

## SAFETY DATA SHEET

Revision date: 2020/08/20

Version No: 3

Compliant with 29 CFR §1910.1200 HCS 2012

Compliant with HPR WHMIS 2015

# BAN® 480 L

## 1. PRODUCT AND COMPANY IDENTIFICATION

|                   |                    |
|-------------------|--------------------|
| Product Name      | BAN® 480 L         |
| Chemical Name     | Enzyme preparation |
| Declared activity | Alpha-amylase      |

Use of the substance/preparation

Novozymes' enzyme preparations are biocatalysts used in a variety of industrial processes within food manufacturing

Supplier's details

Novozymes North America, Inc.

77 Perry Chapel Church Rd., Box 576

Franklinton, NC 27525

E-mail: [SafetyDataSheet@novozymes.com](mailto:SafetyDataSheet@novozymes.com)

[www.novozymes.com](http://www.novozymes.com)

Information Telephone Number

1-919-494-3000, 8 am - 4:30 pm EST M-F

Emergency Telephone Number

1-800-424-9300 (Chemtrec) 24 hours every day

Initial Supplier Identifier  
Données relatives au fournisseur

Univar Solutions Canada Ltd.

64 Arrow Road  
North York, ON M9M 2L9  
Telephone: 1-866-686-4827

## SAFETY DATA SHEET

BAN® 480 L  
Version No: 3  
Revision date: 2020/08/20

Page

2 / 7

### 2. HAZARD(S) IDENTIFICATION

#### Classification

Classification of the chemical in accordance with 29CFR §1910.1200  
WHMIS Classification

Respiratory sensitization Category 1

#### Label elements

Danger

#### Hazard statements

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

#### Precautionary Statements - Response

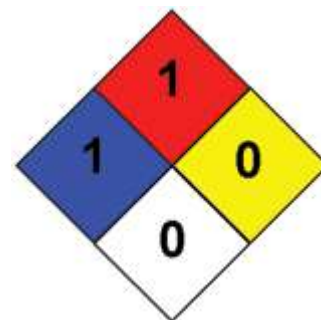
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

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



Hazards not otherwise classified (HNOC)

|   |                      |
|---|----------------------|
| 1 | Health               |
| 1 | Flammability         |
| 0 | Reactivity           |
| X | Protective Equipment |



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name        | CAS No    | IUB No. | Weight-% |
|----------------------|-----------|---------|----------|
| Alpha-amylase (aep.) | 9000-90-2 | 3.2.1.1 | 1 - 5    |

aep (active enzyme protein) contributes to the GHS classification.

### 4. FIRST AID MEASURES

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## SAFETY DATA SHEET

BAN® 480 L  
Version No: 3  
Revision date: 2020/08/20

Page

3 / 7

In case of unintended overexposure, the following measures apply

### Inhalation

Effects  
Symptoms

May cause allergic respiratory reaction.  
Shortness of breath, wheezing and coughing.  
The effect of inhalation may be delayed.

### First Aid

Remove person to fresh air. If signs/symptoms continue, get medical attention.  
Show this safety data sheet to the doctor in attendance.

### Skin Contact

Effects  
Symptoms  
First Aid

May cause slight irritation.  
Slight irritation.  
Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. If symptoms persist, call a doctor. Show this safety data sheet to the doctor in attendance.

### Eye Contact

Effects  
Symptoms  
First Aid

May cause slight irritation.  
Slight irritation.  
Hold eye open and rinse slowly and gently with water for 15-20 min. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. If symptoms persist, call a doctor. Show this safety data sheet to the doctor in attendance.

### Ingestion

Effects  
Symptoms  
First Aid

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.  
Irritation.  
Rinse mouth with water and drink plenty of water. If symptoms persist, call a doctor. Show this safety data sheet to the doctor in attendance..

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## 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

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## 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.

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# SAFETY DATA SHEET

BAN® 480 L  
Version No: 3  
Revision date: 2020/08/20

Page

4 / 7

Other Information

For personal protection see section 8.

