

Anti-Kalk

Material no.		Version	3.2 / GB
Specification	102851	Release Date	15.01.2007
VA-Nr		Print Date	08.06.2009
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name	:	Anti-Kalk
Company	:	DeguDent GmbH Postfach 1364 D-63403 Hanau
Telephone	:	+49 (0)6181/59-5767
Telefax	:	+49 (0)6181/59-5879
Emergency telephone number	:	+49 (0)180 / 23 24-555
Use of the Substance / Preparation	:	For dental use only.

2. COMPOSITION/INFORMATION ON INGREDIENTS**Information on ingredients / Hazardous components**

• formic acid		85%	
CAS-No.	64-18-6	EC-No.	200-579-1
	C; R35		

See chapter 16 for text of risk phrases

3. HAZARDS IDENTIFICATION

Causes burns.

4. FIRST AID MEASURES**General advice**

Observe self-protection
Remove contaminated or saturated clothing immediately and dispose of safely.
Move out of dangerous area.

Inhalation

Take affected persons out into the fresh air.
Obtain medical attention.

Skin contact

Wash off immediately with plenty of water.
Obtain medical attention.

Eye contact

With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes.
See an eye specialist immediately.
(Cue: caustic burn of the eyes)

Ingestion

Immediately give large quantities of water to drink.

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Do not induce vomiting.
Notify ambulance immediately (keyword: Formic acid).
Should vomiting occur, be sure to keep victim's head below hips to avoid aspiration of vomitus into the lungs.

Notes to physician

Specific therapy/antidote treatment as for acid burn.
If substance has been swallowed:
stomach pumping under gastroscopic view
Continue therapy as with formaldehyde.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

carbon dioxide (CO₂), quenching powder, foam

Provide fire extinguisher.

Extinguishing media which must not be used for safety reasons

high volume water jet

Specific hazards during fire fighting

Product is flammable.

Heavier than air vapour.

Formation of flammable or explosive vapour/air mixtures possible.

Special protective equipment for fire-fighters

Employ protective equipment commonly used in the event of fire.

In the event of fire, wear self-contained breathing apparatus.

Further information

Take precautionary measures against static discharges.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Wear personal protective equipment.

Handle in accordance with good industrial hygiene and safety practices.

Avoid coming into contact with the following substance/substance classes: Product.

Environmental precautions

Prevent penetration into soil, stretches of water and drainage systems.

Methods for cleaning up

Absorb with liquid-binding material, e. g.: diatomaceous earth, sand, universal binder

Rinse away any residue with plenty of water.

Neutralize with: sodium carbonate.

7. HANDLING AND STORAGE**Handling****Safe handling advice**

vapour may not be inhaled.

Local ventilation.

No eating, drinking, smoking, or snuffing tobacco at work.

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Handle in accordance with good industrial hygiene and safety practices.

Advice on protection against fire and explosion

Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.
Provide fire extinguisher.

Temperature class

Fire classification according to DIN 14 406 EN 2: B.

Storage**Requirements for storage areas and containers**

Keep tightly sealed in original packing.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Protect from the action of light.
Unsuitable materials zinc, iron, PVC

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**• **formic acid**

CAS-No.	64-18-6	EC-No.	200-579-1
Control parameters	5 ppm 9 mg/m ³		Time Weighted Average (TWA):(EU ELV)
Control parameters	5 ppm 9.6 mg/m ³		Time Weighted Average (TWA):(EH40 WEL)

Engineering measures

Ensure suitable suction/aeration at the work place and with operational machinery.

Personal protective equipment**Respiratory protection**

If workplace exposure limit is exceeded apply respirator with greyB-type filter.

Hand protection

acid-resistant protective gloves

Glove material Polychloroprene (PCP)
Material thickness 0.5 mm
Break through time 480 min
Method Source: GESTIS substance database (hazardous substance
information system of commercial professional associations)

Glove material butyl-rubber
Material thickness 0.5 mm
Break through time 480 min
Method Source: GESTIS substance database (hazardous substance
information system of commercial professional associations)

Glove material Fluorinated rubber (FKM)
Material thickness 0.4 mm
Break through time 480 min
Method Source: GESTIS substance database (hazardous substance
information system of commercial professional associations)

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The suitability for a specific workplace should be discussed with the producers of the protective gloves.

