1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Triton® X-100
Product Number : 234729
Brand : Sigma-Aldrich
Supplier : Sigma-Aldrich Corporation
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Harmful by ingestion., Irritant

GHS Classification
Acute toxicity, Oral (Category 4)
Skin irritation (Category 3)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)
H302 Harmful if swallowed.
H316 Causes mild skin irritation.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification
Health hazard: 2
Flammability: 1
Physical hazards: 0

NFPA Rating
Potential Health Effects

- **Inhalation**: May be harmful if inhaled. Causes respiratory tract irritation.
- **Skin**: Harmful if absorbed through skin. Causes skin irritation.
- **Eyes**: Causes eye irritation.
- **Ingestion**: Harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms**: Polyoxyethylene (10) isoctylphenyl ether, t-Octylphenoxypolyethoxyethanol, Polyethylene glycol tert-octylphenyl ether

**Formula**: \((C_2\text{H}_4\text{O})_nC_14\text{H}_{22}\text{O}\)

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<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
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### 4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIRE-FIGHTING MEASURES

**Conditions of flammability**
Not flammable or combustible.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**
Wear self-contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
- Form: liquid, clear
- Colour: light yellow

Safety data
- pH: 9.7
- Melting point/freezing point: 6 °C (43 °F)
- Boiling point: > 200 °C (> 392 °F)
- Flash point: 251 °C (484 °F) - closed cup
- Ignition temperature: no data available
- Autoignition temperature: no data available
### 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available

**Conditions to avoid**
no data available

**Materials to avoid**
Strong acids, Strong bases, Strong oxidizing agents

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

- **Oral LD50**
  LD50 Oral - rat - male - 500 mg/kg

- **Inhalation LC50**
  no data available

- **Dermal LD50**
  LD50 Dermal - rabbit - 8,000 mg/kg

**Other information on acute toxicity**
no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
Eyes - rabbit - Severe eye irritation

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**
no data available

**Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion Harmful if swallowed.

Skin Harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Signs and Symptoms of Exposure

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

Synergistic effects

no data available

Additional Information

RTECS: MD0907700

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 8.9 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia - 26 mg/l - 48 h

Persistence and degradability

Biodegradability Biotic/Aerobic Biochemical oxygen demand Result: 36 % - Not readily biodegradable.

Method: Closed Bottle test

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects
Chemical Oxygen Demand (COD) 2.19 mg/g

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
- UN number: 3082
- Class: 9
- Packing group: III
- Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (p-tertiary-Octylphenoxy polyethyl alcohol)
- Reportable Quantity (RQ): No
- Marine pollutant: No
- Poison Inhalation Hazard: No

IMDG
- UN number: 3082
- Class: 9
- Packing group: III
- EMS-No: F-A, S-F
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (p-tertiary-Octylphenoxy polyethyl alcohol)
- Marine pollutant: No

IATA
- UN number: 3082
- Class: 9
- Packing group: III
- Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (p-tertiary-Octylphenoxy polyethyl alcohol)

15. REGULATORY INFORMATION

OSHA Hazards
- Harmful by ingestion., Irritant

SARA 302 Components
- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
- SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
- Acute Health Hazard

Massachusetts Right To Know Components
- No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
- p-tertiary-Octylphenoxy polyethyl alcohol: CAS-No. 9002-93-1

New Jersey Right To Know Components
- p-tertiary-Octylphenoxy polyethyl alcohol: CAS-No. 9002-93-1

California Prop. 65 Components
- This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION
Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a
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