

Section 1. Product Identifier and Identity for the chemical

Product Identifier

Product Name: Enzymes in solid form (powder) or liquid form. *See product codes below.*

Other means of identification

Product Codes:	MC23.05	Catalase	MC23.1M	Trypsin
	MC23.201M	Pepsin	MC23.261M	Pancreatin
	MC23.31	Amylase (clarase)	MC23.35P	Amylase (diastase)
	MC23.36C	Amylase (diastase)	MC23.42E	Lipase
	MC23.65E	Cellulase	MC23.71E	Pectinase
	MC23.80E	Protease	MC23.92P	Urease
	MC23.51	Lactase	MC23.52	Invertase
	MC23.66E	Cellulase		

Recommended use of the chemical and restrictions on use

Recommended Use: Experimental scientific investigations in education

Suppliers name, address and phone number

Suppliers Name: Southern Biological

Suppliers ABN: ABN 25 838 926 933

Suppliers Address: 1/44 Rushdale Street
Knoxfield Victoria 3180 Australia

Suppliers Phone No.: (03) 9753 3896

Suppliers Fax No.: (03) 9753 3959

Emergency phone number

Phone (BH) (03) 9753 3896

Phone (AH) 0425 725 875

Section 2. Hazard Identification

Classification of the Hazardous Chemical



GHS08 Danger – Systemic health hazards

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07 Warning – Lower systemic health hazards

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Label elements

Hazard Pictograms:



GHS08



GHS07

Signal Word: **Danger**

Hazard Statements:

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335: May cause respiratory irritation.

Precautionary Statements:

P284: [In case of inadequate ventilation] wear respiratory protection.

P261: Avoid breathing dust/fume/gas/mist/vapours/spray

P280: Wear protective gloves/ protective clothing / eye protection.

P264: Wash thoroughly after handling

P271: Use only outdoors or in a well-ventilated area.

Response Statements

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do continue rinsing.

P304+312: IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+311: If exposed or concerned: Call a POISON CENTER/ doctor

P332+313: If skin irritation occurs: Get medical advice/attention.

P337+313: If eye irritation persists get medical advice/attention.

P302+352: IF ON SKIN: Wash with plenty of water.

P362+364: Take off contaminated clothing and wash it before reuse.

P301 + 312: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

Storage Statements

P405: Store locked up.

P402+404: Store in a dry place. Store in a closed container.

Disposal Statements

501: Dispose of contents/container in accordance with local regulations.

Other hazards

Results of PBT and vPvT assessment:

PBT: Not applicable

vPvT: Not applicable

Section 3. Composition/information on ingredients

Ingredients:	Name	CAS	Proportion
	Enzymes	Various	10 – 95 %
	Ingredients determined not to be hazardous		Balance

Section 4. First Aid Measures

General Information: P362+364: Take off contaminated clothing and wash it before reuse.

After Inhalation: P304+312: IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

After skin contact: P302+352: IF ON SKIN: Wash with plenty of water.

P362+364: Take off contaminated clothing and wash it before reuse.

P332+313: If skin irritation occurs: Get medical advice/attention.

After eye contact: P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do continue rinsing.

P337+313: If eye irritation persists get medical advice/attention.

After swallowing: P301 + 312: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

Information for doctor:

Most important symptoms and effects both acute and delayed:

No further relevant information available.

Indications of any immediate medical attention and special treatment needed

No further relevant information available.

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture:

No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: **Not required**

Environmental precautions: **No special measures required.**

Methods and material for containment and cleaning up:

Dispose of contaminating material as waste according to **Section 13**.

Ensure adequate ventilation.

Reference to other sections:

See **Section 7** for information on safe handling.

See **Section 8** for information on protective equipment.

See **Section 13** for disposal information.

Section 7. Handling and Storage

Precautions for safe handling:

Ensure good ventilation of the workplace.

Information about fire – and explosion protection:

No special measures required.

Conditions for safe storage, including any incompatibilities.

Storage:

MC23.210M	Pepsin	15-30°C
MC23.05	Catalase	4-6°C
MC23.65E	Cellulase	4-6°C
MC23.66E	Cellulase	4-6°C
MC23.31	Amylase(α-amylase)	4-6°C
MC23.80E	Protease	4-6°C
MC23.51	Lactase	4-6°C

Material Safety Data Sheet

Enzymes in Solid(Powder) or Liquid Form

Issue Date: November 2017

Issued by Southern Biological

MC23.42E	Lipase	4-6°C
MC23.71E	Pectinase	4-6°C
MC23.35P	Amylase(diastase)	4-6°C
MC23.36C	Amylase(diastase)	4-6°C
MC23.92P	Urease	4-6°C
MC23.1M	Trypsin	4-6°C
MC23.261M	Pancreatin	-20°C
MC23.52	Invertase	4-6°C

Requirements to be met by storerooms and receptacles:

No special requirements

Information about storage in one common storage facility:

Not required

Further information about storage conditions:

Keep container tightly sealed.

