YEAST VIT

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Reference number: SDS247
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : YEAST VIT
Product code : YVIT
Product group : End product

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Food/feedstuff additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

1.4. Emergency telephone number

Emergency number : +115 978 5494
Office Hours Only

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal word (CLP) : -
Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP) : P273 - Avoid release to the environment.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
AMMONIUM SULPHATE	CAS-No.: 7783-20-2 EC-No.: 231-984-1 REACH-no: 01-2119455044-46	≥ 75	Aquatic Chronic 3, H412
DIAMMONIUM PHOSPHATE	CAS-No.: 7783-28-0 EC-No.: 231-987-8 REACH-no: 01-2119490974-22	1 – 5	Not classified
ZINC SULPHATE	CAS-No.: 7446-19-7 EC-No.: 231-793-3 EC Index-No.: 030-006-00-9	< 1	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
MAGNESIUM SULPHATE HEPTAHYDRATE	CAS-No.: 7487-88-9 EC-No.: 231-298-2 REACH-no: 01-2119486789-11	< 1	Not classified
ASPARTIC ACID	CAS-No.: 56-84-8 EC-No.: 200-291-6	< 1	Acute Tox. 4 (Oral), H302
CALCIUM D PANTOTHENATE	CAS-No.: 137-08-06 EC-No.: 205-278-9	< 1	Not classified
INOSITOL	CAS-No.: 87-89-8 EC-No.: 201-781-2	< 1	Not classified
METHIONINE (L)	CAS-No.: 63-68-3 EC-No.: 200-562-9	< 1	Not classified
NICOTINAMIDE	CAS-No.: 98-92-0 EC-No.: 202-713-4 REACH-no: 01-2119968268-22	< 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
THIAMINE HYDROCHLORIDE	CAS-No.: 67-03-8 EC-No.: 200-641-8	< 1	Not classified
VALINE	CAS-No.: 72-18-4 EC-No.: 200-773-6	< 1	Not classified
PYRIDOXINE HYDROCHLORIDE	CAS-No.: 58-56-0 EC-No.: 200-386-2	< 1	Eye Dam. 1, H318 Aquatic Chronic 3, H412
POTASSIUM IODIDE	CAS-No.: 7681-11-0 EC-No.: 231-659-4	< 1	STOT RE 1, H372
ASPARAGINE, L	CAS-No.: 70-47-3 EC-No.: 200-735-9	< 1	Not classified

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If symptoms persist call a doctor.

First-aid measures after skin contact : Wash skin with plenty of water. If case of redness or irritation, call a doctor.
First-aid measures after eye contact : Rinse eyes with water as a precaution. Immediately rinse with plenty of water (for at least 15 minutes). If symptoms persist call a doctor.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Keep in a cool, well-ventilated place away from heat.
Storage conditions	:	Keep cool. Protect from sunlight. Keep container tightly closed to avoid moisture absorption and contamination.
Storage temperature	:	≤ 35 °C
Packaging materials	:	Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

YEAST VIT	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	< 10 mg/m³ Inhalable dust

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
Wear recommended personal protective equipment.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses, Safety goggles	Dust	Plastic	EN 166

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Disposable gloves	Nitrile rubber (NBR), Butyl rubber, Latex, Natural rubber, Neoprene rubber (HNBR), Polyvinylchloride (PVC), Vinyl	6 (> 480 minutes)			EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
	Type P3, ABEK-P3	Dust protection	EN 136, EN 140, EN 143, EN 145, EN 149

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	White crystal flakes or powder.
Colour	:	Off-white.
Odour	:	Perceptible odour.
Odour threshold	:	No data available
pH	:	No data available.
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available.
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable

Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available.
Relative density	:	No data available.
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

DIAMMONIUM PHOSPHATE (7783-28-0)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
LD50 dermal rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity), Guideline: other:

AMMONIUM SULPHATE (7783-20-2)	
LD50 oral rat	> 2000 mg/kg

AMMONIUM SULPHATE (7783-20-2)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 434 (Acute Dermal Toxicity - Fixed Dose Procedure)

ASPARTIC ACID (56-84-8)	
LD50 oral rat	2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)

INOSITOL (87-89-8)	
LD50 oral rat	19483.68 mg/kg bodyweight Animal: rat, Remarks on results: other:
LD50 oral	10000 mg/kg

