-Number**
· ADR, IMDG, IATA UN3412
· **14.2 UN proper shipping name**
· ADR 3412 FORMIC ACID
· IMDG, IATA FORMIC ACID
· **14.3 Transport hazard class(es)**

· ADR

· Class 8 (CT1) Corrosive substances.
· Label 8

· IMDG, IATA

· Class 8 Corrosive substances.
· Label 8
· **14.4 Packing group**
· ADR, IMDG, IATA II
· **14.5 Environmental hazards:**
· Marine pollutant: No
· **14.6 Special precautions for user** Warning: Corrosive substances.

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· Danger code (Kemler):	86
· EMS Number:	F-A,S-B
· Segregation groups	Acids, acids
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

· Transport/Additional information:

· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3412 FORMIC ACID, 8, II

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SECTION 15: Regulatory information

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

· Directive 2012/18/EU	
· Named dangerous substances - ANNEX I	None of the ingredients is listed.
· Seveso category	H2 ACUTE TOXIC
· Qualifying quantity (tonnes) for the application of lower-tier requirements	50 t
· Qualifying quantity (tonnes) for the application of upper-tier requirements	200 t
· REGULATION (EC) No 1907/2006 ANNEX XVII	Conditions of restriction: 3
· **15.2 Chemical safety assessment:**	A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Environment protection department.

· Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· * Data compared to the previous version altered.