

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/26/2017

Reviewed on 10/26/2017

1 Identification

- **Product identifier**

- Trade name: **Dentatec**
- Article number: 5360-0421
- Application of the substance / the mixture Grinding auxiliary product

- **Details of the supplier of the safety data sheet**

- Manufacturer/Supplier: Supplier:
SIRONA Dental Systems GmbH
Fabrikstraße 31
D-64625 Bensheim
http://www.sirona.de
Telefon:+49(0)6251/16-1670
Telefax:+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

- Information department: Environment protection department
- Emergency telephone number: Advice centre for poisoning university Mainz phone +49(0)6131/19240
or poison information:+49(0)700/GIFTINFO

2 Hazard(s) identification

- **Classification of the substance or mixture**

Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic Acute 2 H401 Toxic to aquatic life.

- **Label elements**

- GHS label elements
- Hazard pictograms

The product is classified and labeled according to the Globally Harmonized System (GHS).



GHS07

Warning

- Signal word
- Hazard-determining components of labeling:
- Hazard statements
- Precautionary statements

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2-isothiazolin-3-one [EC no. 220-239-6] (3:1)

May cause an allergic skin reaction.

Toxic to aquatic life.

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves.

If on skin: Wash with plenty of water.

Specific treatment (see on this label).

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- NFPA ratings (scale 0 - 4)



Health = 0

Fire = 1

Reactivity = 0

- HMIS-ratings (scale 0 - 4)



HEALTH 0 Health = 0

FIRE 1 Fire = 1

REACTIVITY 0 Reactivity = 0

- **Other hazards**

- Results of PBT and vPvB assessment
- PBT:
- vPvB:

Not applicable.

Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures** watery solution of salts, stabilizers and preservatives

- Dangerous components:

56-81-5 glycerol

50-100%

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52-51-7	bronopol (INN) ☠ Eye Dam. 1, H318; ☠ Aquatic Acute 1, H400; ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; STOT SE 3, H335	<2.5%
55965-84-9	mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1) ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Skin Corr. 1B, H314; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☠ Skin Sens. 1, H317	<2.5%

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

4 First-aid measures

· Description of first aid measures

- General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Position and transport stably on side.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: If skin irritation continues, consult a doctor.
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: Rinse out mouth and then drink plenty of water.
Immediately call a doctor.
- Information for doctor: No further relevant information available.
- Most important symptoms and effects, both acute and delayed: No further relevant information available.
- Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

· Extinguishing media

- Suitable extinguishing agents: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- **Special hazards arising from the substance or mixture**
 - Formation of toxic gases is possible during heating or in case of fire.
 - Sulphur dioxide (SO₂)
 - Hydrogen chloride (HCl)
 - Nitrogen oxides (NO_x)
 - Carbon monoxide (CO)
- **Advice for firefighters**
- Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **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.

7 Handling and storage

- **Handling:**
- Precautions for safe handling: No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- Storage: Store only in the original receptacle.
- Requirements to be met by storerooms and receptacles: Store away from foodstuffs.
- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- Components with limit values that require monitoring at the workplace: The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

56-81-5 glycerol

PEL	Long-term value: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

- CAS No. Designation of material % Type Value Unit
 - Additional Occupational Exposure Limit Values for possible hazards during processing:
- | Country | Components | Categorie | mg/m ³ |
|---------|---------------------------------------|-----------|-------------------|
| Germany | 2-methyl-4-isothiazolin-3-on | MAK | 0,05 |
| | 5-chloro-2-methyl-4-isothiazolin-3-on | MAK | 0,05 |

- Additional information: The lists that were valid during the creation were used as basis.
- **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.
Avoid contact with the eyes and skin.
- Breathing equipment: Not required.
- Protection of hands: 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: Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.7 mm
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 $\leq 0,7$ 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.
- Not suitable are gloves made of the following materials: Natural rubber, NR
PVA gloves
- Eye protection: Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- General Information
- Appearance:
 - Form: Fluid
 - Color: Colorless
- Odor: Characteristic
- Odor threshold: Not determined.
- pH-value at 20 °C (68 °F): > 4
- Change in condition
 - Boiling point/Boiling range: 100 °C (212 °F)
- Flash point: > 100 °C (>212 °F)
- Flammability (solid, gaseous): Not applicable.
- Ignition temperature: 400 °C (752 °F)
- Decomposition temperature: Not determined.
- Auto igniting: Product is not selfigniting.

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- Danger of explosion: Not determined.
- Explosion limits:
 - Lower: 0,9 Vol %
 - Upper: Not determined.
- Vapor pressure at 20 °C (68 °F): 0,1 hPa (0.1 mm Hg)
- Density at 20 °C (68 °F): 1,2324 g/cm³ (10.2844 lbs/gal)
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
 - Dynamic: Not determined.
- **Other information**: No further relevant information available.

