SAFETY DATA SHEET
Revision date: 2019/02/26
Version No: 3
According to UN GHS

Acrylaway L

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

1.1 Product Identifier

Product Name	Acrylaway® L
Chemical Name	Enzyme preparation
Declared activity	Asparaginase

1.2 Relevant identified uses of the substance or mixture and uses advised against

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

1.3 Details of the supplier of the safety data sheet

Novozymes A/S
Krogshoejvej 36
2880 Bagsvaerd
Denmark
Tel.: +45 44460000
Fax.: +45 44469999
E-mail: SafetyDataSheet@novozymes.com
www.novozymes.com

Initial Supplier Identifier
Données relatives au fournisseur
Univar Solutions Canada Ltd.
64 Arrow Road
North York, ON M9M 2L9
Telephone: 1-866-686-4827

1.4 Emergency telephone number

+45 44462223 (24/7)

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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 Information

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-%
Asparaginase (aep)	9015-68-3	3.5.1.1	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

4.1 Description of first aid measures

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.
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.

4.2 Most important symptoms and effects, both acute and delayed

See section 4.1

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically

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5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media	None.
Hazardous Combustion Products	None.

5.2 Special hazards arising from the substance or mixture
May cause allergic respiratory reaction.

5.3 Advice for firefighters
Self-contained breathing apparatus.

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6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
For personal protection see section 8

6.2 Environmental Precautions
Collect spillage

6.3 Methods and material for containment and 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.

6.4 Reference to other sections
For personal protection see section 8

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7. HANDLING AND STORAGE

7.1 Precautions for safe 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

7.2 Conditions for safe storage, including any incompatibilities
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. 0-10 °C (32-50 °F)

7.3 Specific end use(s)
Handle in accordance with good industrial hygiene and safety practice

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

DNEL/DMEL/PNEC

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

Derived No Effect Level (DNEL)
Derived Minimal Effect Level (DMEL)

8.2 Exposure controls
Ensure adequate ventilation, especially in confined areas

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

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Colour	Light yellow
Odour	Slight fermentation odor
Melting point / freezing point	No information available
Initial boiling point and boiling range	Not available
Flammability (solid, gas)	Not available
Upper/lower flammability or explosive limits	Not available
Flash Point	> 100 °C
Autoignition temperature	Not available
Decomposition temperature	Not available
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
Partition Coefficient (n-octanol/water)	Not available
Vapour Pressure	Not available
Density (g/ml)	1.13
Vapour density	Not available
Particle characteristics	Not applicable
Evaporation rate	Not available
Oxidising Properties	Not available

9.2 Other information

Other information	No information available

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10. STABILITY AND REACTIVITY

10.1 Reactivity

Not relevant

10.2 Chemical stability
Stable under recommended storage conditions

10.3 Possibility of hazardous reactions
None under normal processing

10.4 Conditions to avoid
None

10.5 Incompatible materials
None

10.6 Hazardous decomposition products
None

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Chemical name	Acute oral toxicity	Respiratory sensitisation	Genetic toxicity	Skin corrosion/irritation	Serious eye damage/eye irritation
Asparaginase (aep)	LD50: > 2000 mg/kg bw (OECD TG 401, 420)	Sensitizer (Human experience)	No indication of mutagenic effects (OECD TG 471, 476, 487)	Not irritating (OECD TG 404)	Not irritating (OECD TG 405)

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12. ECOLOGICAL INFORMATION

12.1 Toxicity

Chemical name	Daphnia, acute	Acute fish toxicity =	Algae, Acute
Asparaginase (aep)	EC50 (48 hours): >31.5 mg aep/l (OECD TG 202)	LC50 (96 hours): >31.5 mg aep/l (OECD TG 203)	ErC50 (72 hours): >31.5 mg aep/l (OECD TG 201)

12.2 Persistence and degradability

Chemical name	Persistence and degradability	Partition coefficient (n-octanol/water)
Asparaginase (aep)	Readily biodegradable (OECD 301)	LogPow: <0

12.3 Bioaccumulative potential

Chemical name	Bioaccumulative potential
Asparaginase (aep)	Does not bioaccumulate

12.4 Mobility in soil
Not relevant

12.5 Results of PBT and vPvB assessment
The components in this formulation do not meet the criteria for classification as PBT or vPvB

12.6 Other adverse effects
No information available

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13. DISPOSAL CONSIDERATIONS

13.1 **Waste treatment methods**
Dispose of in accordance with local regulations
Waste water should be discharged to sewage treatment plant
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
This product is not classified as dangerous goods according to UN GHS classification criteria.

IATA	Not regulated
IMDG/IMO	Not regulated

No special precautions required

14.1 UN number	Not applicable
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	Not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 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
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 compieled according to the UN GHS rev. 5 Guideline.

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.

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

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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