

Material Safety Data Sheet

United States
English

Section 1. Chemical product and company identification

Product name	Triton X-100, 500 ml		
Catalogue Number	17-1315-01		
Synonym	X10; Polyethylene glycol alkylphenyl ether; Octyl Phenol Ethoxylate; Polyoxyethylene octyl phenyl ether; TRITON; Poly(oxy-1,2-ethanediyl), a-[4-(1,1,3,3-tetramethylbutyl)phenyl]-w-hydroxy-; Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-; p-(1,1,3,3-Tetramethylbutyl) phenol ethoxylate; Polyethylene glycol 4-(tert-octyl)phenyl ether; Poly(oxy-1,2-ethanediyl), alpha-[4-(1,1,3,3-tetramethylbutyl)phenyl]- omega -hydroxy-		
Material uses	Industrial applications: Analytical chemistry. Research.		
Product type	Liquid.		
Validation date	14 April 2014		
Print date	14 April 2014		
Supplier	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA England +44 0870 606 1921		
In case of emergency	US	ChemTrec (US)	1-800-424-9300
	Canada	ChemTrec (US)	1-703-527-3887

2. Hazards identification

Physical state	Liquid.
Color	Colorless.
Odor	Odorless.
Signal word	WARNING!
Hazard statements	CAUSES EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Precautionary measures	Do not breathe vapor or mist. Do not ingest. Do not eat, drink or smoke when using this product. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.
OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
<u>Potential acute health effects</u>	
Eyes	Severely irritating to eyes. Risk of serious damage to eyes.
Skin	May cause sensitization by skin contact.
Inhalation	No known significant effects or critical hazards.
Ingestion	Harmful if swallowed.
<u>Potential chronic health effects</u>	
Chronic effects	May cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
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.
Target organs	May cause damage to the following organs: eyes, eye, lens or cornea.
Inhalation	No specific data.
Ingestion	No specific data.



Skin	Adverse symptoms may include the following: irritation redness
Eyes	Adverse symptoms may include the following: pain or irritation watering redness
Medical conditions aggravated by over-exposure	Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	% by weight
Triton X-100	9002-93-1	100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 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.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 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	
Suitable	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.
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.

Section 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. Avoid breathing 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	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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.
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.



Section 7. Handling and storage

Handling	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. 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 between the following temperatures: 18 to 25°C (64.4 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
Engineering measures	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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. Contaminated work clothing should not be allowed out of the workplace. 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
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.
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.

Section 9. Physical and chemical properties

Physical state	Liquid.
Flash point	Closed cup: >110°C (>230°F) [Product does not sustain combustion.]
Color	Colorless.
Odor	Odorless.
Molecular weight	46.86 g/mole
Molecular formula	C ₈ H ₁₈ O ₂
Boiling/condensation point	120°C (248°F)
Melting/freezing point	-4°C (24.8°F)
Vapor pressure	0 kPa (0 mm Hg) [room temperature]
Vapor density	2.1 [Air = 1]
Volatility	0% (v/v)
Evaporation rate	1 (butyl acetate = 1)
Ionicity (in water)	Non-ionic.
Solubility	Easily soluble in the following materials: cold water and hot water.



Section 10. Stability and reactivity

Chemical stability	The product is stable.
Incompatible materials	
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.

Section 11. Toxicological information

<u>Acute toxicity</u>	
Conclusion/Summary	Not available.
<u>Chronic toxicity</u>	
Conclusion/Summary	Not available.
<u>Irritation/Corrosion</u>	
Conclusion/Summary	Not available.
<u>Sensitizer</u>	
Conclusion/Summary	Not available.
<u>Carcinogenicity</u>	
Conclusion/Summary	Not available.
<u>Mutagenicity</u>	
Conclusion/Summary	Not available.
<u>Teratogenicity</u>	
Conclusion/Summary	Not available.
<u>Reproductive toxicity</u>	
Conclusion/Summary	Not available.

Section 12. Ecological information

Environmental effects	No known significant effects or critical hazards.		
<u>Aquatic ecotoxicity</u>			
Product/ingredient name	Result	Species	Exposure
Friton X-100	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 6000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Conclusion/Summary	Not available.		
<u>Persistence/degradability</u>			
Conclusion/Summary	Not available.		
Other adverse effects	No known significant effects or critical hazards.		

Section 13. Disposal considerations

Waste disposal	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
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DOT Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Triton X-100). Marine pollutant (Triton X-100)	9	III		-
TDG Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Triton X-100). Marine pollutant (Triton X-100)	9	III		-
Mexico Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Triton X-100). Marine pollutant (Triton X-100)	9	III		-
ADR/RID Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Triton X-100)	9	III		Tunnel code (E)
IMDG Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Triton X-100). Marine pollutant (Triton X-100)	9	III		-
IATA-DGR Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Triton X-100)	9	III		-

PG* : Packing group

Section 15. Regulatory information

HCS Classification	Irritating material Sensitizing material Target organ effects
U.S. Federal regulations	<input checked="" type="checkbox"/> SCA 8(a) PAIR: Triton X-100 <input checked="" type="checkbox"/> SCA 8(a) CDR Exempt/Partial exemption: This material is listed or exempted. <input checked="" type="checkbox"/> United States inventory (TSCA 8b): This material is listed or exempted.
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Not listed
Clean Air Act Section 602 Class I Substances	Not listed
Clean Air Act Section 602 Class II Substances	Not listed



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DEA List I Chemicals (Precursor Chemicals) Not listed

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

SARA 311/312

Classification Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
<input checked="" type="checkbox"/> Triton X-100	100	No.	No.	No.	Yes.	Yes.

State regulations

Massachusetts	This material is not listed.
New York	This material is not listed.
New Jersey	This material is not listed.
Pennsylvania	This material is not listed.

California Prop. 65

United States inventory (TSCA 8b) This material is listed or exempted.

International regulations

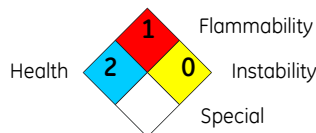
International lists	<p>Australia inventory (AICS): This material is listed or exempted. China inventory (IECSC): This material is listed or exempted. Japan inventory: Not determined. Korea inventory: This material is listed or exempted. Malaysia Inventory (EHS Register): Not determined. New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted. Philippines inventory (PICCS): This material is listed or exempted. Taiwan inventory (CSNN): Not determined.</p>
Chemical Weapons Convention List Schedule I Chemicals	Not listed
Chemical Weapons Convention List Schedule II Chemicals	Not listed
Chemical Weapons Convention List Schedule III Chemicals	Not listed

Section 16. Other information

Label requirements CAUSES EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

The customer is responsible for determining the PPE code for this material.

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



Indicates information that has changed from previously issued version.

History

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Notice to reader



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To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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