10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- **Possibility of hazardous reactions**:
 - Forms explosive gas mixture with air.
 - Reacts with strong oxidizing agents.
- **Conditions to avoid**: No further relevant information available.
- **Incompatible materials**: No further relevant information available.
- **Hazardous decomposition products**:
 - Hydrogen chloride (HCl)
 - Nitrogen oxides
 - Sulfur dioxide

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

56-81-5 glycerol

Oral	LD50	12,600 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rabbit)

52-51-7 bronopol (INN)

Oral	LD50	307 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4h	800 mg/l (rat)

55965-84-9 mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1)

Oral	LD50	550 mg/kg (rat)
Dermal	LD50	200-1,000 mg/kg (rat)
		660 mg/kg (rabbit)
Inhalative	LC50/4h	0.31 mg/l (rat)

· Primary irritant effect:

- on the skin: Irritant to skin and mucous membranes.
- on the eye: No irritating effect.
- Sensitization: Sensitization possible through skin contact.

· Subacute to chronic toxicity:

55965-84-9 mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1)

Oral	NOAEL (subchronisch, 90d)	<5 mg/kg (rat)
Dermal	NOAEL (subchronisch, 28d)	<3 mg/kg (rat)

- Additional toxicological information: The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

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- OSHA-Ca (Occupational Safety & Health Administration)
- None of the ingredients is listed.

12 Ecological information

· Toxicity

- Aquatic toxicity:

56-81-5 glycerol

LC50 (24h)	>5,000 mg/l (Carassius auratus)
IC50 (16h)	>10,000 mg/l (scenedesmus quadricauda)

52-51-7 bronopol (INN)

EC50 (48h)	1.4 mg/l (daphnia magna/gr. Wasserfloh)
EC50 (72h)	0.4-2.8 mg/l (Algae)
LC50 (96h)	41.2 mg/l (Oncorhynchus mykiss)

55965-84-9 mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1)

LC50 acute (96h)	0.58 mg/l (danio rerio/ Zebrafisch)
EC50 (48h)	0.16 mg/l (daphnia magna/gr. Wasserfloh)
EC50 (72h)	0.018 mg/l (Desmodesmus subspicatus/Grünalge)
	0.379 mg/l (Pseudokirchnerella subcapitata - Algen)
EC50 (96h)	0.166 mg/l (Pseudokirchnerella subcapitata - Algen)
EC50 (16h)	5.7 mg/l (Pseudomonas putida)
LC50 (96h)	0.19 mg/l (Oncorhynchus mykiss)
EC50 acute (21d)	>1 mg/l (daphnia magna/gr. Wasserfloh)
EC50 acute (48h)	1.02 mg/l (daphnia magna/gr. Wasserfloh)
EC50 chron. (3h)	31.7 mg/l (Mikroorganismus)
LOEL chron. (34d)	1.6 mg/l (danio rerio/ Zebrafisch)
NOEC chron. (34d)	0.5 mg/l (danio rerio/ Zebrafisch)

· Persistence and degradability

56-81-5 glycerol

CSB (chem. Sauerstoffbedarf)	95 % (---)
theor. O2 consumption (theor. Sauerstoffverbrauch)	1.217 g/g (---)
Biodegradability 14d	63 % (---) (Ready Biodegradability)

· Behavior in environmental systems:

- Bioaccumulative potential

56-81-5 glycerol

Log Pow | ≤4 (---)

52-51-7 bronopol (INN)

Log Pow | 0.17 (---)

- Mobility in soil No further relevant information available.

· Additional ecological information:

- General notes: Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.

· Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

· Waste treatment methods

- Recommendation: Must be specially treated adhering to official regulations.

· Uncleaned packagings:

- Recommendation: Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· UN-Number

- DOT, ADR, ADN, IMDG, IATA Void

· UN proper shipping name

- DOT, ADR, ADN, IMDG, IATA Void

· Transport hazard class(es)

- DOT, ADR, ADN, IMDG, IATA Void
- Class Void

· Packing group

- DOT, ADR, IMDG, IATA Void

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- **Environmental hazards:** No
- Marine pollutant: Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:** Not dangerous according to the above specifications.
- **UN "Model Regulation":** Void

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Sara

· Section 355 (extremely hazardous substances):
None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
52-51-7 | bronopol (INN)

· TSCA (Toxic Substances Control Act):

56-81-5 | glycerol

52-51-7 | bronopol (INN)

7732-18-5 | Wasser (water, Aqua)

· Proposition 65

· Chemicals known to cause cancer:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)
None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07

· Signal word

Warning

· Hazard-determining components of labeling:

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2-isothiazolin-3-one [EC no. 220-239-6] (3:1)

· Hazard statements

May cause an allergic skin reaction.
Toxic to aquatic life.

· Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves.
If on skin: Wash with plenty of water.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

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.
- Date of preparation / last revision: 10/26/2017 / 1800

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- 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
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 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)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Skin Sens. 1: Skin sensitisation – Category 1
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

- * Data compared to the previous version altered.

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