MAGNESIUM SULPHATE HEPTAHYDRATE (7487-88-9)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity), Guideline: other:

METHIONINE (L) (63-68-3)	
LD50 oral rat	> 10000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

PYRIDOXINE HYDROCHLORIDE (58-56-0)	
LD50 oral rat	7750 mg/kg bodyweight Animal: rat, Remarks on results: other:, 95% CL: 6600 - 8900

THIAMINE HYDROCHLORIDE (67-03-8)	
LD50 oral rat	12340 mg/kg bodyweight Animal: rat, 95% CL: 10340 - 14340
LD50 oral	13347 mg/kg bodyweight Animal: mouse, 95% CL: 11527 - 15167

VALINE (72-18-4)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LC50 Inhalation - Rat	> 5.26 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))

ZINC SULPHATE (7446-19-7)	
LD50 oral	≈ 926 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:, 95% CL: 636 - 1350
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

ASPARAGINE, L (70-47-3)	
LD50 oral rat	> 16000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Skin corrosion/irritation : Not classified
pH: No data available.

DIAMMONIUM PHOSPHATE (7783-28-0)	
pH	7.8 (≥ 8.4) Remarks on result: 'other:'

AMMONIUM SULPHATE (7783-20-2)	
pH	6.0 - 8.0

ASPARTIC ACID (56-84-8)	
pH	3.03 Concentration: 10 g/L Remarks on result: 'other:'

CALCIUM D PANTOTHENATE (137-08-06)	
pH	7.0 - 9.0

INOSITOL (87-89-8)	
pH	No data available.

MAGNESIUM SULPHATE HEPTAHYDRATE (7487-88-9)	
pH	≈ 8

METHIONINE (L) (63-68-3)	
pH	7.0 - 9.0

NICOTINAMIDE (98-92-0)	
pH	No data available.

PYRIDOXINE HYDROCHLORIDE (58-56-0)	
pH	No data available.

THIAMINE HYDROCHLORIDE (67-03-8)	
pH	No data available.

VALINE (72-18-4)	
pH	No data available.

POTASSIUM IODIDE (7681-11-0)	
pH	≈ 6.9 50g/Lts

ASPARAGINE, L (70-47-3)	
pH	No data available.

Serious eye damage/irritation : Not classified
pH: No data available.

DIAMMONIUM PHOSPHATE (7783-28-0)	
pH	7.8 (≥ 8.4) Remarks on result: 'other:'

AMMONIUM SULPHATE (7783-20-2)	
pH	6.0 - 8.0

ASPARTIC ACID (56-84-8)	
pH	3.03 Concentration: 10 g/L Remarks on result: 'other:'

CALCIUM D PANTOTHENATE (137-08-06)	
pH	7.0 - 9.0

INOSITOL (87-89-8)	
pH	No data available.

MAGNESIUM SULPHATE HEPTAHYDRATE (7487-88-9)	
pH	≈ 8

METHIONINE (L) (63-68-3)	
pH	7.0 - 9.0

NICOTINAMIDE (98-92-0)	
pH	No data available.

PYRIDOXINE HYDROCHLORIDE (58-56-0)	
pH	No data available.

THIAMINE HYDROCHLORIDE (67-03-8)	
pH	No data available.

VALINE (72-18-4)	
pH	No data available.

POTASSIUM IODIDE (7681-11-0)	
pH	≈ 6.9 50g/Lts

ASPARAGINE, L (70-47-3)	
pH	No data available.

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

AMMONIUM SULPHATE (7783-20-2)	
NOAEL (chronic, oral, animal/male, 2 years)	256 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEL (chronic, oral, animal/female, 2 years)	284 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity : Not classified
STOT-single exposure : Not classified

NICOTINAMIDE (98-92-0)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

THIAMINE HYDROCHLORIDE (67-03-8)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

ZINC SULPHATE (7446-19-7)	
LOAEL (oral, rat, 90 days)	53.8 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	31.52 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

