

Gzyme

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

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Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Gzyme

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

Use of the substance/mixture : Enzymatic cleaning solution

1.3. Details of the supplier of the safety data sheet

Manufacturer

Germiphene Corporation
1379 Colborne Street East
Brantford, N3T 5M1 - Canada
T 519-759-7100 - F 519-759-1625

1.4. Emergency telephone number

Emergency number : CANUTEC 613-996-6666 (Transport Only)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Flam. Liq. 2
Eye Irrit. 2A
Resp. Sens. 1
Repr. 1B
STOT SE 1

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS02

GHS08

Signal word (GHS) :

Danger

Hazard statements (GHS) :

Highly flammable liquid and vapour. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May damage fertility or the unborn child. Causes damage to organs.

Precautionary statements (GHS) :

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed: Call a poison center/doctor. If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor. 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: Get medical advice/attention. Store in a well-ventilated place. Keep cool. Store locked up. 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

No additional information available

2.4. Unknown acute toxicity

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Ethyl alcohol	(CAS-No.) 64-17-5	10-30
Ethanol, 2,2',2''-nitrotris-	(CAS-No.) 102-71-6	1-5
Methyl alcohol	(CAS-No.) 67-56-1	0.5-1.5
Isopropyl alcohol	(CAS-No.) 67-63-0	0.5-1.5
Boric acid	(CAS-No.) 10043-35-3	0.1-1
Subtilisins (proteolytic enzymes)	(CAS-No.) 9014-01-1	0.1-1
Lipase, triacylglycerol	(CAS-No.) 9001-62-1	0.1-1

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- First-aid measures after skin contact : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash clothing before re-using. Get medical attention if irritation develops and persists.
- 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: Get medical advice/attention.
- First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

- Symptoms/effects : Causes damage to organs.
- Symptoms/effects after inhalation : May cause irritation to the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
- Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic symptoms : May damage fertility or the unborn child.

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

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Dry chemical. Carbon dioxide (CO₂). Water spray.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapour. Products of combustion may include, and are not limited to: oxides of carbon. Ammonia. Oxides of nitrogen.
- Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

- Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Remove all sources of ignition.

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6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
- Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, gas, mist, spray, vapours. Avoid contact with skin, eyes and clothing. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Keep away from sources of ignition. Take precautionary measures against static discharge. Use only non-sparking tools.
- Hygiene measures : Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Protect from freezing.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethyl alcohol (64-17-5)		
ACGIH	ACGIH STEL (ppm)	1000 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	1900 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
Methyl alcohol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
IDLH	US IDLH (ppm)	6000 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	260 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	325 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	250 ppm
Isopropyl alcohol (67-63-0)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	400 ppm

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Isopropyl alcohol (67-63-0)		
OSHA	OSHA PEL (TWA) (mg/m ³)	980 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	400 ppm
IDLH	US IDLH (ppm)	2000 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m ³)	980 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	400 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	1225 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	500 ppm
Ethanol, 2,2',2"-nitrilotris- (102-71-6)		
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
Boric acid (10043-35-3)		
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (inhalable particulate matter (Borate compounds, inorganic))
ACGIH	ACGIH STEL (mg/m ³)	6 mg/m ³ (inhalable particulate matter (Borate compounds, inorganic))
Subtilisins (proteolytic enzymes) (9014-01-1)		
ACGIH	ACGIH Ceiling (mg/m ³)	0.00006 mg/m ³ (Subtilisins)
NIOSH	NIOSH REL (STEL) (mg/m ³)	0.00006 mg/m ³ (Subtilisins)
Lipase, triacylglycerol (9001-62-1)		
Not applicable		

8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Hand protection	: Wear suitable gloves.
Eye protection	: Wear eye/face protection.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	: Avoid release to the environment.
Other information	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Green
Odour	: Mild
Odour threshold	: No data available
pH	: 7 - 8
Melting point	: No data available
Freezing point	: < 0 °C / 32 °F
Boiling point	: > 100 °C / 212 °F
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.9 - 1.1
Solubility	: Soluble in water.

