SAFETY DATA SHEET
acc. to according to GHS Rev. 8 2019 and OSHA HCS

DuraBeet

Version 1.4 replaces -
Revision date: 02/13/2024

Print date: 02/13/2024

1 Identification

Product identifier

Trade name	**DuraBeet**
Chemical name	Betaine
CAS- No.	107-43-7
EC- No.	203-490-6

Application of the substance / the mixture

Identified uses	Ingredient in food supplements

Details of the supplier of the safety data sheet

Manufacturer	Beta Pura GmbH Josef-Reither-Strasse 21 – 23 3430 Tulln Austria T: +43 2272 602 0 Email: office@betapura.com
Information department	Dr. Paul Meissner Email: office@betapura.com
Emergency telephone number	+43 2272 602 0 Available during office hours (CET Time) Mo – Fr: 8 a.m. – 3 p.m. Please contact the regional poison center or emergency call.

2 Hazards identification

Classification of the substance or mixture

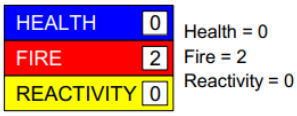
Combustible Dust	May form combustible dust concentrations in air.

Label elements

GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms Void
Signal word Warning
Hazard statements
May form combustible dust concentrations in air.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.

Classification system:
NFPA ratings (scale 0 - 4)

HMIS-ratings (scale 0 - 4)



Other hazards

Dust can combine with air to form an explosive mixture.

Results of PBT and vPvB assessment:
PBT: Betaine does not meet the criteria for classification as PBT in sense of REACH.
vPvB: Betaine does not meet the criteria for classification as vPvB in sense of REACH.

3 Composition/information on ingredients

Substances

Betaine – Purity > 99% (w/w)
CAS: 107-43-7
EC: 203-490-6

4 First aid measures

Description of first aid measures

General information:

In case of discomfort or doubt, seek medical advice.
If unconscious, use a stable lateral position and do not administer anything through mouth.
Take off contaminated clothing.

- **After inhalation**

Provide fresh air. Consult a doctor in case of any complaints.
If unconscious, place and transport in recovery position.

- **After skin contact**

After contact with skin, wash with plenty of water.
Change contaminated, saturated clothing. Consult a physician if symptoms occur.

- **After eye contact**

Rinse opened eye for several minutes under running water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical treatment in case of complaints.

- **After swallowing**

Rinse out mouth and then drink plenty of water.
Do NOT induce vomiting.
Call a doctor immediately.

Most important symptoms and effects, both acute and delayed

No further information available.

Indication of any immediate medical attention and special treatment needed

Depending on the condition of the patients, the doctor must assess the symptoms and the overall general condition.

5 Firefighting measures

Extinguishing media

- **Suitable extinguishing media**

Use fire fighting measures that suit the environment.
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **Extinguishing media which must not be used for safety reasons**

Water jet

Special hazards arising from the substance or mixture

Fire may cause evolution of CO_x, NO_x, trimethylamine

Explosion: Avoid generating of dust; fine dust dispersed in air
in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.

Advice for firefighters

Special protective equipment:
Wear a self-contained breathing apparatus and chemical protective clothing.
Collect contaminated fire extinguishing water separately. Do not allow to enter into drains or surface water.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Restricted access to the affected area until cleaning work is completed.Wear protective equipment. Keep unprotected persons away.
Avoid contact with skin and eyes. Provide adequate ventilation.

Avoid formation of dust. Avoid breathing dust.
Keep ignition sources away.
Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Avoid dispersal of dust in the air (i.e. clearing dust surfaces with compressed air).
Nonsparking tools should be used.

Environmental precautions

Do not allow to enter into surface water, groundwater or drains.

