



SAFETY DATA SHEET

LIQUOFLOW GO 2X

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	LIQUOFLOW GO 2X
Product number	52279
REACH registration notes	This product is not classified as hazardous, the information in this datasheet is given for guidance only.

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

Identified uses	Biocatalyst Food industry For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	52279

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Not Classified
Environmental hazards	Not Classified

2.2. Label elements

Hazard statements	EUH208 Contains AMYLASE, alpha. May produce an allergic reaction.
Supplemental label information	EUH210 Safety data sheet available on request.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Immediately rinse mouth and drink plenty of water (200-300 ml). Get medical attention if any discomfort continues.
Skin contact	Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Get medical attention if any discomfort continues. Wash contaminated clothing before reuse.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	The product contains a small amount of sensitising substance. May cause sensitisation or allergic reactions in sensitive individuals. Shortness of breath. Wheezing/breathing difficulties. Coughing. Effects may be delayed.
Ingestion	May cause irritation.
Skin contact	May be slightly irritating to skin.
Eye contact	May be slightly irritating to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically. Effects may be delayed.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	The product contains a small amount of sensitising substance.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Avoid handling which leads to dust formation.
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6.2. Environmental precautions

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Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Collect and place in suitable waste disposal containers and seal securely. Do not allow to dry out. Flush contaminated area with plenty of water.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid handling which leads to dust formation. Avoid the formation of mists. Avoid breathing vapour/spray.

Advice on general occupational hygiene When using do not eat, drink or smoke. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry and cool place. Store at temperatures between 0°C and 25°C.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

AMYLASE, alpha (CAS: 9000-90-2)

DMEL	Workers - Inhalation; Long term local effects: 60 ng/m ³ Consumer, Professional - Inhalation; Long term local effects: 15 ng/m ³
PNEC	- Fresh water; 5.2 µg/l - marine water; 0.52 µg/l - STP; 65000 µg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination.
Hygiene measures	Wash skin thoroughly after handling.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Use respiratory equipment with particle filter, type P3.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Amber.
pH	pH (concentrated solution): 4 - 9
Bulk density	1.25 kg/l

9.2. Other information

Other information	No information available.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
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10.2. Chemical stability

Stability	Stable under the prescribed storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid	None known.
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10.5. Incompatible materials

Materials to avoid	None known.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	No information available.
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Respiratory sensitisation

Respiratory sensitisation	The product contains a small amount of sensitising substance.
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Inhalation	May cause sensitisation or allergic reactions in sensitive individuals. Shortness of breath. Wheezing/breathing difficulties. Coughing. Effects may be delayed.
Ingestion	May cause irritation.
Skin contact	May be slightly irritating to skin.
Eye contact	May be slightly irritating to eyes.

Toxicological information on ingredients.

AMYLASE, alpha

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, OECD 401

Skin corrosion/irritation

Skin corrosion/irritation Not irritating. OECD 404

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. OECD 405

Respiratory sensitisation

Respiratory sensitisation Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

SECTION 12: Ecological information

Ecotoxicity	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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12.1. Toxicity

Toxicity	No information available.
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Ecological information on ingredients.

AMYLASE, alpha

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 58.3 - 326.7 mg/l, Fish
OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 31.7 - 457 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC₅₀, 72 hours: >= 5.2 mg/l, Algae
OECD 201

12.2. Persistence and degradability

Persistence and degradability	No information available.
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Ecological information on ingredients.

AMYLASE, alpha

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Persistence and degradability

The product is readily biodegradable. OECD 301

12.3. Bioaccumulative potential

Bioaccumulative potential No information available.

Ecological information on ingredients.

AMYLASE, alpha

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Pow: < 0

12.4. Mobility in soil

Mobility No information available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

Not applicable.

