

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 27.07.2007

Revision: 27.07.2007

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1 Identification of substance

. Product details

. Trade name Dentacid

. Application of the substance / the preparation Lime dissolver

. Manufacturer/Supplier: Supplier: SIRONA Dental System GmbH
Fabrikstraße 31
D-64625 Bensheim

<http://www.sirona.de>

Telefon: +49(0)6251/16-3440

Telefax: +49(0)6251/16-2935

Manufacturer: Graichen Produktions-und Vertriebs-GmbH
Darmstädterstraße 127-129
D-64625 Bensheim

. Informing department: Environment protection department

. Emergency information: Advice centre for poisoning university Mainz phone +49(0)6131/19240
or poison information: +49(0)700/GIFTINFO

2 Hazards identification

. Hazard designation: C Corrosive

. Information pertaining to particular dangers for man and environment

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
R 34 Causes burns.

. Classification system

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

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3 Composition/information on ingredients

. Chemical characterization

. Description: formic acid solution

. Dangerous components:

CAS: 64-18-6 Formic acid C; R 35 50-100%

EINECS: 200-579-1

EINECS: 305-318-6 Natrium-N-(2-carboxyethyl)-N-(2-ethylhexyl)-β-alaninat Xi; R 36/38 2.5-10%

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4 First aid measures

. General information: Take affected persons out of danger area and instruct to lie down.

Instantly remove any clothing soiled by the product.

. After inhalation: Supply fresh air or oxygen; call for doctor.

. After skin contact: In case of unconsciousness bring patient into stable side position for transport.

Instantly wash with water and soap and rinse thoroughly.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

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

. After swallowing: Drink copious amounts of water and provide fresh air. Instantly call for doctor.

. Information for doctor

. The following symptoms may occur:

Breathing difficulty

Cramp

. Danger

Danger of system failure.

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* 5 Fire fighting measures

- . **Suitable extinguishing agents:** CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- . **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- . **Special hazards caused by the material, its products of combustion or flue gases:** Carbon monoxide (CO)
- . **Protective equipment:** Wear self-contained breathing apparatus.

* 6 Accidental release measures

- . **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- . **Measures for environmental protection:** Dilute with much water.
- . **Measures for cleaning/collecting:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

* 7 Handling and storage

- . **Handling**
- . **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.
Avoid splashes or spray in enclosed areas.
When diluting, always stir the product into standing water.
- . **Information about protection against explosions and fires:** Fumes can combine with air to form an explosive mixture.
Keep away from ignition sources - Do not smoke.
- . **Storage**
- . **Requirements to be met by storerooms and containers:** Store only in the original container.
Store in cool location.
- . **Information about storage in one single storage facility:** Store away from food.
Do not store together with alkalis (caustic solutions).
Store away from oxidizing agents.
- . **Further information about storage conditions:** Protect from heat and direct sunlight.
Store container in a well ventilated position.

* 8 Exposure controls and personal protection

- . **Additional information about design of technical systems:** No further data; see item 7.
- . **Components with critical values that require monitoring at the workplace:**
64-18-6 Formic acid
WEL Long-term value: 9.6 mg/m³, 5 ppm
- . **Additional information:** The lists that were valid during the compilation were used as basis.
- . **Personal protective equipment**
- . **General protective and hygienic measures** Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
- . **Breathing equipment:** Use breathing protection in case of insufficient ventilation.
Short term filter device:
Filter E
- . **Protection of hands:** Acid resistant gloves

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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 $\geq 0,7$ mm 480 min (8h)EN 374

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.

. Eye protection:

Tightly sealed safety glasses.

. Body protection:

Protective work clothing.

* **9 Physical and chemical properties:**

. General Information

Form: Fluid
Colour: Red
Smell: Acrid

. Change in condition

Melting point/Melting range: - 25°C
Boiling point/Boiling range: 107°C

. Flash point: 93°C

. Ignition temperature: 520°C

. Self-inflammability: Product is not selfigniting.

. Danger of explosion: Product is not explosive. However, formation of explosive air/steam mixtures is possible.

. Critical values for explosion:

Lower: 14.0 Vol %
Upper: 33.0 Vol %

. Steam pressure at 20°C: 43 hPa

. Density at 20°C 1.15 g/cm³

. Solubility in / Miscibility with Water: Fully miscible

. pH-value at 20°C: 1.6

* **10 Stability and reactivity**

. Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

. Materials to be avoided:

Lyes, metal, oxidizing agents, sulfuric acid, hydrogen peroxid, aluminium

. Dangerous reactions

Violent reaction with air and oxidizing agents

Forms explosive gas mixture with air

Reacts with alkali (lyes)

Reacts with amines

Reacts with peroxides

Reacts with catalyts

. Dangerous products of composition:

Forming hydrogen with metal possible

Carbon monoxide and carbon dioxide

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11 Toxicological information

- . **Acute toxicity:**
- . **LD/LC50 values that are relevant for classification:**
64-18-6 Formic acid
 Oral LD50 1100 mg/kg (rat)
- . **Primary irritant effect:**
- . **on the skin:** Caustic effect on skin and mucous membranes.
- . **on the eye:** Strong caustic effect.
- . **Sensitization:** No sensitizing effect known.
- . **Additional toxicological information:**
 The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
 Corrosive
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information:

- . **General notes:**
 Water hazard class 1 (Self-assessment): slightly hazardous for water.
 Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
 Must not reach sewage water or drainage ditch undiluted or unneutralized.
 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.

* 13 Disposal considerations

- . **Product:**
- . **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- . **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 dangerous substances
- . **Uncleaned packagings:**
- . **Recommendation:** Disposal must be made according to official regulations.

* 14 Transport information

- . **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**
- . **ADR/RID-GGVS/E Class:** 8 (C3) Corrosive substances.
- . **Kemler Number:** 80
- . **UN-Number:** 3412
- . **Packaging group:** II
- . **Label** 8
- . **Designation of goods:** 3412 FORMIC ACID, mixture
- . **Maritime transport IMDG/GGVSea:**
- . **IMDG/GGVSea Class:** 8
- . **UN Number:** 3412
- . **Label** 8
- . **Packaging group:** II
- . **EMS Number:** F-A,S-B
- . **Marine pollutant:** No
- . **Correct technical name:** FORMIC ACID, mixture
- . **Air transport ICAO-TI and IATA-DGR:**
- . **ICAO/IATA Class:** 8
- . **UN/ID Number:** 3412

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. **Label** 8
 . **Packaging group:** II
 . **Correct technical name:** FORMIC ACID, mixture

* 15 Regulatory information

. **Designation according to EC guidelines:** The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

. **Code letter and hazard designation of product:** C Corrosive

. **Hazard-determining components of labelling:** Formic acid

. **Risk phrases:** 34 Causes burns.

. **Safety phrases:**

1/2	Keep locked up and out of the reach of children.
20	When using do not eat or drink.
23	Do not breathe fumes.
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).
56	Dispose of this material and its container to hazardous or special waste collection point.
61	Avoid release to the environment. Refer to special instructions/safety data sheets.

. **National regulations**

W asser	Class	Share in %
NK		50-100

. **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

. **Department issuing data specification sheet:** Environment protection department.
 . **Contact:** Mr. Roland Fell
 . *** Data compared to the previous version altered.**