

# Material Safety Data Sheet

Triton® X-100 Surfactant



## 1. Product and company identification

**Product name** : Triton® X-100 Surfactant  
**Product code** : 9400  
**Supplier** : EMD Chemicals Inc.  
480 S. Democrat Rd.  
Gibbstown, NJ 08027  
856-423-6300 Technical Service  
Monday-Friday: 8:00 -5:00 PM  
**Synonym** : Polyoxyethylene(10) Octylphenyl Ether  
**Material uses** : Other non-specified industry: Analytical reagent.  
**Validation date** : 3/13/2009.  
**In case of emergency** : 800-424-9300 CHEMTREC (USA)  
613-996-6666 CANUTEC (Canada)  
24 Hours/Day: 7 Days/Week

## 2. Hazards identification

**Emergency overview** : WARNING!  
HARMFUL IF SWALLOWED.  
CAUSES SEVERE EYE IRRITATION.  
CAUSES RESPIRATORY TRACT AND SKIN IRRITATION.  
Risk of serious damage to eyes.  
Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing.  
Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**Physical state** : Liquid. [Viscous liquid.]

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Routes of entry** : Inhalation. Ingestion.

**Potential acute health effects**

**Inhalation** : Irritating to respiratory system.  
**Ingestion** : Toxic if swallowed.  
**Skin** : Irritating to skin.  
**Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.

**Potential chronic health effects**

**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

**Medical conditions aggravated by over-exposure** : None known.

See toxicological information (section 11)

### 3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Triton® X-100 Surfactant	9002-93-1	100

### 4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

### 5 . Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

## 7. Handling and storage

- Handling** : Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

## 8. Exposure controls/personal protection

### Consult local authorities for acceptable exposure limits.

- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: butyl rubber
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles, face shield
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  
Recommended: lab coat
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

- Physical state** : Liquid. [Viscous liquid.]
- Flash point** : Closed cup: >109.85°C (>229.7°F)
- Color** : Colorless.
- Odor** : Not available.
- Molecular weight** : 646.87 g/mole
- Molecular formula** : C34H62O11
- pH** : Not available.
- Boiling/condensation point** : Not available.
- Melting/freezing point** : Not available.
- Relative density** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.

## 9 . Physical and chemical properties

Odor threshold	: Not available.
Evaporation rate	: Not available.
Solubility	: Soluble in the following materials: water

## 10 . Stability and reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials and combustible materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Conditions of reactivity	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

## 11 . Toxicological information

### Acute toxicity

Product/ingredient name	Test Route	Species	Result
Triton® X-100 Surfactant	LD50 Oral	Rat	3800 mg/kg
	LD50 Oral	Rat	1900 mg/kg
	LD50 Oral	Rat	1800 mg/kg

### Carcinogenicity

No known significant effects or critical hazards.

### Mutagenicity

No known significant effects or critical hazards.

### Teratogenicity

No known significant effects or critical hazards.

## 12 . Ecological information

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Triton® X-100 Surfactant	Acute LC50 531 mg/L	Fish	96 hours
	Acute LC50 12 mg/L	Fish	96 hours
	Acute LC50 >10 mg/L	Fish	96 hours
	Acute LC50 6 mg/L	Fish	96 hours
	Acute LC50 5.38 mg/L	Fish	96 hours
	Acute LC50 4.5 mg/L	Fish	96 hours
	Acute LC50 2800 to 3200 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1 g	96 hours
	Acute LC50 531000 to 730000 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1 g	96 hours
	Acute LC50 12000 to 17200 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1 g	96 hours
	Acute LC50 >10000 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1 g	96 hours
	Acute LC50 6000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 25 mm	96 hours
	Acute LC50 5380 to 5860 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 2 to 3 months - 29 mm - 0.22 g	96 hours
	Acute LC50 4500 to 4800	Fish - Fathead minnow -	96 hours

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## 12 . Ecological information

ug/L Fresh water

Pimephales promelas - 2 to  
3 months - 16 mm - 0.039 g

**Environmental effects** : No known significant effects or critical hazards.

**Other adverse effects** : No known significant effects or critical hazards.

## 13 . Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	-	CHEMICALS, N.O.S.	-	-		-

PG\* : Packing group

## 15 . Regulatory information

### United States

- HCS Classification** : Toxic material  
Irritating material
- U.S. Federal regulations** : TSCA 8(a) PAIR: Triton® X-100 Surfactant  
**United States inventory (TSCA 8b)**: This material is listed or exempted.  
TSCA 8(d) H and S data reporting: Triton® X-100 Surfactant: 1996  
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.  
**SARA 302/304/311/312 extremely hazardous substances**: No products were found.  
**SARA 302/304 emergency planning and notification**: No products were found.  
**SARA 302/304/311/312 hazardous chemicals**: Triton® X-100 Surfactant  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**:  
Triton® X-100 Surfactant: Immediate (acute) health hazard, Delayed (chronic) health hazard
- Clean Water Act (CWA) 307**: No products were found.  
**Clean Water Act (CWA) 311**: No products were found.  
**Clean Air Act (CAA) 112 accidental release prevention**: No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances**: No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances**: No products were found.

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### Canada

- WHMIS (Canada)** : Class D-2B: Material causing other toxic effects (Toxic).
- Canadian lists** : **CEPA Toxic substances**: This material is not listed.  
**Canadian ARET**: This material is not listed.  
**Canadian NPRI**: This material is listed.  
**Alberta Designated Substances**: This material is not listed.  
**Ontario Designated Substances**: This material is not listed.  
**Quebec Designated Substances**: This material is not listed.

**CEPA DSL / CEPA NDSL** : This material is listed or exempted.

## 15 . Regulatory information

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.

### EU regulations

Hazard symbol or symbols :



Risk phrases : R22- Harmful if swallowed.

Safety phrases : S2- Keep out of the reach of children.  
S46- If swallowed, seek medical advice immediately and show this container or label.

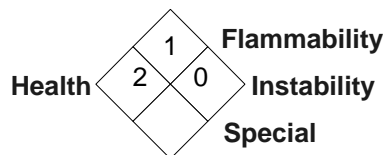
### International regulations

International lists :

- Australia inventory (AICS):** This material is listed or exempted.
- China inventory (IECSC):** This material is listed or exempted.
- Japan inventory (ENCS):** Not determined.
- Japan inventory (ISHL):** Not determined.
- Korea inventory (KECI):** This material is listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC):** This material is listed or exempted.
- Philippines inventory (PICCS):** This material is listed or exempted.

## 16 . Other information

National Fire Protection Association (U.S.A.) :



Other special considerations : Triton® is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.

### Notice to reader

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