

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/20/2017

Reviewed on 07/19/2017

*** 1 Identification**

- **Product Identifier**
- **Trade name:** Benco Z3 Enzymatic Tablets (64 count/box; 144 count/box)
- **Product Number:** 5132-536; 5132-545
- **Relevant identified uses of the substance or mixture and uses advised against:**
For professional use only
- **Product Description** Ultra sonic cleaner for dental instruments.
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Benco Dental Supply Company
295 Centerpoint Blvd.
Pittston, PA 18640
USA
General Phone Number: (800) 4623626
- **Emergency telephone number:**
CHEMTREC 24 Hour Hazmat Emergency Communications Center
Domestic 18004249300
Outside the U.S. : 17035273887

2 Hazard(s) Identification

- **Classification of the substance or mixture:**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements:**

- **GHS label elements**

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

- **Hazard pictograms:**



GHS05



GHS07



GHS08

- **Signal word:** Danger

- **Hazard-determining components of labeling:**

Subtilisin

Sodium Benzoate

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· **Hazard statements:**

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

· **Precautionary statements:**

P260 Do not breathe dusts or mists.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

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.

P304+P341 If inhaled: If breathing is difficult, 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.

P312 Call a POISON CENTER/doctor if you feel unwell.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P363 Wash contaminated clothing before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

This value refers to knowledge of known, established toxicological or ecotoxicological values.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

· **Non-hazardous components:**

144-55-8	Sodium Bicarbonate	15-20%
50-70-4	D-glucitol	10-15%

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with non-hazardous additions.

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· Dangerous Components:		
CAS: 9014-01-1 RTECS: CO 9550000	Subtilisin ⚠ Resp. Sens. 1, H334; ⚠ Eye Dam. 1, H318; ⚠ Skin Irrit. 2, H315; STOT SE 3, H335	25-30%
CAS: 497-19-8	Sodium carbonate ⚠ Eye Irrit. 2A, H319	15-20%
CAS: 77-92-9 RTECS: GE 7350000	Citric Acid ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319	10-15%
CAS: 532-32-1	Sodium Benzoate ⚠ Acute Tox. 4, H302; STOT SE 3, H335; Eye Irrit. 2B, H320	1-5%
CAS: 25322-68-3	Polyethylene Glycol	1-5%

· Additional information:

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-Aid Measures

· Description of first aid measures:

· General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.

· After inhalation:

Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

· After skin contact:

Immediately wash skin with soap and plenty of water for at least 15 minutes.

Remove contaminated clothing and wash before reuse.

Get medical attention if symptoms occur.

· After eye contact:

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.

If easy to do so, remove contact lenses if worn.

· After swallowing:

DO NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

· Information for doctor:

· 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.

· Special hazards arising from the substance or mixture: No further relevant information available.

· Advice for firefighters:

· Protective equipment:

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

· Additional information: Cool endangered receptacles with water spray.

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6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Do not allow to enter sewers/surface or ground water.

· **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Use the appropriate tools to collect the material and dispose of it in an approved waste disposal container.

Dispose contaminated material as waste according to section 13.

· **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.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

497-19-8	Sodium carbonate	7.6 mg/m3
144-55-8	Sodium Bicarbonate	13 mg/m3
25322-68-3	Polyethylene Glycol	30 mg/m3
532-32-1	Sodium Benzoate	61 mg/m3

· **PAC-2:**

497-19-8	Sodium carbonate	83 mg/m3
144-55-8	Sodium Bicarbonate	140 mg/m3
25322-68-3	Polyethylene Glycol	1,300 mg/m3
532-32-1	Sodium Benzoate	680 mg/m3

· **PAC-3:**

497-19-8	Sodium carbonate	500 mg/m3
144-55-8	Sodium Bicarbonate	840 mg/m3
25322-68-3	Polyethylene Glycol	7,700 mg/m3
532-32-1	Sodium Benzoate	810 mg/m3

7 Handling and Storage

· **Handling**

· **Precautions for safe handling:**

Avoid creating and breathing dust/fume/gas/mist/vapors/spray.

Avoid contact with skin, eyes and clothing

Ensure good ventilation/exhaustion at the workplace.

· **Information about protection against explosions and fires:** No special measures required.

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

· **Storage**

· **Requirements to be met by storerooms and receptacles:**

Store in the original container.

Store in a cool, dry, well ventilated area away from sources of heat, combustible and incompatible materials.

· **Information about storage in one common storage facility:** See Section 10 (Incompatible materials)

· **Further information about storage conditions:** Keep receptacle tightly sealed.

· **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 section 7.

· **Control parameters:**

· **Components with occupational exposure limits:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

9014-01-1 Subtilisin

REL	Short-term value: 0.00006* mg/m ³ *60-min
TLV	Ceiling limit value: 0.00006 mg/m ³ as 100% crystalline active pure enzyme

25322-68-3 Polyethylene Glycol

WEEL	Long-term value: 10 mg/m ³ (H); MW>200
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· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Where acceptable concentrations cannot be maintained by general mechanical ventilation, local exhaust ventilation is recommended.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**



NIOSH/OSHA or EN approved respiratory protection is recommended for use in airborne concentrations exceeding exposure limits.

