

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006

Revision date: 05/20/2010

Version No:1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

| | |
|---|---|
| Product name | Novoclair® Speed |
| Chemical Name | Enzyme preparation |
| Declared activity | Polygalacturonase |
| Use of the substance/preparation | Novozymes' enzyme preparations are biocatalysts used in a variety of industrial processes within food manufacturing |
| Company/Undertaking Identification | Novozymes A/S Krogshoejvej 36 2880 Bagsvaerd Denmark Tel.: +45 44460000 Fax.: +45 44469999 E-mail: SafetyDataSheet@novozymes.com www.novozymes.com |
| Emergency Telephone Number | +45 44460000 (24/7) |

2. HAZARDS IDENTIFICATION

Classification and labelling according to Directive 1999/45/EEC

Labelling Xn - Harmful

Classification

Symbol(s) Xn - Harmful
R-phrases(s) R42 - May cause sensitization by inhalation

Physico-chemical properties The data available do not support any physical or chemical hazard

Environmental Effects The data available do not support any environmental hazard.

Human health 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

Effects of overexposure See Section 4

See Section 11 for additional Toxicological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

| Chemical Name | CAS-No | EC No. | IUB No. | Weight % | Classification |
|-------------------|-----------|-------------------|----------|----------|----------------|
| Polygalacturonase | 9032-75-1 | EEC No. 232-885-6 | 3.2.1.15 | 5 - 10 | Xn;R42 |
| Citric acid | 77-92-9 | EEC No. 201-069-1 | - | <5 | Xi;R36 |

Enzymes are defined as enzyme concentrate (dry matter basis)

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

In case of unintended overexposure, the following measures apply

Inhalation

Effects May cause allergic respiratory reaction
Symptoms 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 May cause slight irritation.
Symptoms Slight irritation.
First Aid 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 May cause slight irritation.
Symptoms Slight irritation
First Aid 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 Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms Irritation
First Aid 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.

5. FIRE-FIGHTING MEASURES

| | |
|--|---|
| 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 |

6. ACCIDENTAL RELEASE MEASURES

| | |
|----------------------------------|---|
| Personal precautions | For personal protection see section 8 |
| Environmental precautions | No special environmental precautions required |
| 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 high efficiency filter. Flush remainder carefully with plenty of water. Avoid splashing and high pressure washing (avoid formation of aerosols). Ensure sufficient ventilation. Wash contaminated clothing. |

For personal protection see section 8

7. HANDLING AND STORAGE

| | |
|-----------------|--------------------------------------|
| Handling | Avoid formation of dust and aerosols |
|-----------------|--------------------------------------|

7. HANDLING AND STORAGE

Ensure adequate ventilation

This product is formulated to prevent formation of dust. However, inappropriate handling may release dust.

Storage

Keep tightly closed in a dry and cool place. Temperature 0-25°C (32°F-77°F)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls

Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

| | |
|-------------------------------|---|
| Respiratory Protection | In case of insufficient ventilation wear suitable respiratory equipment |
| Eye protection | Safety glasses with side-shields |
| Skin Protection | Long sleeved clothing |
| Hand Protection | Protective gloves |

General hygiene considerations Handle in accordance with good industrial hygiene and safety practices

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------|---------------------------|
| Physical state | Granulate |
| Color | Off-white and brown |
| Odor | Slight fermentation odour |

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

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Acute toxicity

Oral rat LD50 > 2g/kg

Chronic toxicity

According to experience not expected

12. ECOLOGICAL INFORMATION

Ecotoxicity

LC50(fish) > 100mg/L, EC50(daphnia) > 100mg/L, IC50(algae) > 100mg/L

Environmental Effects The data available do not support any environmental hazard.

Persistence/Degradability The organic components of the product are biodegradable

Bioaccumulative potential According to experience not expected

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations

Contaminated Packaging Dispose of wastes in an approved waste disposal facility

Other information Waste codes should be assigned by the user based on the application for which the product was used

14. TRANSPORT INFORMATION

Transport Regulations No dangerous goods according to transport regulations
No special precautions required

15. REGULATORY INFORMATION

Classification and labelling according to Directive 1999/45/EEC

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).

Labelling Xn - Harmful

Classification

Symbol(s) Xn - Harmful

R-phrases(s) R42 - May cause sensitization by inhalation

S-phrase(s) S22 - Do not breathe dust
 S24 - Avoid contact with skin
 S36/37 - Wear suitable protective clothing and gloves

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2&3

R42 - May cause sensitization by inhalation
R36 - Irritating to eyes

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.



Training advice Details on the safe handling of this product can be found in the "Handling enzymes" on www.novozymes.com

End of Safety Data Sheet

1 / EU / English / 05/25/2010