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SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate.
	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
	ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
	CAS: Chemical Abstracts Service.
	DNEL: Derived No Effect Level.
	IATA: International Air Transport Association.
	IMDG: International Maritime Dangerous Goods.
	Kow: Octanol-water partition coefficient.
	LC ₅₀ : Lethal Concentration to 50 % of a test population.
	LD ₅₀ : Lethal Dose to 50% of a test population (Median Lethal Dose).
	PBT: Persistent, Bioaccumulative and Toxic substance.
	PNEC: Predicted No Effect Concentration.
	REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
	RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
	vPvB: Very Persistent and Very Bioaccumulative.
	IARC: International Agency for Research on Cancer.
	MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
	cATpE: Converted Acute Toxicity Point Estimate.
	BCF: Bioconcentration Factor.
	BOD: Biochemical Oxygen Demand.
	EC ₅₀ : 50% of maximal Effective Concentration.
	LOAEC: Lowest Observed Adverse Effect Concentration.
	LOAEL: Lowest Observed Adverse Effect Level.
	NOAEC: No Observed Adverse Effect Concentration.
	NOAEL: No Observed Adverse Effect Level.
	NOEC: No Observed Effect Concentration.
	LOEC: Lowest Observed Effect Concentration.
	DMEL: Derived Minimal Effect Level.
	EL50: Exposure Limit 50
	hPa: Hectopascal
	LL50: Lethal Loading fifty
	OECD: Organisation for Economic Co-operation and Development
	POW: Octanol-water partition coefficient
	SCBA: self-contained breathing apparatus
	STP: Sewage Treatment Plant
	VOC: Volatile Organic Compounds
Classification abbreviations and acronyms	Acute Tox. = Acute toxicity
	Aquatic Acute = Hazardous to the aquatic environment (acute)
	Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	16/04/2020
Version number	2.000
Supersedes date	27/03/2018

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SDS number	52279
SDS status	Approved.
Hazard statements in full	EUH208 Contains AMYLASE, alpha. May produce an allergic reaction.
Signature	Jacq Pattinson



Exposure scenario
Non-proteolytic enzyme: Formulation or re-packing

Identification

Product name	Alpha-amylase
REACH registration number	01-2119938627-26-XXXX
CAS number	9000-90-2
EC number	232-565-6
EU index number	647-015-00-4
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Non-proteolytic enzyme: Formulation or re-packing
Process scope	Formulation of the substance and its mixtures in batch or continuous operations within closed or contained systems, including incidental exposures during storage, materials transfers, mixing, maintenance, sampling and associated laboratory activities.
Product category	PC21 Laboratory chemicals. PC35 Washing and cleaning products PC37 Water treatment chemicals. PC39 Cosmetics, personal care.
Main sector	SU3 Industrial uses
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging
<u>Environment</u>	
Environmental release category	ERC2 Formulation into mixture

Worker

Non-proteolytic enzyme: Formulation or re-packing

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises
	PROC5 Mixing or blending in batch processes
	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
	PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
	PROC14 Tableting, compression, extrusion, pelletisation, granulation
	PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Control of environmental exposure

Environmental release category	ERC2 Formulation into mixture
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Product characteristics

Physical state	Solid, low dustiness , or: Liquid
Concentration details	Covers concentrations up to 15 %.

Amounts used

Daily amount per site: 1 tonnes
Annual amount per site: 10 tonnes

Frequency and duration of use

Emission days: 365 days/year
Continuous release.

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Removal efficiency (total): 99.99%

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid, low dustiness , or: Liquid
Concentration details	Covers concentrations up to 15 %. Concentration of substance in product: 0.5%

Frequency and duration of use

Covers daily exposure up to 12hours

Non-proteolytic enzyme: Formulation or re-packing

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	High efficiency particulate air filter (HEPA filter) Provide extract ventilation to points where emissions occur. PROC15 Use as laboratory reagent. Handle in a fume cupboard or under extract ventilation.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Ensure operatives are trained to minimise exposures. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Wear suitable coveralls to prevent exposure to the skin.
Use suitable eye protection.
In case of insufficient ventilation, wear suitable respiratory equipment.
with filter for particulates: P3.