· **Protection of hands:**



Protective gloves

· **Material of gloves:** Chemical resistant

· **Penetration time of glove material:**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· **Eye protection:**



Tightly sealed goggles

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9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:**

Tablets

- **Color:**

White and brown speckled

- **Odor:**

Mint

- **Odor threshold:**

Not determined.

- **pH-value:**

Not applicable.

- **Change in condition**

- **Melting point/Melting range:**

Not determined.

- **Boiling point/Boiling range:**

Not determined.

- **Flash point:**

None

- **Flammability (solid, gaseous):**

Not determined.

- **Ignition temperature:**

Not applicable

- **Decomposition temperature:**

Not determined.

- **Auto igniting:**

Product is not self-igniting.

- **Danger of explosion:**

Product does not present an explosion hazard.

- **Explosion limits:**

- **Lower:**

Not determined.

- **Upper:**

Not determined.

- **Vapor pressure:**

Not determined.

- **Density:**

- **Relative density:**

Not determined.

- **Vapor density:**

Not determined.

- **Evaporation rate:**

Not applicable.

- **Solubility in / Miscibility with:**

- **Water:**

Soluble.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

- **Dynamic:**

Not applicable.

- **Kinematic:**

Not applicable.

- **Other information:**

No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.

- **Chemical stability:** Stable under normal conditions.

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

- **Possibility of hazardous reactions:** No known hazardous reactions

- **Conditions to avoid:** High temperatures.

- **Incompatible materials:** No further relevant information available.

- **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological Information

· **Information on toxicological effects:**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

9014-01-1 Subtilisin

Oral	LD50	3700 mg/kg (Rat)
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144-55-8 Sodium Bicarbonate

Oral	LD50	4220 mg/kg (Rat)
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497-19-8 Sodium carbonate

Oral	LD50	4090 mg/kg (Rat)
Inhalative	LC50/96 hours	300 mg/l (Fathead Minnow)

77-92-9 Citric Acid

Oral	LD50	5040 mg/kg (Mouse) 5400 mg/kg (Rat)
Dermal	LD50	>2000 mg/kg (Rat)
	LC50/48 hrs	440 mg/l (Daphnia)

532-32-1 Sodium Benzoate

Oral	LD50	1600 mg/kg (Mouse) 4070 mg/kg (Rat) 2000 mg/kg (Rabbit)
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25322-68-3 Polyethylene Glycol

Oral	LD50	>5000 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (Rabbit)
Inhalative	LC50/96 hours	10000 mg/l (Fish - Poecilia reticulata, 96h)

· **Primary irritant effect:**

· **On the skin:** Strong caustic effect on skin and mucous membranes.

· **On the eye:**

Strong irritant with the danger of severe eye injury.

Corrosive effect.

Causes serious eye irritation.

· **Sensitization:** Sensitization possible through inhalation.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Corrosive

Irritant

Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

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None of the ingredients are listed.

12 Ecological Information

· Toxicity:**· Aquatic toxicity:****497-19-8 Sodium carbonate**

EC50 227 mg/l (Daphnia)

77-92-9 Citric Acid

EC50 1534 mg/l (Daphnia)

· Persistence and degradability: No further relevant information available.**· Behavior in environmental systems:****· Bioaccumulative potential:** No further relevant information available.**· Mobility in soil:** No further relevant information available.**· Additional ecological information:****· General notes:**

Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

· 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 not be disposed of together with household garbage. Do not allow product to reach sewage system. Observe all federal, state and local environmental regulations when disposing of this material.

· Uncleaned packagings**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

· UN-Number:**· DOT, ADR/ADN, ADN, IMDG, IATA**

Non-Regulated Material

· UN proper shipping name:**· DOT, ADR/ADN, ADN, IMDG, IATA**

Non-Regulated Material

· Transport hazard class(es):**· DOT, ADR/ADN, ADN, IMDG, IATA****· Class:**

Non-Regulated Material

· Packing group:**· DOT, ADR/ADN, IMDG, IATA**

Non-Regulated Material

· Environmental hazards:

Not applicable.

· Special precautions for user:

Not applicable.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

Not applicable.

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· **UN "Model Regulation":** Non-Regulated Material

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed or exempt from listing.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **New Jersey Right-to-Know List:**

25322-68-3 Polyethylene Glycol

· **New Jersey Special Hazardous Substance List:**

None of the ingredients are listed.

· **Pennsylvania Right-to-Know List:**

25322-68-3 Polyethylene Glycol

· **Pennsylvania Special Hazardous Substance List:**

None of the ingredients are listed.

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

· **GHS label elements**

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

· **Hazard pictograms:**



GHS05 GHS07 GHS08

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Subtilisin

Sodium Benzoate

Hazard statements:

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

Precautionary statements:

P260 Do not breathe dusts or mists.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

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.

P304+P341 If inhaled: If breathing is difficult, 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.

P312 Call a POISON CENTER/doctor if you feel unwell.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P363 Wash contaminated clothing before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

None of the ingredients are listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

Date of preparation / last revision: 07/20/2017 / 5**Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

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)

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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 and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

Resp. Sens. 1: Respiratory sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.**

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106