



# ZymeOx® Plus Z50

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 01/15/2013

Revision date: 01/23/2017

Supersedes: 12/08/2016

Version: 6.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Product name : ZymeOx® Plus Z50

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

Use of the substance/mixture : Neutralizer  
Restrictions on use : No additional information available

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

United Laboratories International, LLC.  
12600 North Featherwood  
Suite 330  
Houston, TX 77034 - United States of America  
T (877) 332-6648 / (281) 443-0300 - F (713) 672-3988

#### 1.4. Emergency telephone number

Emergency number : 281-481-3919 (Monday-Friday 8a-5p CT)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Serious eye damage/eye irritation, Category 2B H320  
Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labelling

Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H320 - Causes eye irritation  
Precautionary statements (GHS-US) : P264 - Wash hands thoroughly after handling  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337+P313 - If eye irritation persists: Get medical advice/attention

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

9.04% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)  
11.96% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)  
2.92% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Borate salt	(CAS No) trade secret	5 - <10	Acute Tox. 4 (Inhalation), H332 Eye Dam. 1, H318 Repr. 1B, H360 STOT SE 3, H335
Amine oxide	(CAS No) trade secret	1 - 3	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Aquatic Acute 1, H400

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

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 : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Artificial respiration and/or oxygen if necessary.
- First-aid measures after skin contact : Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth. Sip water. Get medical advice/attention if you feel unwell.

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

- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : May cause slight irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.

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

Treat symptomatically and supportively.

### SECTION 5: Fire-fighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

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

- Fire hazard : Burning produces irritating, toxic and noxious fumes. Carbon oxides (CO, CO<sub>2</sub>), metallic oxides. Nitrogen oxides. Phosphorus oxides. May intensify fire; oxidiser.
- Reactivity : No dangerous reactions known.

#### 5.3. Advice for firefighters

- Precautionary measures fire : Keep away from ignition sources. combustible materials.
- Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses. Fight fire remotely due to the risk of explosion.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid contact with skin and eyes. Always approach spills or fires from upwind/uphill. No open flames. No smoking.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Chemical goggles or safety glasses. Wear suitable gloves.
- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Chemical goggles or safety glasses. Wear suitable gloves.
- Emergency procedures : Stop leak if safe to do so. Ventilate area.

#### 6.2. Environmental precautions

Liquid. Avoid release to the environment. Prevent dispersion.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop the flow of material, if this is without risk.
- Methods for cleaning up : Absorb and/or contain spill with inert material, then place in suitable container. Following recovery, flush area with water. Clean surface thoroughly to remove residual contamination.

#### 6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with skin and eyes.  
Hygiene measures : Wash contaminated clothing before reuse. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Do not eat, drink or smoke when using this product.

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

- Storage conditions : Store in original container. Keep container closed when not in use. Keep in fireproof place.  
Incompatible products : Alkali. metals.  
Prohibitions on mixed storage : Incompatible materials.  
Storage area : Store in dry, cool, well-ventilated area. Keep out of direct sunlight.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>Amine oxide (trade secret)</b>
Not applicable
<b>Borate salt (trade secret)</b>
Not applicable

#### 8.2. Exposure controls

- Appropriate engineering controls : Avoid splashing. Ensure good ventilation of the work station. Eyewash stations.  
Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : Wear suitable gloves resistant to chemical penetration.  
Eye protection : Chemical goggles or safety glasses.  
Respiratory protection : None under normal use.  
Environmental exposure controls : Prevent leakage or spillage.  
Other information : 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  
Colour : Yellow  
Odour : No data available  
Odour threshold : No data available  
pH : 5.2 - 5.5  
Melting point : No data available  
Freezing point : No data available  
Boiling point : 89 °C  
Flash point : No data available  
Relative evaporation rate (butylacetate=1) : No data available  
Flammability (solid, gas) : No data available  
Vapour pressure : No data available  
Relative vapour density at 20 °C : No data available  
Relative density : No data available  
Solubility : Soluble in water.  
Log Pow : 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

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Oxidising properties : No data available

### 9.2. Other information

VOC content : 0 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known.