Methods and material for containment and cleaning up

Pick up mechanically.
Avoid formation of dust.
Treat the recovered material as prescribed in the section on waste disposal (section 13)

Protective Action Criteria for Chemicals

PAC-1:
Substance is not listed.
PAC-2:
Substance is not listed.
PAC-3:
Substance is not listed

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

Precautions for safe handling

Ensure adequate ventilation.
Keep receptacles tightly sealed.
Avoid contact with skin and eyes.
Prevent formation of dust.
Do not breathe dust.
Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
Use personal protective equipment as required.
Observe protective measures and safety instructions.

- **Information about protection against explosions and fires**

Keep ignition sources away – Do not smoke.
Take measures against electrostatic charge.
Minimize dust generation and accumulation.

Conditions for safe storage, including any incompatibilities

- **Requirements to be met by storerooms and receptacles**

Store in dry and cool conditions.
Ensure adequate ventilation.
Store in accordance with local/regional/national/international regulations.

- **Information about storage in one common storage facility**

Keep away from incompatible materials.

- **Further information about storage conditions**

Keep container tightly sealed.
Store in the original container.
Product is hygroscopic. Protect from exposure to the light and moisture.

- **Recommended storage temperature**

Room temperature

- **Storage class**

11

Specific end use(s)

No further relevant information available.

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:
Not required.

DNEL-value (Derived no effect level)

betaine (CAS 107-43-7)
Workers:
No hazards identified.
Consumers:
DNEL long-term, systemic, oral: 4413 mg/kg BW/d
DNEL short-term, systemic, oral: 11178 mg/kg BW/d

PNEC-Werte (Predicted no effect concentration)

betaine (CAS 107-43-7)
Fresh water: 1,2 mg/l

Regulatory information
Additional Occupational Exposure Limit Values for possible hazards during processing:
The national dust limits must be observed in the event of dust generation.
Additional information: The lists that were valid during the creation were used as basis.

Exposure control

- **General protection and hygiene measures**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Do not eat or drink while working.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Prevent formation of dust.
Avoid breathing dust.
Ensure adequate ventilation.
Take off contaminated clothing and wash it before reuse.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

- **Breathing equipment**

Use suitable respiratory protective device in case of insufficient ventilation.

- **Protection of hands**

Protective gloves recommended.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves
Nitrile rubber, butyl rubber, latex, PVC
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.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection**

Safety glasses

- **Body protection**

Protective work clothing

- **Limitation and supervision of exposure into the environment**

Do not allow to enter sewers/ surface or ground water.

9 Physical and chemical properties

Information on basic physical and chemical properties

Physical state / Appearance	solid
Colour	white
Odour	Faint molasses odour
Odour threshold	No information available.
Melting point/freezing point	No information available.
Initial boiling point/range	No information available.
Flammability	No information available.
Lower explosive limits	No information available.
Upper explosive limits	No information available.
Flash point	Not applicable.
Ignition temperature	No information available.
Decomposition temperature	No information available.
pH value	Not applicable.
Viscosity	Not applicable.
Solubility in water (20 °C)	soluble
Partition coefficient: n-ocanol/water	No information available.
Vapour pressure (50 °C)	Not applicable.
Density	No information available.
Vapor density	Not applicable

Other information

Form	crystalline
Explosive properties	Not explosive. Fine dust can combine with air to form an explosive mixtures.
VOC content	0 %
Oxidising properties	No information available.
Evaporation rate	No information available.

10 Stability and reactivity

Reactivity

No hazardous reactions known if stored and used as prescribed.

Chemical stability

Product is hygroscopic.

Possibility of hazardous reactions

Risk of dust explosion.

Conditions to avoid

Heat, ignition sources
Humidity

Incompatible materials

Oxidizing agents
Alkalis, concentrated

Hazardous decomposition products

Risk of development of trimethylamine in hot, strongly alkaline solution.

11 Toxicological information

Information on toxicological effects

- **Information on likely routes of exposure**

Ingestion: Swallowing larger quantities can be harmful to health.
Inhalation: Dust can cause respiratory irritation.
Skin contact: Longer and prolonged skin contact may cause mild irritation.
Eye contact: Dust may cause eye irritation.

