

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Creation Date 22-Nov-2010 Revision Date 04-Apr-2024 Revision Number 14

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: Triton® X-100

 Cat No. :
 327370000; 327371000; 327372500

 Synonyms
 Polyoxyethylene(10) octylphenyl ether

CAS No 9002-93-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

UK entity/business name

Fisher Scientific UK Bishop Meadow Road,

Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name

Thermo Fisher Scientific

Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Acute oral toxicity

Serious Eye Damage/Eye Irritation

Category 4 (H302)

Category 1 (H318)

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Environmental hazards

Chronic aquatic toxicity Category 2 (H411)

Full text of Hazard Statements: see section 16





Signal Word

Danger

Hazard Statements

H302 - Harmful if swallowed

H318 - Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements

P280 - Wear eye protection/ face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

Toxic to terrestrial vertebrates

Contains a known or suspected endocrine disruptor

Included in the list established in accordance with Article 59(1) for having endocrine disrupting properties

Contains a substance on the National Authorities Endocrine Disruptor Lists

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - According to
				GB-CLP Regulations UK SI 2019/720 and
				UK SI 2020/1567
Poly(oxy-1,2-ethanediyl),	9002-93-1		<=100	Acute Tox. 4 (H302)
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]-				Eye Dam. 1 (H318)
.omegahydroxy-				Aquatic Chronic 2 (H411)

Full text of Hazard Statements: see section 16

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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists,

call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

4.2. Most important symptoms and effects, both acute and delayed

Causes severe eye damage. Causes eye burns.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO2), Aldehydes, Ketones, Formaldehyde, peroxides.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation.

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6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 10 Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

No information available

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Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	Glove thickness	EU standard EN 374	Glove comments (minimum requirement)	
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Skin and body protection Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection No special protective equipment required.

Large scale/emergency use In case of insufficient ventilation, wear suitable respiratory equipment

Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use No personal respiratory protective equipment normally required. Maintain adequate

ventilation.

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water

system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance
Odor
Odor Characteristic
Odor Threshold
Melting Point/Range
Softening Point

Yellow
Characteristic
No data available
6 °C / 42.8 °F
No data available

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Liquid

Boiling Point/Range 270 °C / 518 °F @ 760 mmHg

Flammability (liquid)
Flammability (solid,gas)

No data available
Not applicable

Explosion Limits No data available

Flash Point 251 °C / 483.8 °F Method - CC (closed cup)

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Decomposition Temperature No data available pH 6-8

pH 6-8 5% aq.sol

Viscosity No data available

Water Solubility Soluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)
Component log Pow
Poly(oxy-1,2-ethanediyl), 2.7
.alpha.-[4-(1,1,3,3-tetramethylbutyl)phe

nyl]-.omega.-hydroxy-

Vapor Pressure No data available

Density / Specific Gravity 1.067

Bulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)Particle characteristicsNot applicable (liquid)

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to air. Exposure to light. Exposure to

moisture.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong reducing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Aldehydes. Ketones. Formaldehyde.

peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

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(a) acute toxicity:

Oral Category 4 No data available **Dermal** Inhalation No data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Poly(oxy-1,2-ethanediyl),	1800 mg/kg (Rat)	-	-
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]-			
.omegahydroxy-			

No data available (b) skin corrosion/irritation;

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

No data available (g) reproductive toxicity;

No data available (h) STOT-single exposure;

(i) STOT-repeated exposure; No data available

Target Organs None known.

No data available (j) aspiration hazard;

Symptoms / effects,both acute and No information available. delayed

11.2. Information on other hazards

Assess endocrine disrupting properties for human health. This product does not contain any **Endocrine Disrupting Properties**

known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

The product contains following substances which are hazardous for the environment. Toxic **Ecotoxicity effects** to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Poly(oxy-1,2-ethanediyl),	LC50 = 8.9 mg/L 96H	EC50 = 26 mg/L 48h	=
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]-	LC50 = 4.0 mg/l 96H	_	
.omegahvdroxv-	(Pimephales promelus)		

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Component	Microtox	M-Factor
Poly(oxy-1,2-ethanediyl),	-	
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]-		
.omegahydroxy-		

12.2. Persistence and degradability

Persistence Persistence is unlikely.

