

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : POWERZYM® M
Product code : POU0880

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

REALZYME
S Pioneer BLVD, 223
Springboro, - OH 45066 - United States of America
T +1 937 350 56 60 - F +1 937 350 56 60
info@realzyme.com - www.realzyme.com

1.4. Emergency telephone number

Emergency number : +1- 800 - 222 - 1222 (United States only) 011-32-70-245-245 (Canada and all other areas)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Pure product

Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.

Product used at recommended concentration (1,0%)

Not classified as hazardous.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H315 - Causes skin irritation.
H318 - Causes serious eye damage.

Precautionary statements (GHS-US) :

- P264 - Wash hands, forearms and face thoroughly after handling.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - If on skin: Wash with plenty of water/...
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a poison center/doctor/...
- P321 - Specific treatment (see supplemental first aid instruction on this label)
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.

Product used at recommended concentration (1,0%)

Labeling not applicable. Product not classified as hazardous.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
sodium carbonate	(CAS-No.) 497-19-8	15 - 30	Eye Irrit. 2A, H319
Sodium carbonate peroxide	(CAS-No.) 15630-89-4	5 - 15	Ox. Sol. 3, H272 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
disodium metasilicate	(CAS-No.) 6834-92-0	1 - 5	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 STOT SE 3, H335
alcohols, C12-C15, ethoxylated, propoxylated	(CAS-No.) 120313-48-6	1 - 3	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
subtilisin	(CAS-No.) 9014-01-1	< 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Lipase	(CAS-No.) 9001-62-1	< 1	Resp. Sens. 1, H334

Full text of hazard classes and H-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 (show the label where possible). Take off immediately all contaminated clothing. Wash clothing before re-using.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Wash skin with mild soap and water. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, take medical advice. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : Cough. Irritation of the respiratory tract and the other mucous membranes.
- Symptoms/effects after skin contact : Redness, pain. Irritation.
- Symptoms/effects after eye contact : Redness, pain. Blurred vision. Serious damage to eyes.
- Symptoms/effects after ingestion : Abdominal pain, nausea.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : All extinguishing media allowed. Water spray. Dry powder. Foam.
- Unsuitable extinguishing media : None.

5.2. Specific hazards arising from the chemical

- Explosion hazard : Product is not explosive.
- Reactivity : Stable in use and storage conditions as recommended in item 7.

5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Wear proper protective equipment.
- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

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Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ensure adequate ventilation. Collect spillage.
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6.1.1. For non-emergency personnel

Protective equipment	: Personal protection. See Heading 8.
Emergency procedures	: Ventilate spillage area. Avoid all contact with skin, eyes, or clothing. Do not breathe dust. Evacuate area. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Personal protection. See Heading 8. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Stop leak if safe to do so. Mark the danger area. Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Dike for recovery or absorb with appropriate material.
Methods for cleaning up	: Mechanically recover the product. Collect spillage. Rinse with plenty of water. Minimize generation of dust.
Other information	: Never return spills in original containers for possible later re-use. Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Do not breathe dust.
Precautions for safe handling	: Ensure good ventilation of the work station. Do not eat, drink or smoke when using this product. Do not handle until all safety precautions have been read and understood. Do not breathe Dust. Do not get in eyes, on skin, or on clothing. Avoid all unnecessary exposure. Wear personal protective equipment.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. 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

Storage conditions	: Store in original container. Keep only in the original container in a cool, well-ventilated place away from moisture. Keep container closed when not in use. Store in a well-ventilated place. Keep cool.
Incompatible products	: None to our knowledge.
Incompatible materials	: None to our knowledge.
Storage temperature	: 4 - 25 °C
Heat and ignition sources	: Store away from direct sunlight or other heat sources.
Storage area	: Store in a dry place. Prevent moisture contact.
Special rules on packaging	: Keep only in original container.
Packaging materials	: PP.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

sodium carbonate (497-19-8)

Not applicable

Sodium carbonate peroxide (15630-89-4)

Not applicable

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disodium metasilicate (6834-92-0)		
Not applicable		
subtilisin (9014-01-1)		
NIOSH	NIOSH REL (STEL) (mg/m³)	0.00006 mg/m³ 60 minutes average value
Lipase (9001-62-1)		
Not applicable		
cellulase (9012-54-8)		
Not applicable		
alcohols, C12-C15, ethoxylated, propoxylated (120313-48-6)		
Not applicable		

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure adequate ventilation. Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment. Prevent entry to sewers and public waters. Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Safety glasses.