Specific end use(s):

No further relevant information available.

Section 8. Exposure controls/personal protection.

Additional information about design of technical facilities:

No further data: see section 7

Control parameters:

Ingredients with limit values that require monitoring at the workplace:

Not required

Additional Information:

No additional information.

Exposure controls:

General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Wash hands thoroughly after handling.
- Do not eat or drink when using this product.
- Avoid contact with eyes and skin.

Respiratory protection:

Not required when adequate ventilation is used. Otherwise in case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of skin:



Protective clothing

Protection of hands:



Protective gloves

Eye protection:



Tightly sealed goggles

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

General Information:

Appearance:

<i>Form:</i>	Powder or Liquid
<i>Colour:</i>	White to tan (powder), colourless to brown coloured (liquid)
<i>Odour:</i>	Indeterminate
<i>Odour Threshold:</i>	Not determined
<i>pH value:</i>	Not applicable
Change in condition:	
<i>Melting point/Melting range:</i>	Not determined
<i>Boiling point/Boiling range:</i>	Not determined
<i>Flash point:</i>	Not applicable
<i>Flammability (solid / gaseous)</i>	May be combustible at high temperatures.
Ignition temperature:	
<i>Decomposition temperature:</i>	Not determined
<i>Self-igniting:</i>	Not determined
<i>Danger of explosion:</i>	Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined

Upper: Not determined

Vapour pressure: Not applicable

Density: Not determined

Relative density: Not determined

Vapour density: Not applicable

Evaporation rate: Not applicable

Solubility in/ Miscibility with water: Soluble

Partition coefficient (n-octanol/water): Not determined

Viscosity:

Dynamic: Not applicable

Kinematic: Not applicable

Other information: No further relevant information available.

Section 10. Stability and reactivity

Reactivity: No further relevant information available

Chemical Stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions:

No dangerous reactions known.

Conditions to avoid:

No further relevant information available.

Incompatible materials:

No further relevant information available.

Hazardous decomposition products:

No dangerous decomposition products known.

Section 11. Toxicological information

Information on toxicological effects.

Acute toxicity

Primary irritant effect:

Skin corrosion/ irritation: Irritant to skin and mucous membranes.

Serious eye damage/ irritation: Irritating effect.

Respiratory or skin sensitisation: Sensitisation possible through inhalation.

Section 12. Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behaviour in environmental systems:

Bio-accumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information

Results of PBT and vPvT assessment

PBT: Not applicable

vPvT: Not applicable

Other adverse effects: No further relevant information available.

Section 13. Disposal considerations

Waste treatment methods

Recommendations

Do not dispose of raw product with household garbage. Do not allow raw product to reach sewerage system.

For non-industrial /educational / domestic quantities:

Small volumes of enzymes may be deactivated by treating with a 5% solution of bleach for 12-16 hours then further diluted with water before disposal in domestic/trade waste.

Uncleaned packaging:

Recommendation:

Disposal must be made according to local regulations.

Recommended cleansing agents:

Water, if necessary together with cleansing agents.

Section 14. Transport information

UN-Number:

ADR/RID, IMDG, IATA-DGR -

UN proper shipping name

ADR/RID, IMDG, IATA-DGR Not dangerous goods

Class: -

Packing Group:

ADR/RID, IMDG, IATA-DGR -

Environmental Hazards:

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

Special precautions for user: No data available

Section 15. Regulatory Information

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

Australian Inventory of Chemical Substances: Listed.

Standard for the Uniform Scheduling of Medicines and Poisons Not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Section 16. Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and Acronyms

ADR: European agreement concerning the International Carriage of Dangerous Goods By Road

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service

PBT: Persistent Bio-accumulative and Toxic

vPvT: very Persistent and very Toxic

Skin Irrit 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit 2: Serious sys damage / eye irritation, Hazard Category 2

Resp. Sens. 1: Sensitisation – Respirat., Hazard Category 1

STOT SE 3: Specific target organ toxicity – Single exposure, Hazard Category 3