### 10.2. Chemical stability

Stable under normal conditions. May intensify fire; oxidiser.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Direct sunlight. Heat. Sparks. Overheating. Open flame.

### 10.5. Incompatible materials

metals. Alkali.

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides (CO, CO<sub>2</sub>). metallic oxides. Nitrogen oxides. Phosphorus oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

Amine oxide (trade secret)	
LD50 oral rat	> 2000 mg/kg
Borate salt (trade secret)	
LD50 oral rat	2567 mg/kg
ATE US (gases)	4500.000 ppmv/4h
ATE US (vapours)	11.000 mg/l/4h
ATE US (dust,mist)	1.500 mg/l/4h

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Causes eye irritation.  
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/injuries after inhalation : May cause respiratory irritation.  
Symptoms/injuries after skin contact : May cause slight irritation.  
Symptoms/injuries after eye contact : Causes eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Harmful to aquatic life.

ZymeOx® Plus Z50	
LC50 fish 1	223.6 mg/l 96 h Pimephales promelas
LC50 other aquatic organisms 1	70.7 mg/l 48 h Ceriodaphnia dubia
LC50 fish 2	54.05 mg/l 96 h Metamysidopsis
LC50 other aquatic organisms 2	72.3 mg/l 48 h Daphnia pulex

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<b>Borate salt (trade secret)</b>	
LC50 fish 1	51 mg/l 96 h Brachydanio rerio
EC50 Daphnia 1	48 h
ErC50 (algae)	3.3 mg/l 72 h Selenastrum capricornutum

### 12.2. Persistence and degradability

<b>ZymeOx® Plus Z50</b>	
Biodegradation	82 % 28 d OECD 301D

### 12.3. Bioaccumulative potential

<b>ZymeOx® Plus Z50</b>	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

<b>ZymeOx® Plus Z50</b>	
Ecology - soil	No additional information available.

### 12.5. Other adverse effects

Other information : No additional information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Additional information : Recycle product or dispose safely. Clean up even minor leaks or spills if possible without unnecessary risk.  
Ecology - waste materials : Emptied container retains vapor and product residue.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not applicable

### Transport by sea

Not regulated.

### Air transport

Not regulated.

## 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

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### 15.2. International regulations

#### CANADA

<b>Amine oxide (trade secret)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
<b>Borate salt (trade secret)</b>	
Not listed on the Canadian DSL (Domestic Substances List) inventory.	

#### EU-Regulations

<b>Amine oxide (trade secret)</b>	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

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### Borate salt (trade secret)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### National regulations

#### Amine oxide (trade secret)

Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on KECI (Korean Existing Chemicals Inventory)  
Listed on Taiwan National Chemical Inventory  
Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

#### Borate salt (trade secret)

Not listed on the Canadian Non-Domestic Substances List (NDSL).

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

Revision date : 01/23/2017

Data sources : ACGIH (American Conference of Government Industrial Hygienists).  
European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/quest/information-on-chemicals/cl-inventory-database>.  
Kristen Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.  
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.  
NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978.  
OSHA 29CFR 1910.1200 Hazard Communication Standard.  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.  
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.  
Varisoft 3690 NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME FULL PUBLIC REPORT  
[http://www.nicnas.gov.au/\\_\\_data/assets/pdf\\_file/0004/9274/NA500FR.pdf](http://www.nicnas.gov.au/__data/assets/pdf_file/0004/9274/NA500FR.pdf).

Other information : None.

Full text of H-statements:

H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H400	Very toxic to aquatic life

Abbreviations and acronyms:

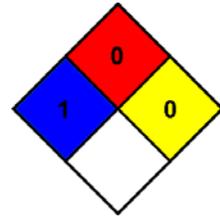
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	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CFR: Code of Federal Regulations
	CLP: Classification, Labelling, Packaging.
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration
	PBT: Persistent, Bioaccumulative, Toxic
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average
	STEL: Short Term Exposure Limits
vPvB	Very Persistent and Very Bioaccumulative

- NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.
- NFPA fire hazard : 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Indication of changes:  
Classification.

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*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*