Hand protection:

Gloves. (EN 374)

Eye protection:

Safety glasses. Eye protection (standard EN 166). Safety glasses

Skin and body protection:

Use chemically protective clothing

Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. Approved dust or mist respirator (acc. to EN 140 or EN 136) should be used if airborne particles are generated when handling this material. Recommended Filter: type P (acc. to EN 143). The entrepreneur has to ensure that maintenance cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

Personal protective equipment symbol(s):



Thermal hazard protection:

No specific measures are necessary.

Other information:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. The equipment must be cleaned thoroughly after each use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Powder.
Colour : white
Odour : characteristic
Odour threshold : The product has not been tested
pH : Not applicable

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Melting point	: The product has not been tested
Freezing point	: Not applicable
Boiling point	: Not applicable
Critical temperature	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: Not applicable
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: The product has not been tested
Relative vapour density at 20 °C	: Not applicable
Relative density	: Not applicable
Density	: 1050 - 1350 kg/m³
Solubility	: In water, material is partially soluble.
Log Pow	: The product has not been tested The product has not been tested
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive limits	: Not applicable Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: The active ingredient is an oxidizer.

9.2. Other information

Other properties	: Hygroscopic product.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable in use and storage conditions as recommended in item 7.

10.2. Chemical stability

Stable in use and storage conditions as recommended in item 7.

10.3. Possibility of hazardous reactions

Stable in use and storage conditions as recommended in item 7.

10.4. Conditions to avoid

None.

10.5. Incompatible materials

None under normal conditions.

10.6. Hazardous decomposition products

None under normal conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
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sodium carbonate (497-19-8)	
LD50 oral rat	> 2000 mg/kg
Additional information	LC50, mouse, Inhalation: 2.3 mg/l (2 Hours) LC50, mouse, Inhalation: > 5000 mg/l (4 Hours)
Sodium carbonate peroxide (15630-89-4)	
LD50 oral rat	1034 mg/kg
ATE US (oral)	1034 mg/kg bodyweight
Additional information	LDLo, rabbit, Dermal: > 2000 mg/kg
disodium metasilicate (6834-92-0)	
LD50 oral rat	1152 - 1349 mg/kg

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disodium metasilicate (6834-92-0)	
LD50 dermal rat	> 5000 mg/kg
ATE US (oral)	1152 mg/kg bodyweight
subtilisin (9014-01-1)	
ATE US (oral)	500 mg/kg bodyweight
alcohols, C12-C15, ethoxylated, propoxylated (120313-48-6)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
Skin corrosion/irritation	: Causes skin irritation. pH: Not applicable
Serious eye damage/irritation	: Causes serious eye damage. pH: Not applicable
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: Cough. Irritation of the respiratory tract and the other mucous membranes.
Symptoms/effects after skin contact	: Redness, pain. Irritation.
Symptoms/effects after eye contact	: Redness, pain. Blurred vision. Serious damage to eyes.
Symptoms/effects after ingestion	: Abdominal pain, nausea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

sodium carbonate (497-19-8)	
Additional ecotoxicological information	LC50, Fish: > 200 mg/l (96 Hours) EC50, daphnia, Daphnia magna: > 200 mg/l (48 Hours)
Sodium carbonate peroxide (15630-89-4)	
Additional ecotoxicological information	LC50, fish, Pimephales promelas: 70.7 mg/l (96 Hours) EC50, aquatic invertebrates, daphnia: 4.9 mg/l (48 Hours)
disodium metasilicate (6834-92-0)	
Additional ecotoxicological information	EC50, algae, Scenedesmus subspicatus: 207 mg/l (72 Hours) LC50, Fish, Branchydanio rerio: 210 mg/l (96 Hours) EC0, daphnia, Daphnia magna: > 500 mg/l (24 Hours)
subtilisin (9014-01-1)	
Additional ecotoxicological information	EC50, daphnia: 586 µg /l (48 Hours) ErC50, algae: 830 µg /l (72 Hours) LC50, fish: 8,2 mg/l (96 Hours)
Lipase (9001-62-1)	
Additional ecotoxicological information	EC50, daphnia: > 37,4 mg/l (48 Hours, (OCDE 202)) ErC50, algae: > 18 mg/l (72 Hours, (OCDE 201)) LC50, fish: > 68,3 mg/l (96 Hours, (OCDE 203))

