# Gzyme 3x

Safety Data Sheet

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

Date of issue: 12/20/2019 Revision date: 12/20/2019 Version: 1.0

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture

Product name : Gzyme 3x

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

Recommended use : Enzymatic Cleaning Solution

### 1.3. Details of the supplier of the safety data sheet

**Manufacturer**
Germiphene Corperation
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. 4
Acute Tox. 4 (Inhalation:vapour)
Skin Irrit. 2
Eye Irrit. 2A
Resp. Sens. 1
Carc. 2
Repr. 1B
STOT RE 1

### 2.2. Label elements

**GHS labelling**

Hazard pictograms (GHS) :



GHS07 GHS08

Signal word (GHS) : Danger

Hazard statements (GHS) : Combustible liquid. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

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. 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. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. If experiencing respiratory symptoms: Call a poison center or 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. If exposed or concerned: 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

54.63% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % |
|---|---|---|
| Ethanol, 2,2',2''-nitrilotris- | (CAS-No.) 102-71-6 | 7 - 13 |
| 2-Butoxyethanol | (CAS-No.) 111-76-2 | 7 - 13 |
| Boric acid | (CAS-No.) 10043-35-3 | 3 - 7 |
| Calcium chloride | (CAS-No.) 10035-04-8 | 1 - 5 |
| Diethanolamine | (CAS-No.) 111-42-2 | 0.5 - 1.5 |
| Subtilisins (proteolytic enzymes) | (CAS-No.) 9014-01-1 | 0.1 - 1 |
| Methyl alcohol | (CAS-No.) 67-56-1 | 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 general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. 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: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting. 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 after inhalation : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

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 : Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

### 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 : Carbon dioxide (CO2). Dry chemical. Water spray.

Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid. 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.

#### 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

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

Hygiene measures : Take off contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

### 7.2. Conditions for safe storage, including any incompatibilities

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

| **Ethanol, 2,2',2''-nitrilotris- (102-71-6)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 5 mg/m³ |

| **2-Butoxyethanol (111-76-2)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (ppm) | 20 ppm |
| ACGIH | Remark (ACGIH) | Eye & URT irr |
| OSHA | OSHA PEL (TWA) (mg/m³) | 240 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 50 ppm |
| IDLH | US IDLH (ppm) | 700 ppm |
| NIOSH | NIOSH REL (TWA) (mg/m³) | 24 mg/m³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 5 ppm |

| **Boric acid (10043-35-3)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 2 mg/m³ (inhalable particulate matter (Borate compounds, inorganic) |
| ACGIH | ACGIH STEL (mg/m³) | 6 mg/m³ (inhalable particulate matter (Borate compounds, inorganic) |

| **Calcium chloride (10035-04-8)** |
|---|
| Not applicable |

| Diethanolamine (111-42-2) | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 1 mg/m³ (inhalable fraction and vapour) |
| NIOSH | NIOSH REL (TWA) (mg/m³) | 15 mg/m³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 3 ppm |

| Subtilisins (proteolytic enzymes) (9014-01-1) | | |
|---|---|---|
| ACGIH | ACGIH Ceiling (mg/m³) | 0.00006 mg/m³ (Subtilisins) |
| NIOSH | NIOSH REL (STEL) (mg/m³) | 0.00006 mg/m³ (Subtilisins) |

| Methyl alcohol (67-56-1) | | |
|---|---|---|
| ACGIH | ACGIH TWA (ppm) | 200 ppm |
| ACGIH | ACGIH STEL (ppm) | 250 ppm |
| OSHA | OSHA PEL (TWA) (mg/m³) | 260 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |
| IDLH | US IDLH (ppm) | 6000 ppm |
| NIOSH | NIOSH REL (TWA) (mg/m³) | 260 mg/m³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 200 ppm |
| NIOSH | NIOSH REL (STEL) (mg/m³) | 325 mg/m³ |
| NIOSH | NIOSH REL (STEL) (ppm) | 250 ppm |

### 8.2. Exposure controls

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

Hand protection : Wear suitable gloves resistant to chemical penetration.

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 : Blue-green

Odour : No data available

Odour threshold : No data available

pH : 7 - 9

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Relative evaporation rate (butylacetate=1) : No data available

Flammability (solid, gas) : Combustible liquid

Vapour pressure : No data available

Relative vapour density at 20 °C (68 °F) : No data available

Relative density : No data available

Density : 1 - 1.2 g/ml @ 25 ± 1 °C (77 ± 1.8 °F)

Solubility : No data available

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. 0.217 AU/ml

## 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. 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) : Harmful if inhaled.