POTASSIUM IODIDE (7681-11-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

YEAST VIT	
Viscosity, kinematic	Not applicable
DIAMMONIUM PHOSPHATE (7783-28-0)	
Viscosity, kinematic	Not applicable
AMMONIUM SULPHATE (7783-20-2)	
Viscosity, kinematic	Not applicable
ASPARTIC ACID (56-84-8)	
Viscosity, kinematic	Not applicable
CALCIUM D PANTOTHENATE (137-08-06)	
Viscosity, kinematic	Not applicable
INOSITOL (87-89-8)	
Viscosity, kinematic	Not applicable
MAGNESIUM SULPHATE HEPTAHYDRATE (7487-88-9)	
Viscosity, kinematic	Not applicable
METHIONINE (L) (63-68-3)	
Viscosity, kinematic	Not applicable
NICOTINAMIDE (98-92-0)	
Viscosity, kinematic	Not applicable
PYRIDOXINE HYDROCHLORIDE (58-56-0)	
Viscosity, kinematic	Not applicable
THIAMINE HYDROCHLORIDE (67-03-8)	
Viscosity, kinematic	Not applicable
VALINE (72-18-4)	
Viscosity, kinematic	Not applicable
ZINC SULPHATE (7446-19-7)	
Viscosity, kinematic	Not applicable
POTASSIUM IODIDE (7681-11-0)	
Viscosity, kinematic	Not applicable
ASPARAGINE, L (70-47-3)	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Harmful to aquatic life with long lasting effects.

DIAMMONIUM PHOSPHATE (7783-28-0)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

AMMONIUM SULPHATE (7783-20-2)	
LC50 - Fish [1]	53 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Fish [2]	57.2 mg/l Test organisms (species): Prosopium williamsoni
EC50 - Crustacea [1]	169 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	121.7 mg/l Test organisms (species): other:

INOSITOL (87-89-8)	
LC50 - Fish [1]	5424.33 mg/l Test organisms (species): Pimephales promelas
EC50 72h - Algae [1]	> 36600 mg/l Test organisms (species): other:

MAGNESIUM SULPHATE HEPTAHYDRATE (7487-88-9)	
LC50 - Fish [1]	680 mg/l Test organisms (species): Pimephales promelas
EC50 - Other aquatic organisms [1]	720 mg/l

METHIONINE (L) (63-68-3)	
LC50 - Fish [1]	> 3200 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
LC50 - Fish [2]	> 3200 mg/l Test organisms (species):
EC50 - Crustacea [1]	324 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	324 mg/l Test organisms (species):
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	> 1000 mg/l Test organisms (species):

PYRIDOXINE HYDROCHLORIDE (58-56-0)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	72 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

THIAMINE HYDROCHLORIDE (67-03-8)	
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

VALINE (72-18-4)	
LC50 - Fish [1]	> 10 g/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)

POTASSIUM IODIDE (7681-11-0)	
LC50 - Fish [1]	3780 mg/l
EC50 - Other aquatic organisms [1]	7.5 mg/l

ASPARAGINE, L (70-47-3)	
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

YEAST VIT	
Persistence and degradability	Not rapidly degradable

DIAMMONIUM PHOSPHATE (7783-28-0)	
Persistence and degradability	Not rapidly degradable

AMMONIUM SULPHATE (7783-20-2)	
Persistence and degradability	Not rapidly degradable

ASPARTIC ACID (56-84-8)	
Persistence and degradability	Not rapidly degradable

CALCIUM D PANTOTHENATE (137-08-06)	
Persistence and degradability	Not rapidly degradable

INOSITOL (87-89-8)	
Persistence and degradability	Not rapidly degradable

MAGNESIUM SULPHATE HEPTAHYDRATE (7487-88-9)	
Persistence and degradability	Not rapidly degradable

METHIONINE (L) (63-68-3)	
Persistence and degradability	Not rapidly degradable

NICOTINAMIDE (98-92-0)	
Persistence and degradability	Not rapidly degradable

PYRIDOXINE HYDROCHLORIDE (58-56-0)	
Persistence and degradability	Not rapidly degradable

THIAMINE HYDROCHLORIDE (67-03-8)	
Persistence and degradability	Not rapidly degradable

VALINE (72-18-4)	
Persistence and degradability	Not rapidly degradable

ZINC SULPHATE (7446-19-7)	
Persistence and degradability	Not rapidly degradable

POTASSIUM IODIDE (7681-11-0)	
Persistence and degradability	Not rapidly degradable

ASPARAGINE, L (70-47-3)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level

Abbreviations and acronyms:	
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Full text of H- and EUH-statements:	
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.