



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Product name** ENZ-SOIL ONE  
**CAS #** Mixture  
**Product Use** Cleaner  
**Manufacturer** CFR Division of Tacony Corporation  
3101 Wichita Court  
Fort Worth, TX 76140-1710 US  
Phone: 1-800-880-2913 ext.150

## 2. Hazards Identification

**Emergency overview** DANGER  
Corrosive to metals. CAUSES EYE AND SKIN IRRITATION. May cause sensitisation by inhalation.  
CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

### Potential short term health effects

**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.  
**Eyes** May cause severe irritation or chemical burns.  
**Skin** Causes irritation.  
**Inhalation** Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).  
**Ingestion** Harmful if swallowed. May cause stomach distress, nausea or vomiting.  
**Target organs** Lungs. Respiratory system. Eyes. Skin.  
**Chronic effects** Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.  
**Signs and symptoms** Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

## 3. Composition/Information on Ingredients

Components	CAS #	Percent
Carbonic acid, sodium salt (2:3)	533-96-0	40 - 70
Sodium carbonate	497-19-8	15 - 40
Methyloxirane, polymer with oxirane monodecyl ether	37251-67-5	3 - 7
Methyloxirane, polymer with oxirane, monoethyl ether	52232-09-4	3 - 7
Methyloxirane, polymer with oxirane, monoethyl ether	37311-02-7	3 - 7
Citric acid	77-92-9	1 - 5
Sulfonated sodium salts, propylene derivatives	119345-04-9	1 - 5
α-Amylase (EC# 3.2.1.1)	9000-90-2	0.1-1
Subtilisin carlsburg	9014-01-1	0.1 - 1
Titanium oxide	13463-67-7	0.1 - 1

## 4. First Aid Measures

### First aid procedures

**Eye contact** Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

**Skin contact** Brush away excess of dry material. Immediately flush with cool water for 15 minutes. Obtain medical attention if irritation persists. Wash contaminated clothing well before reuse or discard.

**Inhalation** If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

**Ingestion** Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

**Notes to physician** Symptoms may be delayed.

**General advice** If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

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## 5. Fire Fighting Measures

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**Flammable properties** Not flammable by WHMIS criteria.

**Extinguishing media**

**Suitable extinguishing media** Dry chemical. Carbon dioxide. Foam. Fog.

**Unsuitable extinguishing media** Not available

**Protection of firefighters**

**Specific hazards arising from the chemical** Not available

**Protective equipment for firefighters** Firefighters should wear full protective clothing including self contained breathing apparatus.

**Hazardous combustion products** May include and are not limited to: Oxides of carbon. Oxides of sulphur.

**Explosion data**

**Sensitivity to mechanical impact** Not available.

**Sensitivity to static discharge** Not available.

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## 6. Accidental Release Measures

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**Personal precautions** Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

**Environmental precautions** Do not discharge into lakes, streams, ponds or public waters.

**Methods for containment** Prevent entry into waterways, sewers, basements or confined areas.

**Methods for cleaning up** Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Rinse area with water. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice.

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## 7. Handling and Storage

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**Handling** Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.

**Storage** Keep out of the reach of children. Store in a closed container away from incompatible materials.

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## 8. Exposure Controls/Personal Protection

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### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Subtilisin carlsburg (CAS 9014-01-1)	Ceiling	0.00006 mg/m3
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3

**Exposure limits** See above

**Engineering controls** General ventilation normally adequate.

**Personal protective equipment**

**Eye/Face protection** Wear chemical goggles.

**Hand protection** Rubber gloves. Confirm with a reputable supplier first.

**Skin and body protection** As required by employer code.

**Respiratory protection** Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practices. When using do not eat or drink. Wash hands before breaks and immediately after handling the product. Use good industrial hygiene practices in handling this material.

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**9. Physical and Chemical Properties**

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<b>Appearance</b>	Solid.
<b>Colour</b>	White with blue specks
<b>Form</b>	Powder
<b>Odour</b>	Slight Organic
<b>Odour threshold</b>	Not available.
<b>Physical state</b>	Solid.
<b>pH</b>	10 - 10.2 (1%)
<b>Freezing point</b>	Not available.
<b>Boiling point</b>	Not applicable
<b>Pour point</b>	Not available.
<b>Evaporation rate</b>	Not applicable
<b>Flash point</b>	None
<b>Auto-ignition temperature</b>	Not applicable
<b>Flammability Limits in Air, Upper, % by Volume</b>	Not applicable
<b>Flammability Limits in Air, Lower, % by Volume</b>	Not applicable
<b>Heat of combustion</b>	Not available.
<b>Vapour pressure</b>	Not applicable
<b>Vapour density</b>	Not available.
<b>Specific gravity</b>	0.75 - 0.85
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Solubility (Water)</b>	Complete
<b>Relative density</b>	Not available.
<b>Viscosity</b>	Not available.
<b>VOC</b>	Not available
<b>Percent volatile</b>	Not available

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**10. Stability and Reactivity**

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<b>Reactivity</b>	Corrosive to metals.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Do not mix with other chemicals.
<b>Incompatible materials</b>	Strong acids or bases may inactivate bacterial mixture.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Oxides of sulphur.