| | |
|---|---|
| ATE CA (vapours) | 10.508 mg/l/4h |
| Unknown acute toxicity (GHS CA) | 54.63% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours)) |

| **2-Butoxyethanol (111-76-2)** | |
|---|---|
| LD50 oral rat | 470 mg/kg |
| LD50 dermal rat | 220 mg/kg |
| LC50 inhalation rat | 2.35 mg/l |
| LC50 inhalation rat | 486 ppm/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 |

| **Diethanolamine (111-42-2)** | |
|---|---|
| LD50 oral rat | 780 mg/kg |
| LD50 oral | 2300 mg/kg |
| LD50 dermal rabbit | 11.9 ml/kg |

| **Subtilisins (proteolytic enzymes) (9014-01-1)** | |
|---|---|
| LD50 oral rat | 3700 mg/kg |

| **Methyl alcohol (67-56-1)** | |
|---|---|
| LD50 oral rat | 6200 mg/kg |
| LD50 dermal rabbit | 15840 mg/kg |
| LC50 inhalation rat | 22500 ppm (Exposure time: 8 h) |

Skin corrosion/irritation : Causes skin irritation.
pH: 7 - 9

Serious eye damage/irritation : Causes serious eye irritation.
pH: 7 - 9

Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Suspected of causing cancer.

| **Ethanol, 2,2',2''-nitrilotris- (102-71-6)** | |
|---|---|
| IARC group | 3 - Not classifiable |

| **2-Butoxyethanol (111-76-2)** | |
|---|---|
| IARC group | 3 - Not classifiable |

| **Diethanolamine (111-42-2)** | |
|---|---|
| IARC group | 2B - Possibly carcinogenic to humans |
| In OSHA Hazard Communication Carcinogen list | Yes |

Reproductive toxicity : May damage fertility or the unborn child.

STOT-single exposure : Not classified.

| **2-Butoxyethanol (111-76-2)** | |
|---|---|
| STOT-single exposure | May cause respiratory irritation. |

| **Subtilisins (proteolytic enzymes) (9014-01-1)** | |
|---|---|
| STOT-single exposure | May cause respiratory irritation. |

| **Methyl alcohol (67-56-1)** | |
|---|---|
| STOT-single exposure | Causes damage to organs. May cause drowsiness or dizziness. |

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

| **2-Butoxyethanol (111-76-2)** | |
|---|---|
| STOT-repeated exposure | Causes damage to organs through prolonged or repeated exposure. |

| **Diethanolamine (111-42-2)** | |
|---|---|
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

Aspiration hazard : Not classified.

Symptoms/effects after inhalation : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

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 : Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

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.

| **Ethanol, 2,2',2''-nitrilotris- (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 |

| **2-Butoxyethanol (111-76-2)** | |
|---|---|
| LC50 fish 1 | 1490 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| EC50 Daphnia 1 | > 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna) |

| 2-Butoxyethanol (111-76-2) | |
|---|---|
| LC50 fish 2 | 2950 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus) |

| Boric acid (10043-35-3) | |
|---|---|
| EC50 Daphnia 1 | 115 - 153 mg/l (Exposure time: 48 h - Species: Daphnia magna) |

| Diethanolamine (111-42-2) | |
|---|---|
| LC50 fish 1 | 4460 - 4980 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 2.15 mg/l |
| LC50 fish 2 | 1200 - 1580 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 other aquatic organisms 2 | 2.1 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata) |
| ErC50 (algae) | 2.1 mg/l |
| NOEC chronic crustacea | 0.78 mg/l |

| Subtilisins (proteolytic enzymes) (9014-01-1) | |
|---|---|
| LC50 fish 1 | 200 mg/l |

| 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]) |

### 12.2. Persistence and degradability

| Gzyme 3x FF | |
|---|---|
| Persistence and degradability | Not established. |

### 12.3. Bioaccumulative potential

| Gzyme 3x FF | |
|---|---|
| Bioaccumulative potential | Not established. |

| Ethanol, 2,2',2''-nitrilotris- (102-71-6) | |
|---|---|
| BCF fish 1 | < 3.9 |
| Partition coefficient n-octanol/water | -2.53 |

| 2-Butoxyethanol (111-76-2) | |
|---|---|
| Partition coefficient n-octanol/water | 0.81 (at 25 °C) |

| Boric acid (10043-35-3) | |
|---|---|
| BCF fish 1 | 0 |
| Partition coefficient n-octanol/water | -0.757 (at 25 °C) |

| Diethanolamine (111-42-2) | |
|---|---|
| BCF fish 1 | (no significant bioconcentration) |
| Partition coefficient n-octanol/water | -2.18 (at 25 °C) |

| Methyl alcohol (67-56-1) | |
|---|---|
| BCF fish 1 | < 10 |
| Partition coefficient n-octanol/water | -0.77 |

### 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

Not determined

## 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:

| | |
|---|---|
| Calcium chloride | CAS-No. 10035-04-8 |
| Subtilisins (proteolytic enzymes) | CAS-No. 9014-01-1 |
| Lipase, triacylglycerol | CAS-No. 9001-62-1 |
| Amylase, .alpha.- | CAS-No. 9000-90-2 |

### 15.2. International regulations

No additional information available

### 15.3. US State regulations

⚠ **WARNING:** This product can expose you to Diethanolamine, which is known to the State of California to cause cancer, and 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 : 12/20/2019

Other information : None.

Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

SDS HazCom 2012 - WHMIS 2015 (NexReg)

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