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cellulase (9012-54-8)	
Additional ecotoxicological information	EC50, daphnia: > 39,5 mg/l (48 Hours, (OCDE TG 202)) LC50, Fish: > 39,5 mg/l (96 Hours, (OCDE TG 203))
alcohols, C12-C15, ethoxylated, propoxylated (120313-48-6)	
LC50 fish 1	0.1 - 1 mg/l (Branchydanio rerio)(OECD 203 method)
Additional ecotoxicological information	LC50, Fish, Branchydanio rerio: 0,1-1 mg/l (96 Hours) EC50, aquatic invertebrates: 1-10 mg/l (48 Hours) EC50, algae, acute, Scenedesmus subspicatus: 0.1-1 mg/l (72 Hours, (OCDE 201)) EC10, microorganisms, Pseudomonas putida: > 1000 mg/l EC10, long term, Scenedesmus subspicatus: 0.1 - 1 mg/l

12.2. Persistence and degradability

POWERZYM® M	
Persistence and degradability	Biodegradable.
sodium carbonate (497-19-8)	
Persistence and degradability	Mineral.
Sodium carbonate peroxide (15630-89-4)	
Persistence and degradability	Not applicable. Mineral.
disodium metasilicate (6834-92-0)	
Persistence and degradability	Mineral.
subtilisin (9014-01-1)	
Persistence and degradability	Biodegradable.
Lipase (9001-62-1)	
Persistence and degradability	Biodegradable.
cellulase (9012-54-8)	
Persistence and degradability	Biodegradable.
alcohols, C12-C15, ethoxylated, propoxylated (120313-48-6)	
Persistence and degradability	Biodegradable.
Biochemical oxygen demand (BOD)	0.31 g O ₂ /g substance
Chemical oxygen demand (COD)	2.215 g O ₂ /g substance
Biodegradation	>= 90 % Biodegradable.

12.3. Bioaccumulative potential

POWERZYM® M	
Log Pow	The product has not been tested
Log Kow	The product has not been tested
sodium carbonate (497-19-8)	
Bioaccumulative potential	not bioaccumulable.
disodium metasilicate (6834-92-0)	
Bioaccumulative potential	Slightly or not bioaccumulative.
subtilisin (9014-01-1)	
Log Pow	< 0
Bioaccumulative potential	not bioaccumulable.
Lipase (9001-62-1)	
Log Pow	< 0
Bioaccumulative potential	not bioaccumulable.
cellulase (9012-54-8)	
Log Pow	< 0
Bioaccumulative potential	not bioaccumulable.
alcohols, C12-C15, ethoxylated, propoxylated (120313-48-6)	
Bioaccumulative potential	Slightly or not bioaccumulative.

12.4. Mobility in soil

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sodium carbonate (497-19-8)	
Ecology - soil	Soluble in water.
disodium metasilicate (6834-92-0)	
Ecology - soil	Soluble in water.
cellulase (9012-54-8)	
Ecology - soil	Soluble.
alcohols, C12-C15, ethoxylated, propoxylated (120313-48-6)	
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

Product at recommended concentration (1,0%) : Non-hazardous for the environment (non-hazardous mixture)

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Remove to an authorized waste treatment plant. Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	:	May be discharged to wastewater treatment installation.
Product at recommended concentration (1,0%)	:	Non-hazardous for the environment. No special requirements needed for sewage disposal.
Product/Packaging disposal recommendations	:	When totally empty, containers are recyclable like any other packing. Dispose of contents/container to hazardous or special waste collection point.
Ecology - waste materials	:	Avoid release to the environment. Collect all waste in suitable and labeled containers and dispose according to local legislation.
Product at recommended concentration (1,0%)	:	Non-hazardous for the environment. No special requirements needed for waste disposal.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

subtilisin (9014-01-1)	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).
Lipase (9001-62-1)	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).

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cellulase (9012-54-8)

EPA TSCA Regulatory Flag

XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Revision date : 04/09/2015

Full text of H-statements:

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

NFPA health hazard

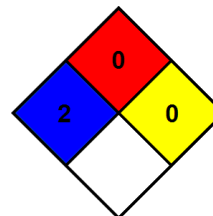
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

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

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