1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Triton® X-100
Product Number: X100
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63113
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5652
Emergency Phone #: (314) 776-6955
Preparation information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-0956

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

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 and/ or 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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: (Octylphenoxy)polyethoxyethanol
4-(1,3,3-Trimethyl-1-butyldimethylsiloxy)phenyl-poly(ethylene glycol)poly(ethylene glycol) tetra(Octy1phenyl) ether

Formula: \((\text{C}_{2}\text{H}_{4}\text{O})_{\text{n}}\text{C}_{14}\text{H}_{22}\text{O}\)

CAS-No.: EG-No.: Index-No.: Concentration
p-tert-Butylphenoxo polyethyl alcohol
9002-90-1

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.

NFPA Rating
Health hazard: 2
Fire: 1
Reactivity Hazard: 0

Health hazard: 2
Fire: 1
Reactivity Hazard: 0

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.

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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 hazardous 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 ºC (43 ºF)
Boiling point: > 200 ºC (> 392 ºF)
Flash point: 251 ºC (484 ºF) - closed cup
Ignition temperature: no data available
Autoignition temperature: no data available

Lower explosion limit: no data available
Upper explosion limit: no data available
Vapour pressure: < 1.33 hPa (< 1.00 mmHg) at 20 ºC (68 ºF)
Density: 1.0700 g/cm³
Water solubility: soluble
Partition coefficient: n-octanol/water: no data available
Relative vapour density: no data available
Odour: no data available
Odour Threshold: no data available
Evaporation rate: 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 LD50
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
May be harmful if inhaled. Causes respiratory tract irritation.

Inhalation

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
PTGDS: Mo050700

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
Biotic/Aerobic Biochemical oxygen demand
Result: 95% - 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/l

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-Octylenoxo polyethylene alcohol)
Reportable Quantity (PQ): 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-Octylenoxo polyethylene 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-Octylenoxo polyethylene 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-Octylenoxo polyethylene alcohol
CAS-No. 9002-93-1

New Jersey Right To Know Components
p-tertiary-Octylenoxo polyethylene alcohol
CAS-No. 9002-93-1

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

16. OTHER INFORMATION

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Further Information
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