SAFETY DATA SHEET
Revision date: 2022/06/10
Version No: 3
Code of Practice - Preparation of Safety Data Sheets for Hazardous Chemicals

Liquoflow® Go 2X

1. PRODUCT IDENTIFIER & IDENTITY FOR THE CHEMICAL

Product Name Liquoflow® Go 2X
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

Company/Undertaking Identification
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+61 2 9630 8466 (09:00 - 17:00 Monday to Friday)

Emergency Telephone Number
+61 421 522 383 and +61 430 127 664 (24 hours)

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2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Respiratory sensitisation	Category 1

2.2 Label elements

Signal word
Danger

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

Precautionary Statements
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P284 - In case of inadequate ventilation wear respiratory protection
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P402 + P404 - Store in a dry place. Store in a closed container
P501 - Dispose of contents/containers in accordance with local regulations

2.3. Other hazards

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

Physical and Chemical Hazards	None known
Specific hazards	None known

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3. COMPOSITION/INFORMATION ON INGREDIENTS

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

Active enzyme protein (aep) is the part of the enzyme concentrate contributing to the classification of the mixture.

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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 diarrhoea
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.

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5. FIREFIGHTING 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	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 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.
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 0-25 °C (32-77 °F).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure controls

Derived No Effect Level (DNEL)

Derived Minimal Effect Level (DMEL)

Chemical name	DNEL Dermal Acute Local (Workers)	DMEL Inhalation Long term Local (Workers)
Alpha-amylase (aep.)	-	DMEL = 60 ng/m³

Personal Protective Equipment

Respiratory protection	In case of insufficient ventilation wear an approved mask with a particle filter type P3 used according to the manufactures instruction.
Eye Protection	Wear safety glasses with side shields (or goggles).
Skin Protection	Long sleeved clothing.
Hand Protection	Skin should be washed after contact.
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. Waste water should be discharged to sewage treatment plant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Colour	Amber
Odour	Slight fermentation odor
Density (g/ml)	1.25
pH	Adjusted to the range where active enzyme is stable – typically pH 4 – 9
Solubility	Active component is readily soluble in application-relevant solutions at all levels of concentration, temperature and pH which may occur in normal usage
Other information	No information 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

Skin contact Mild skin irritation
Eye contact Mild eye irritation
Ingestion

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 sensitisation	Respiratory sensitisation
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	Acute fish toxicity =
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 (n-octanol/water)	Bioaccumulative potential
Alpha-amylase (aep.)	Readily biodegradable (OECD 301F)	LogPow: <0	Does not bioaccumulate

Mobility in soil Not relevant

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13. DISPOSAL CONSIDERATIONS

Disposal of wastes 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

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14. TRANSPORT INFORMATION

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

UN number not applicable

Transport hazard class(es) not applicable

Packing group not applicable

Environmental hazards Not applicable

Special precautions for user not applicable

Transport in bulk according to Annex II of MARPOL and the IBC Code not applicable

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15. REGULATORY INFORMATION

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

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).

Please check the consequences of national regulations on this product yourself.

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16. OTHER INFORMATION

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

Further information
This SDS is compiled according to the UN GHS rev. 5 Guideline.

Training advice
Details on the safe handling of this product are located in the Novozymes Customer Center Document Library on www.mynovozymes.com
For further information please consult available product documentation including 'Product Application Guidelines' and/or 'Application Sheets', which are available on market.novozymes.com or from Novozymes sales representatives.

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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