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Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

Proteolytic activity	: Min. 0.068 AU/ml
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SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition. Direct sunlight. Freezing.

10.5. Incompatible materials

Oxidizing materials.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Ammonia. Oxides of nitrogen. May release flammable gases.

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.

Methyl alcohol (67-56-1)	
ATE CA (oral)	100 mg/kg bodyweight
ATE CA (Dermal)	300 mg/kg bodyweight
ATE CA (Gases)	700 ppmv/4h
ATE CA (vapours)	3 mg/l/4h
ATE CA (dust,mist)	0.5 mg/l/4h

Boric acid (10043-35-3)	
LD50 oral rat	2660 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 0.16 mg/l/4h
ATE CA (oral)	2660 mg/kg bodyweight

Subtilisins (proteolytic enzymes) (9014-01-1)	
LD50 oral	370 mg/kg
ATE CA (oral)	370 mg/kg bodyweight

Skin corrosion/irritation	: Not classified. pH: 7 - 8
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7 - 8
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.

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Ethyl alcohol (64-17-5)	
IARC group	1 - Carcinogenic to humans
Isopropyl alcohol (67-63-0)	
IARC group	3 - Not classifiable
Ethanol, 2,2',2''-nitrotris- (102-71-6)	
IARC group	3 - Not classifiable
Reproductive toxicity	: May damage fertility or the unborn child.
STOT-single exposure	: Causes damage to organs.
Methyl alcohol (67-56-1)	
STOT-single exposure	Causes damage to organs. May cause drowsiness or dizziness.
Subtilisins (proteolytic enzymes) (9014-01-1)	
STOT-single exposure	May cause respiratory irritation.

	: Not classified.
STOT-repeated exposure	
Aspiration hazard	: Not classified.
Symptoms/effects	: Causes damage to organs.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: May damage fertility or the unborn child.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Ethyl alcohol (64-17-5)	
LC50 fish 1	12.0 - 16.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Methyl alcohol (67-56-1)	
LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Isopropyl alcohol (67-63-0)	
LC50 fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Ethanol, 2,2',2''-nitrotris- (102-71-6)	
LC50 fish 1	11800 mg/l
EC50 Daphnia 1	1386 mg/l
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
ErC50 (algae)	169 mg/l
NOEC chronic crustacea	16 mg/l
Boric acid (10043-35-3)	
EC50 Daphnia 1	115 - 153 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Subtilisins (proteolytic enzymes) (9014-01-1)	
LC50 fish 1	200 mg/l

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12.2. Persistence and degradability

Gzyme	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Gzyme	
Bioaccumulative potential	Not established.
Ethyl alcohol (64-17-5)	
Partition coefficient n-octanol/water	-0.32
Methyl alcohol (67-56-1)	
BCF fish 1	< 10
Partition coefficient n-octanol/water	-0.77
Isopropyl alcohol (67-63-0)	
Partition coefficient n-octanol/water	0.05 (at 25 °C)
Ethanol, 2,2',2"-nitrilotris- (102-71-6)	
BCF fish 1	< 3.9
Partition coefficient n-octanol/water	-2.53
Boric acid (10043-35-3)	
BCF fish 1	0
Partition coefficient n-octanol/water	-0.757 (at 25 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

UN-No.(DOT/TDG) : UN1170
 Proper Shipping Name (DOT/TDG) : Ethyl alcohol solutions
 Class (DOT/TDG) : Class 3 - Flammable and combustible liquid 49 CFR 173.120
 Packing group (DOT/TDG) : II
 Hazard labels (DOT/TDG) :



SECTION 15: Regulatory information

15.1. 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.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories except for:

Subtilisins (proteolytic enzymes)	CAS-No. 9014-01-1
Lipase, triacylglycerol	CAS-No. 9001-62-1
Amylase, .alpha.-	CAS-No. 9000-90-2

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15.2. International regulations

No additional information available

15.3. US State regulations

⚠ WARNING: This product can expose you to Methyl alcohol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date : 09/30/2019
Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com



SDS HazCom 2012 - WHMIS 2015 (NexReg)

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