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**11. Toxicological Information**

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**Toxicological data**

<b>Components</b>	<b>Species</b>	<b>Test results</b>
a-Amylase (EC# 3.2.1.1) (CAS 9000-90-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	

Components	Species	Test results
<i>Oral</i> LD50	Rat	7500 mg/kg
Carbonic acid, sodium salt (2:3) (CAS 533-96-0)		
<b>Acute</b> <i>Dermal</i> LD50	Not available	
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Rat	5600 mg/kg
Citric acid (CAS 77-92-9)		
<b>Acute</b> <i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Mouse	5040 mg/kg
	Rat	3000 mg/kg
Methyloxirane, polymer with oxirane monodecyl ether (CAS 37251-67-5)		
<b>Acute</b> <i>Dermal</i> LD50	Not available	
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Not available	
Methyloxirane, polymer with oxirane, monoethyl ether (CAS 52232-09-4)		
<b>Acute</b> <i>Dermal</i> LD50	Rabbit	1500 mg/kg
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Rat	3000 mg/kg
Sodium carbonate (CAS 497-19-8)		
<b>Acute</b> <i>Dermal</i> LD50	Rat	> 2000 mg/kg
<i>Inhalation</i> LC50	Guinea pig	400 mg/m3
		0.8 mg/L, 2 Hours
	Mouse	1.2 mg/L, 2 Hours
	Rat	2.3 mg/L, 2 Hours
<i>Oral</i> LD50	Rat	4090 mg/kg
Subtilisin carlsburg (CAS 9014-01-1)		
<b>Acute</b> <i>Dermal</i> LD50	Not available	

Components	Species	Test results
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Rat	1800 mg/kg
Sulfonated sodium salts, propylene derivatives (CAS 119345-04-9)		
<b>LC50</b> LC50	Not available	
<b>LD50</b> LD50	Not available	
Titanium oxide (CAS 13463-67-7)		
<b>Acute</b> <i>Dermal</i> LD50	Not available	
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Rat	24000 mg/kg

#### Effects of acute exposure

<b>Eye contact</b>	May cause severe irritation or chemical burns.
<b>Skin contact</b>	Causes irritation.
<b>Inhalation</b>	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
<b>Ingestion</b>	Harmful if swallowed. May cause stomach distress, nausea or vomiting.
<b>Sensitisation</b>	Contains potential respiratory tract sensitizers.
<b>Chronic effects</b>	Non-hazardous by WHMIS criteria.
<b>Carcinogenicity</b>	Contains a potential carcinogen.
<b>ACGIH Carcinogens</b>	
Titanium oxide (CAS 13463-67-7)	A4 Not classifiable as a human carcinogen.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Titanium oxide (CAS 13463-67-7)	Volume 47, Volume 93 - 2B Possibly carcinogenic to humans.
<b>Mutagenicity</b>	Non-hazardous by WHMIS criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS criteria.
<b>Name of Toxicologically Synergistic Products</b>	Not available.

## 12. Ecological Information

**Ecotoxicity** Components of this product have been identified as having potential environmental concerns.

#### Ecotoxicological data

Components	Species	Test results
Citric acid (CAS 77-92-9)		
<i>Acute</i> Crustacea	EC50 Daphnia magna	120 mg/L, 72 hr
<b>Aquatic</b> <i>Acute</i> Fish	LC50 Bluegill ( <i>Lepomis macrochirus</i> )	1516 mg/L, 96 hr
Sodium carbonate (CAS 497-19-8)		
Crustacea	EC50 Daphnia	265 mg/L, 48 Hours

Components	Species		Test results
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	156.6 - 298.9 mg/L, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	300 mg/L, 96 hours
Titanium oxide (CAS 13463-67-7)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/L, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/L, 96 hours
<b>Persistence and degradability</b>	Not available.		
<b>Bioaccumulation/accumulation</b>	Not available		
<b>Mobility in environmental media</b>	Not available.		
<b>Environmental effects</b>	Not available.		
<b>Aquatic toxicity</b>	Not available.		
<b>Chemical fate information</b>	Not available.		

### 13. Disposal Considerations

<b>Disposal instructions</b>	Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

### 14. Transport Information

**General** Canada: TDG Proof of Classification: In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue. If applicable, the technical name and the classification of the product will appear below.

#### Transportation of Dangerous Goods (TDG - Canada)

##### Basic shipping requirements:

<b>UN number</b>	UN3262
<b>Proper shipping name</b>	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (Sodium carbonate)
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>Special provisions</b>	16
<b>Packaging exceptions</b>	<5 kg - Limited Quantity

TDG



### 15. Regulatory Information

**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

#### Canada WHMIS Ingredient Disclosure: Threshold limits

Citric acid (CAS 77-92-9)	1 %
Sodium carbonate (CAS 497-19-8)	1 %

**WHMIS status** Controlled

**WHMIS Classification** Class D - Division 2A, 2B, Class E - Corrosive Material

**WHMIS labeling**



**Inventory status**

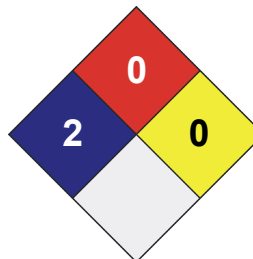
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**16. Other Information**

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

<b>HEALTH</b>	* 2
<b>FLAMMABILITY</b>	0
<b>PHYSICAL HAZARD</b>	0
<b>PERSONAL PROTECTION</b>	X



**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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**Prepared by**

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**Other information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.  
This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.