The exact break through time can be obtained from the protective glove producer and this has to be observed.

preventive skin protection

Use barrier cream regularly.

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear protective clothing, acid-proof.

Avoid contaminating clothes with product.

Use suitable skin protective agents before handling product. Cleanse and apply cream to skin after work. Preventive skin protection recommended.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practices.

No eating, drinking, smoking, or snuffing tobacco at work. Wash face and/or hands before break and end of work.

Protective measures

If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid
Colour	pink
Odour	stinging

Safety data

pH	ca. 2.2	(10 g/l)	(20 °C)
	Medium:	water	

Boiling point/range ca. 100 °C

Ignition temperature 520 °C

Lower explosion limit 14 %(V)

Upper explosion limit 33 %(V)

Vapour pressure 42 hPa

Density 1.2 g/cm³

Further information

Miscibility in water completely miscible

10. STABILITY AND REACTIVITY

Conditions to avoid Danger of fire when heated or brought in contact with flame.
Risk of explosion.

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Materials to avoid sulphuric acid, Avoid contact with concentrated acid, alkaline solutions or oxidizing substances.

Hazardous decomposition products Carbon monoxide, hydrogen

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50 Rat: 730 mg/kg related to substance: formic acid
Acute inhalation toxicity	LC50 Rat: 7.4 mg/l / 4 h related to substance: formic acid
Skin irritation	Rabbit Causes burns. related to substance: formic acid, pure substance
Eye irritation	Rabbit Eye damage must be expected. related to substance: formic acid
Human experience	Causes burns.

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

Biodegradability	Exposure time: 14 d Result: 98 % Readily biodegradable, according to appropriate OECD test. related to substance: formic acid
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Behaviour in environmental compartments**Ecotoxicity effects**

Toxicity to fish	LC50 Leuciscus idus melanotus: 46 - 100 mg/l / 96 h Method: literature Noxious effect due to pH shift related to substance: formic acid
Toxicity to daphnia	EC50 Daphnia magna: 34.2 mg/l / 48 h Method: literature related to substance: formic acid
Toxicity to algae	IC 50 scenedesmus subspicatus: 27 mg/l / 72 h Method: literature related to substance: formic acid
Toxicity to bacteria	EC50 Pseudomonas putida: 47 mg/l / 17 h related to substance: formic acid

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Further information on ecology

Further Information Prevent penetration into soil, stretches of water and drainage systems.

13. DISPOSAL CONSIDERATIONS**Product**

Disposal according to local authority regulations.

Uncleaned packaging

Disposal according to local authority regulations.

14. TRANSPORT INFORMATION**Land transport ADR/RID/GGVSE (Germany)**

Class	8
ADR/RID-Labels	8
UN-No	3412
Packaging group	II
orange warning plate	80 / 3412
Description of the goods (Technical name)	
FORMIC ACID	
(solution)	

Sea transport IMDG-Code/GGVSee

Class	8
UN-No	3412
Packaging group	II
EmS	F-A, S-B
Proper technical name (Proper shipping name)	
FORMIC ACID	
(solution)	

Air transport ICAO-TI/IATA-DGR

Class	8
UN-No	3412
Packaging group	II
Proper technical name (Proper shipping name)	
Formic acid	
(solution)	

Inland waterway transport ADN/ADNR/GGVBinSch (Germany)

Class	8
ADR/RID-Labels	8
UN-No / Substance number	3412
Packaging group	II
Description of the goods (Technical name)	
FORMIC ACID	
(solution)	

Loading instructions/Remarks

IATA_C	ERG-Code 8L
IATA_P	ERG-Code 8L
IMDG	Clear of living quarters.

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15. REGULATORY INFORMATION**Labelling according to EC Directives****hazard-defining component(s)**

- formic acid

Symbol(s)	C	Corrosive
R-phrase(s)	R34	Causes burns.
S-phrase(s)	S 1/2 S23 S26 S36/37/39 S45	Keep locked up and out of the reach of children. Do not breathe vapour. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National legislation

employment restriction	The employment limitations under the protection of young persons act, the laws on pregnant women and young mothers and work at home is/are to be observed.
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16. OTHER INFORMATION**Risk phrase (R phrase) texts**

- **formic acid**
R35 Causes severe burns.

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.