

SAFETY DATA SHEET

Revision date: 2019/05/23

Version No: 3

Compliant with 29 CFR §1910.1200 HCS 2012

Compliant with HPR WHMIS 2015

BEF Concentrate

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	BEF Concentrate
Chemical Name.	Microbial preparation
Declared activity	Bacterial count
Use of the substance/preparation	Drain Care/Drain Treatment
Contact Manufacturer	NOVOZYMES BIOLOGICALS INC 5400 Corporate CircleSalem, VA 24153USA
Information Telephone Number	1-540-389-9361 (work hours)
Emergency Telephone Number	1-800-424-9300 (Chemtrec) 24 hours every day

2. HAZARDS IDENTIFICATION

Classification

Classification of the chemical in accordance with 29CFR §1910.1200

WHMIS Classification

Respiratory sensitization

Category 1

Skin sensitization

Category 1A

Label elements

Danger

Hazard statements

H317 - May cause an allergic skin reaction

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

Precautionary Statements - Prevention

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

P284 - In case of inadequate ventilation wear respiratory protection

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

Precautionary Statements - Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician

P302+ P352 - IF ON SKIN: Wash with plenty of soap and water



Hazards not otherwise classified (HNOC)

Not Applicable

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
1,2- Benzisothiazolin-3(2H)-one	2634-33-5	0.1- < 1
Alpha-amylase	9000-90-2	0.1- < 1
Alpha-amylase (aep)	9000-90-2	0.1- < 1

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician
Skin Contact	Wash off immediately with soap and plenty of water
Inhalation	Move to fresh air
Ingestion	Clean mouth with water and afterwards drink plenty of water
Notes to Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties	Slightly flammable according to HMIS criteria.
Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media	None.
Hazardous Combustion Products	None.

Specific Hazards Arising from the Chemical May cause allergic respiratory reaction.

Protective Equipment and Precautions for Firefighters Self-contained breathing apparatus and standard turn-out apparel.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	For personal protection see section 8.
Environmental Precautions	Collect spillage.
Methods for cleaning up	Avoid formation of dust and aerosols. Spilled preparation should be removed immediately to avoid formation of dust from dried preparation. Take up by mechanical means preferably by a vacuum cleaner equipped with a HEPA (High Efficiency Particulate Air) filter. Flush remainder carefully with plenty of water. Avoid splashing, high pressure washing or compressed air cleaning to avoid formation of aerosols. Ensure sufficient ventilation. Wash contaminated clothing.
Other Information	For personal protection see section 8.

7. HANDLING AND STORAGE

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Handling	Avoid formation of dust and aerosols. Ensure adequate ventilation
Storage Temperature Storage Conditions	Keep tightly closed in a dry and cool place. 10-25 °C (50-77 °F). In unbroken packaging - dry and protect from the sun. The product has been formulated for optimal stability. Extended storage or adverse conditions such as higher temperatures or higher humidity may lead to a higher dosage requirement.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical name	DNEL Dermal Acute Local (Workers)	DMEL Inhalation Long term Local (Workers)
Alpha-amylase	-	DMEL = 60 ng/m ³
Alpha-amylase (aep)	-	DMEL = 60 ng/m ³

Chemical name	DMEL Inhalation Long term Local (Professionals/Consumers)	DNEL Dermal Acute Local (Professional/Consumers)
Alpha-amylase (aep)	DMEL = 15 ng/m ³	-
Protease (Subtilisin) (aep)	DMEL = 15 ng/m ³	DNEL = 0,2% in mixutre (W/W)

Derived No Effect Level (DNEL)

Derived Minimal Effect Level (DMEL)

When enzymes are used for spray products or hard surface cleaning, exposure of enzymes may exceed the safety level (15 ng/m³ DMEL). If you intend to develop such products, please contact Novozymes for further safety evaluation.