Additional advice	Avoid splashing.
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2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Solid, low dustiness , or: Liquid
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3. Exposure estimation (Environment 1)

Environmental release category	ERC2 Formulation into mixture
Assessment method	Used ECETOC TRA model.
Environmental release	Water: 20 kg/day Air: 0 kg/day Soil: 0 kg/day
Environmental exposure	Fresh water: Exposure 0.00026 mg/l, PNEC 0.0052 mg/l, RCR 0.05 Marine water: Exposure 0.000026 mg/l, PNEC 0.00052 mg/l, RCR 0.05 STP: Exposure 0.001 mg/l, PNEC 65 mg/l, RCR 0.01

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
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Non-proteolytic enzyme: Formulation or re-packing

Exposure

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - local: Exposure 20 ng/m³, DNEL 60 ng/m³, RCR 0.33

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - local: Exposure 10 ng/m³, DNEL 60 ng/m³, RCR 0.17

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - local: Exposure 6 ng/m³, DNEL 60 ng/m³, RCR 0.1

PROC14 Tableting, compression, extrusion, pelletisation, granulation

Worker - inhalation, long-term - local: Exposure 30 ng/m³, DNEL 60 ng/m³, RCR 0.5

Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.



Exposure scenario
Non-proteolytic enzyme: Industrial processing aid (including Cleaning in Place)

Identification

Product name	Alpha-amylase
REACH registration number	01-2119938627-26-XXXX
CAS number	9000-90-2
EC number	232-565-6
EU index number	647-015-00-4
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Non-proteolytic enzyme: Industrial processing aid (including Cleaning in Place)
Main sector	SU3 Industrial uses
Sector of use	SU2b Offshore industries SU5 Manufacture of textiles, leather, fur SU6b Manufacture of pulp, paper and paper products SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals SU23 Electricity, steam, gas, water supply and sewage treatment SU24 Scientific research and development

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
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Worker

Non-proteolytic enzyme: Industrial processing aid (including Cleaning in Place)

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises
	PROC5 Mixing or blending in batch processes
	PROC7 Industrial spraying
	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
	PROC13 Treatment of articles by dipping and pouring.
	PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Solid, low dustiness , or: Liquid
Concentration details	Covers concentrations up to 15 %.

Amounts used

Daily amount per site: 0.5 tonnes
Annual amount per site: 10 tonnes

Frequency and duration of use

Emission days: 365 days/year
Continuous release.

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Removal efficiency (total): 99.99%

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Solid, low dustiness , or: Liquid
Concentration details	Covers concentrations up to 15 %. Concentration of substance in product: 0.5% PROC7 Industrial spraying Maximum concentration after dilution for use: 0.0065 %

Frequency and duration of use

Covers daily exposure up to 12hours

Other given operational conditions affecting workers exposure

Setting	Indoor.
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Non-proteolytic enzyme: Industrial processing aid (including Cleaning in Place)

Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
<u>Technical conditions and measures at process level (source) to prevent release</u>	
Technical protective measures	High efficiency particulate air filter (HEPA filter) Provide extract ventilation to points where emissions occur. PROC15 Use as laboratory reagent. Handle in a fume cupboard or under extract ventilation.
<u>Organisational measures to prevent/limit releases, dispersion and exposure</u>	
Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Ensure operatives are trained to minimise exposures. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
<u>Risk management measures</u>	
	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. In case of insufficient ventilation, wear suitable respiratory equipment. with filter for particulates: P3.
Additional advice	Avoid splashing.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Solid, low dustiness , or: Liquid
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3. Exposure estimation (Environment 1)

Assessment method	Used ECETOC TRA model.
Environmental release	Water: 250 kg/day Air: 0 kg/day Soil: 0 kg/day
Environmental exposure	Fresh water: Exposure 0.00026 mg/l, PNEC 0.0052 mg/l, RCR 0.05 Marine water: Exposure 0.000026 mg/l, PNEC 0.00052 mg/l, RCR 0.05 STP: Exposure 0.001 mg/l, PNEC 65 mg/l, RCR 0.01

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
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Non-proteolytic enzyme: Industrial processing aid (including Cleaning in Place)

Exposure

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - local: Exposure 20 ng/m³, DNEL 60 ng/m³, RCR 0.33

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - local: Exposure 10 ng/m³, DNEL 60 ng/m³, RCR 0.17

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - local: Exposure 6 ng/m³, DNEL 60 ng/m³, RCR 0.1

PROC7 Industrial spraying

Worker - inhalation, long-term - local: Exposure 40 ng/m³, DNEL 60 ng/m³, RCR 0.5

Worker - dermal Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Health 1)

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.