



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.90

Section 1 - Product and Company Information

Product Name: Triton® X-100
Product Number: 234729
Brand: Aldrich Chemical
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Table with 5 columns: Substance Name, CAS #, SARA 313, EC no, Annex I Index Number. Row 1: P-TERTIARY-OCTYLPHENOXY POLYETHYL ALCOHOL, 9002-93-1, No, EC no, Annex I Index Number. Includes formula (C2H4O)nC14H22O and synonyms.

Section 3 - Hazards Identification

Emergency Overview

Harmful. Harmful if swallowed. Risk of serious damage to eyes.

HMS Rating

Health: 2 Flammability: 1 Reactivity: 0

NFPA Rating

Health: 2 Flammability: 1 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flash Point: 485 °F 251 °C

Autoignition Temp: N/A

Extinguishing Media

Suitable

Water spray. Carbon dioxide, dry chemical powder, or appropriate foam. Foam and water spray are effective but may cause frothing.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Environmental Precaution(s)

Avoid contaminating water supply. Do not allow material to enter drains or water courses.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

**Eye**

Chemical safety goggles.

**General Hygiene Measures**

Wash thoroughly after handling.

**Exposure Limits**

Source	Type	Value
ACGIH	TLV	1 ppm
OSHA	TWA	0.5 ppm

**Section 9 - Physical/Chemical Properties****Appearance**

Physical State	Color
Clear liquid	Faintly yellow

Molecular Weight: N/A

pH 9.7

BP/BP Range &gt; 200 °C

MP/MP Range N/A

**Freezing Point**

Vapor Pressure &lt; 1 mmHg 20 °C

Vapor Density &gt; 1 g/l

Saturated Vapor Conc. N/A

SG/Density 1.07 g/cm<sup>3</sup>

Bulk Density N/A

Odor Threshold N/A

Volatile% 65 %

VOC Content N/A

Water Content N/A

Solvent Content N/A

Evaporation Rate &lt; 0.01

Viscosity N/A

Partition Coefficient N/A

Decomposition Temp. N/A

Flash Point °F 485 °F

Flash Point °C 251 °C

Explosion Limits N/A

Method: closed cup

Method: closed cup

Flammability N/A

Autoignition Temp N/A

Refractive Index 1.49

Solubility

Solubility in Water: Soluble.

N/A = not available

**Section 10 - Stability and Reactivity****Stability**

Stable

Stable.

**Materials to Avoid**

Strong acids, Strong bases, Strong oxidizing agents.

**Hazardous Decomposition Products**

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide.

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Sigma-Aldrich Corporation  
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Hazardous Polymerization

Will not occur.

**Section 11 - Toxicological Information****Route of Exposure****Skin Contact**

May cause skin irritation.

**Skin Absorption**

May be harmful if absorbed through the skin.

**Eye Contact**

Causes severe eye irritation.

**Inhalation**

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

**Ingestion**

Harmful if swallowed.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: MD0907700

**Toxicity Data**

Oral - rat, female: 707 mg/kg(LD50)

Oral - rat, male: 500 mg/kg(LD50)

Skin - Rabbit: 12,300 mg/kg(LD50)

Skin - Rabbit: 8,000 mg/kg(LD50)

Oral - Rat: 1800 mg/kg (LD50)

Intravenous - Mouse: 1200 MG/KG (LD50)

**Irritation Data**

Eyes - Rabbit: 0.01 ml

Remarks: Severe irritation effect

Eyes - Rabbit: 0.01 ml

Skin - Rabbit: 0.5 ml 24H

Remarks: Mild irritation effect

Eyes - Rabbit: 0.01 ml 24H

Remarks: Moderate irritation effect

**Chronic Exposure - Mutagen**

Species	Dose	Cell Type	Mutation test
Human	21 MG/L	HeLa cell	DNA inhibition
Human	14 MG/L	HeLa cell	Other mutation test systems
Mouse	200 PPM	Ascites tumor	Unscheduled DNA synthesis

**Chronic Exposure - Reproductive Hazard**

Species	Dose	Route of Application	Exposure Time
Rat	65500 MG/KG	Oral	(26W PRE)
	Result: Maternal Effects: Ovaries, fallopian tubes.		
Rat	40 ML/KG	Skin	(6-15D PREG)
	Result: Maternal Effects: Other effects. Specific Developmental Abnormalities: Musculoskeletal system.		
Rat	5 MG/KG	Parenteral	(1D PRE)
	Result: Maternal Effects: Ovaries, fallopian tubes.		

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## Section 12 - Ecological Information

### Acute Ecotoxicity Tests

#### Test Type

IC50 Algae

#### Species

other microorganisms

**Value:**  
5,000 mg/l

#### Test Type

EC50 Daphnia

#### Species

Daphnia

**Time:**  
48.0 h

**Value:**  
26 mg/l

#### Test Type

LC50 Fish

#### Species

Pimephales promelas (Fathead minnow)

**Time:**  
96.0 h

**Value:**  
8.9 mg/l

#### Test Type

LC50 Fish

#### Species

Pimephales promelas (Fathead minnow)

**Time:**  
96.0 h

**Value:**  
4.3 - 6 mg/l

### Elimination

## Section 13 - Disposal Considerations

### Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state, and local environmental regulations.

## Section 14 - Transport Information

### DOT

**Proper Shipping Name:** Environmentally hazardous substances, liquid, n.o.s.

**UN#:** 3082

**Class:** 9

**Packing Group:** Packing Group III

**Hazard Label:** Class 9

**PIH:** Not PIH

### IATA

**Non-Hazardous for Air Transport:** Non-hazardous for air transport.

## Section 15 - Regulatory Information

### EU Additional Classification

**Symbol of Danger:** Xn

**Indication of Danger**

Harmful.

**Risk Statements**

**R:** 22 41

Harmful if swallowed. Risk of serious damage to eyes.

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### Safety Statements

**S:** 26 36/39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and eye/face protection.

### US Classification and Label Text

**Indication of Danger**

Harmful.

### Risk Statements

Harmful if swallowed. Risk of serious damage to eyes.

### Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and eye/face protection.

### United States Regulatory Information

**SARA Listed:** No

**TSCA Inventory Item:** Yes

### Canada Regulatory Information

#### WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

## Section 16 - Other Information

### Disclaimer

For R&D use only. Not for drug, household or other uses.

### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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