Occupational exposure controls

Engineering Controls	Ensure adequate ventilation, especially in confined areas Maintain good conditions of industrial hygiene. Some processes may require enclosures, local exhaust ventilation, or other engineering controls to control airborne levels. Additional handling and healthy/safety information is available upon request
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Personal Protective Equipment

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment that meets HEPA/P100 specifications
Eye Protection	Wear safety glasses with side shields (or goggles)
Skin and body protection	No special technical protective measures are necessary
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Off-white to light brown
Odor	Slight fermentation odor
Odor threshold	No information available
Boiling Point/Range	No information available
Melting Point/Range	No information available
Flash Point	> 100 °C
Freezing point 1	No information available
Flammability (solid, gas)	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available
Autoignition temperature	No information available
Vapor Pressure	No information available
Decomposition temperature	No information available
Vapor Density	No information available
Density (g/ml)	1.02

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Evaporation rate	No information available
Solubility	Soluble
Partition Coefficient (n-octanol/water)	No information available
Viscosity	No data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions

Conditions to Avoid
None

Materials to avoid
None

Hazardous Decomposition Products
None

Possibility of hazardous reactions
None

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Chemical name	Acute oral toxicity	Acute inhalation toxicity	Skin corrosion/irritation	Serious eye damage/eye irritation
1,2-Benzisothiazolin-3(2H)-one	Harmful if swallowed	No data available	Causes burns	Risk of serious damage to eyes
Alpha-amylase	LD50: > 2000 mg/kg bw (OECD TG 401, 420)		Not irritating (OECD TG 404)	Not irritating (OECD TG 405)
Alpha-amylase (aep)	LD50: > 2000 mg/kg bw (OECD TG 401, 420)		Not irritating (OECD TG 404)	Not irritating (OECD TG 405)

Chemical name	Specific target organ toxicity (single exposure)	Genetic toxicity	Skin sensitization	Respiratory sensitization
1,2-Benzisothiazolin-3(2H)-one	No data available	No mutagenic effect	Sensitizing	no data available
Alpha-amylase		No indication of mutagenic effects (OECD TG 471, 476)		Sensitizer (Human experience)
Alpha-amylase (aep)		No indication of mutagenic effects (OECD TG 471, 476)		Sensitizer (Human experience)

12. ECOLOGICAL INFORMATION

Toxicity

Chemical name	Daphnia, acute	Algae, acute	Fish, acute
1,2-Benzisothiazolin-3(2H)-one	EC50 (48 hours): 2.94 mg/l (OECD TG 202)	ErC5 (72 hours): 0.11 mg/l (OECD TG 201)	2.18mg/l (OECD TG 203)
Alpha-amylase	EC50 (48 hours): 31.7 - 457 mg aep/l (OECD TG 202)	ErC50 (72 hours): >= 5.2 mg aep/l (OECD TG 201)	LC50 (96 hours): 58.3 - 326.7 mg aep/l (OECD TG 203)
Alpha-amylase (aep)	EC50 (48 hours): 31.7 - 457 mg aep/l (OECD TG 202)	ErC50 (72 hours): >= 5.2 mg aep/l (OECD TG 201)	LC50 (96 hours): 58.3 - 326.7 mg aep/l (OECD TG 203)

Persistence/Degradability

Chemical name	Persistence and degradability	Partition coefficient
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		(n-octanol/water)
1,2- Benzisothiazolin-3(2H)-one	Inherently biodegradable	LogPow: <0
Alpha-amylase	Readily biodegradable (OECD 301)	LogPow: <0
Alpha-amylase (aep)	Readily biodegradable (OECD 301F)	LogPow: <0

Bioaccumulative Potential

Bioaccumulation is unlikely

Chemical name	Bioaccumulative Potential
1,2- Benzisothiazolin-3(2H)-one	Bioaccumulation is unlikely
Alpha-amylase	Does not bioaccumulate
Alpha-amylase (aep)	Does not bioaccumulate

Mobility in soil

Not relevant

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Disposal of wastes

Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of wastes in an approved waste disposal facility.

14. TRANSPORT INFORMATION

Transport Regulations

No dangerous goods according to transport regulations

No special precautions required

Transport hazard class(es)

not applicable

Packing group

not applicable

Environmental hazards

not applicable

15. REGULATORY INFORMATION

USA, Federal Regulations

TSCA Inventory

All ingredients are listed on TSCA inventory

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and 40 CFR Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No

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Reactive Hazard No
USA, State Regulations
California Proposition 65
This product does not contain any Proposition 65 chemicals

Canada

DSL/NDSL
Does not Comply
WHMIS Statement
This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by WHMIS 2015.

16. OTHER INFORMATION

Training advice Contact Novozymes Customer Support Centre.

GHS-Classification The GHS calculation method has been used for classification of this mixture.

Disclaimer
The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text. Furthermore, as the conditions of use are beyond the control of Novozymes, it is the responsibility of the customer to determine the conditions of safe use of these products.

End of Safety Data Sheet

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