- **LD_{50} values of single components relevant for classification**

Betaine:
LD_{50} oral (rat): 11179 mg/kg (Source: European Chemicals Agency www.echa.eu)

- **Acute toxicity**

Based on available data classification criteria are not fulfilled.

- **Skin corrosion/irritation**

Based on available data classification criteria are not fulfilled.

- **Serious eye damage/irritation**

Based on available data classification criteria are not fulfilled.

- **Skin/Respiratory sensitization**

Based on available data classification criteria are not fulfilled.

- **Germ cell mutagenicity**

Based on available data classification criteria are not fulfilled.

- **Cancerogenicity**

Based on available data classification criteria are not fulfilled.

IARC (International Agency for Research on Cancer)
Substance is not listed.
NTP (National Toxicology Program)
Substance is not listed.
OSHA-Ca (Occupational Safety & Health Administration)
Substance is not listed.

- **Reproductive toxicity**

Based on available data classification criteria are not fulfilled.

- **Specific target organ toxicity – single exposure**

Based on available data classification criteria are not fulfilled.

- **Specific target organ toxicity – repeated exposure**

Based on available data classification criteria are not fulfilled.

- **Aspiration hazard**

Based on available data classification criteria are not fulfilled.

12 Ecological information

Toxicity

- **Aquatic Toxicity of ingredients**

Betaine:
Daphnia: EC50 (48 h): 4335 mg/l – Daphnia magna
Algae: EC50 (72 h): 1199 mg/l - Desmodesmus subspicatus
(Source: European Chemicals Agency www.echa.eu)

Persistence and degradability

Easily biodegradable (88% (28 d))

Bioaccumulative potential

No bioaccumulation potential

Mobility in soil

No data available.

Results of PBT and vPvB assessment

Betaine does not meet the criteria for classification as PBT or vPvB in sense of REACH.

Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

Other adverse effects

Do not allow to enter into surface water, groundwater or drains.

Section 13: Disposal considerations

Waste treatment methods

Recommendation:
Any disposal practice must be in compliance with all local and national laws and regulations. Customers are advised to check their local legislation governing the disposal of waste materials. Use only authorized contractors.
Do not allow to enter into surface water or drains.

- **Uncleaned packaging**

Dispose of packaging according to regulations on the disposal of packagings.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

Section 14: Transport information

UN number

DOT, IMDG, IATA: Not regulated.

UN proper shipping name

DOT, IMDG, IATA: Not regulated.

Transport hazard class(es)

DOT, ADN, IMDG, IATA: Not regulated.

Packing group

DOT, IMDG, IATA: Not regulated.

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.

Section 15: Regulatory information

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

Sara
Section 355 (extremely hazardous substances):
Substance is not listed.
Section 313 (Specific toxic chemical listings):
Substance is not listed.
TSCA (Toxic Substances Control Act):

ACTIVE
Hazardous Air Pollutants
Substance is not listed.
Proposition 65
Chemicals known to cause cancer:
Substance is not listed.
Chemicals known to cause reproductive toxicity for females:
Substance is not listed.
Chemicals known to cause reproductive toxicity for males:
Substance is not listed.
Chemicals known to cause developmental toxicity:
Substance is not listed.

Carcinogenic categories
EPA (Environmental Protection Agency)
Substance is not listed.
TLV (Threshold Limit Value)
Substance is not listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms Void
Signal word Warning
Hazard statements
May form combustible dust concentrations in air.
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.

Chemical safety assessment

Not available.

Section 16: Other information

IMPORTANT: The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.
However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance/mixture itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge.
For this and other reasons, we do not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of

this product. All materials may present unknown hazards and should be used with caution and only for identified uses described in section 1. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use.
No liability can be accepted for damage during handling or contact with the product.

- **Department issuing SDS**

UmEnA GmbH
http://umena.at

- **Date of preparation / last revision** -

- **Abbreviations and acronyms**

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
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

- **Changes in sections** -