## 7. HANDLING AND STORAGE

Handling

Avoid formation of dust and aerosols.  
Ensure adequate ventilation.  
Liquid enzyme preparations are dustfree preparations  
However, inappropriate handling may cause formation of dust or aerosols

Storage

Keep tightly closed in a dry and cool place. The product can be transported at ambient temperature.  
Following delivery, the product should be stored as recommended. Temperature 0-10 °C (32-50 °F)

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Derived No Effect Level (DNEL)

Derived Minimal Effect Level (DMEL)

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

Personal Protective Equipment

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment that meets HEPA/P100 specifications

Eye Protection

Skin and body protection

Wear safety glasses with side shields (or goggles)  
No special technical protective measures are necessary

General Hygiene Considerations

Environmental exposure controls

Handle in accordance with good industrial hygiene and safety practice  
Local authorities should be advised if significant spillages cannot be contained

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

|                                         |                                                                          |
|-----------------------------------------|--------------------------------------------------------------------------|
| Physical State                          | Liquid                                                                   |
| Color                                   | Brown                                                                    |
| Odor                                    | Slight fermentation odor                                                 |
| pH                                      | Adjusted to the range where active enzyme is stable – typically pH 4 – 9 |
| Melting point / freezing point          | No information available                                                 |
| Initial boiling point and boiling range | Not determined                                                           |
| Flash Point                             | Not determined                                                           |
| Evaporation rate                        | Not available                                                            |
| Flammability (solid, gas)               | Not determined                                                           |
| Upper/lower flammability or explosive   | Not available                                                            |

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## SAFETY DATA SHEET

BAN® 480 L  
Version No: 3  
Revision date: 2020/08/20

Page

5 / 7

|                                         |                                                                                                                                                          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| limits                                  |                                                                                                                                                          |
| Vapor Pressure                          | No data available                                                                                                                                        |
| Vapor density                           | Not available                                                                                                                                            |
| Density (g/ml)                          | 1.21                                                                                                                                                     |
| Solubility                              | Active component is readily soluble in application-relevant solutions at all levels of concentration, temperature and pH which may occur in normal usage |
| Partition Coefficient (n-octanol/water) | No data available                                                                                                                                        |
| Autoignition temperature                | Not available                                                                                                                                            |
| Decomposition temperature               | Not available                                                                                                                                            |
| Viscosity                               | Not available                                                                                                                                            |
| Other information                       | No information available                                                                                                                                 |

### 10. STABILITY AND REACTIVITY

|                                    |                                             |
|------------------------------------|---------------------------------------------|
| Reactivity                         | Not relevant                                |
| Chemical stability                 | Stable under recommended storage conditions |
| Possibility of hazardous reactions | None under normal processing                |
| Conditions to Avoid                | None                                        |
| Incompatible materials             | None                                        |
| Hazardous Decomposition Products   | None                                        |

### 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Repeated inhalation of enzyme dust or aerosols resulting from improper handling may induce sensitization and may cause allergic type 1 reactions in sensitized individuals  
Mild skin irritation  
Mild eye irritation

| Chemical name        | Acute oral toxicity                      | Acute inhalation toxicity | Skin corrosion/irritation    | Serious eye damage/eye irritation |
|----------------------|------------------------------------------|---------------------------|------------------------------|-----------------------------------|
| 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     |
|----------------------|--------------------------------------------------|-------------------------------------------------------|--------------------|-------------------------------|
| 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                                          |
|----------------------|----------------------------------------------------|-------------------------------------------------|------------------------------------------------------|
| 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) |

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## SAFETY DATA SHEET

BAN® 480 L  
Version No: 3  
Revision date: 2020/08/20

Page

6 / 7

### Persistence/Degradability

| Chemical name        | Persistence and degradability     | Partition coefficient (n-octanol/water) |
|----------------------|-----------------------------------|-----------------------------------------|
| Alpha-amylase (aep.) | Readily biodegradable (OECD 301F) | LogPow: <0                              |

| Chemical name        | Bioaccumulative Potential |
|----------------------|---------------------------|
| 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

|                          |                |
|--------------------------|----------------|
| UN-No                    | Not applicable |
| Proper Shipping Name     | Not applicable |
| Hazard Class             | Not applicable |
| Packing Group            | Not applicable |
| Reportable Quantity (RQ) | Not applicable |
| Marine Pollutant         | Not applicable |

## 15. REGULATORY INFORMATION

The product complies with the recommended purity specifications for food-grade enzymes given by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemical Codex (FCC).

### USA, Federal Regulations

#### TSCA Inventory

The active ingredient and all components of the enzyme preparation are listed on the 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 |
| Reactive Hazard                   | No |

### USA, State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals

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## SAFETY DATA SHEET

BAN® 480 L  
Version No: 3  
Revision date: 2020/08/20

Page

7 / 7

Canada

DSL/NDSL

All components are listed either on the DSL or NDSL

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.

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### 16. OTHER INFORMATION

Training advice

Details on the safe handling of this product are located in the Novozymes Customer Center Document Library on [www.mynovozymes.com](http://www.mynovozymes.com)

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

Version No: 3 / ANSI / 2020/08/20