Component	Degradability
Poly(oxy-1,2-ethanediyl),	60% >28 days
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]omegahydroxy-	
9002-93-1 (<=100)	

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

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12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Poly(oxy-1,2-ethanediyl),	2.7	No data available
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]-		
.omegahydroxy-		

12.4. Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB

No data available for assessment.

assessment

12.6. Endocrine disrupting properties

Endocrine Disruptor Information
Assess endocrine disrupting
properties for the environment

Substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Contains a substance on the National Authorities Endocrine Disruptor Lists.

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances
Poly(oxy-1,2-ethanediyl),	Group III Chemical	-
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]omega.	hy	
droxy-		

Component	EU National Authorities Endocrine	Japan - Endocrine Disruptor Information
	Disruptor Lists - Environment	
Poly(oxy-1,2-ethanediyl),	List I	-
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]omegahy		
droxy-		
9002-93-1 (<=100)		

12.7. Other adverse effects Persistent Organic Pollutant

Ozone Depletion Potential

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Should not

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be released into the environment.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the

application for which the product was used. Do not empty into drains. Do not let this

chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN3082

14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Shipping Name Octylphenyl-polyethylene glycol

14.3. Transport hazard class(es) 9
14.4. Packing group III

ADR

14.1. UN number UN3082

14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Shipping Name Octylphenyl-polyethylene glycol

14.3. Transport hazard class(es)914.4. Packing groupIII

IATA

14.1. UN number UN3082

14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical Shipping Name Octylphenyl-polyethylene glycol

14.3. Transport hazard class(es) 9 **14.4. Packing group** III

14.5. Environmental hazards Dangerous for the environment

Product is a marine pollutant according to the criteria set by IMDG/IMO

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk Not applicable, packaged goods according to IMO instruments

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

X = listed. US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Poly(oxy-1,2-ethanediyl),	9002-93-1	-	-	-	Х	X	KE-33568	X	X

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.alpha[4-(1,1,3,3-tetramethylbutyl					
)phenyl]omegahydroxy-					

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Poly(oxy-1,2-ethanediyl),	9002-93-1	X	ACTIVE	Х	-	X	Х	Х
.alpha[4-(1,1,3,3-tetramethylbutyl								
)phenyl]omegahydroxy-								

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Poly(oxy-1,2-ethanediyl), .alpha[4-(1,1,3,3-tetramethylbutyl) phenyl]omegahydroxy-	9002-93-1	Endocrine disrupting properties (Article 57(f) - environment) Application date: July 4, 2019 Sunset date: January 4, 2021 Exemption - extended latest application and sunset date for the research, development and production of medicinal products or medical devices in view of their use for the diagnosis, treatment or prevention of the coronavirus disease (COVID-19)		SVHC Candidate list - Equivalent level of concern having probable serious effects to the environment (Article 57f - environment)

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links

https://echa.europa.eu/authorisation-list https://echa.europa.eu/candidate-list-table

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Poly(oxy-1,2-ethanediyl), .alpha[4-(1,1,3,3-tetrameth ylbutyl)phenyl]omegahydr oxy-		Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

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Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Poly(oxy-1,2-ethanediyl),	WGK2	
.alpha[4-(1,1,3,3-tetramethylbut		
yl)phenyl]omegahydroxy-		

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Poly(oxy-1,2-ethanediyl),	Prohibited and Restricted		
.alpha[4-(1,1,3,3-tetramethylbutyl)phenyl]- .omegahydroxy-	Substances		
9002-93-1 (<=100)			

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H318 - Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

Substances List

ENCS - Japanese Existing and New Chemical Substances AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50% NOEC - No Observed Effect Concentration PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

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ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from

Ships

ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Creation Date22-Nov-2010Revision Date04-Apr-2024

Revision Summary SDS sections updated.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet