

Material Safety Data Sheet

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Version 1.9

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	TRITON X-100
Product Number	X100
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
P-TERTIARY-OCTYLPHENOXY POLYETHYL ALCOHOL	9002-93-1	None	None

Formula (C₂H₄O)_nC₁₄H₂₂O

Synonyms AntaroX A-200 * Ethoxylated p-tert-octylphenol *
Hydrol SW * Octylphenoxypolyethoxyethanol *
Polyethylene glycol
mono(p-(1,1,3,3-tetramethylbutyl)phenyl) ether *
Polyethylene glycol
p-1,1,3,3-tetramethylbutylphenyl ether *
Polyethyleneglycol 4-(tert-octyl)phenyl ether *
Poly(oxy-1,2-ethanediyl),
alpha-(4-(1,1,3,3-tetramethylbutyl)phenyl)-omega-
hydroxy- (9CI) * Preceptin * Texofor FP 300 *
Triton X * Triton X 100 * Triton X 101 * Triton
X 165 * Triton X 305 * Triton X 405 * Triton X
705 * TX 100 * Triton * IGEPAL *
Polyoxyethylene(*)octylphenyl ether, branched

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Harmful if swallowed. Risk of serious damage to eyes.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,
call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious

amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam. Foam and water spray are effective but may cause frothing.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

ENVIRONMENTAL PRECAUTION(S)

Avoid contaminating water supply. Do not allow material to enter drains or water courses.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
	ACGIH	TLV	1 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Clear liquid Color: Faintly yellow		
Property	Value	At Temperature or Pressure	
pH	9.7		
BP/BP Range	> 200 °C		
MP/MP Range	N/A		
Flash Point	251 °C	Method: closed cup	
Flammability	N/A		
Autoignition Temp	N/A		
Oxidizing Properties	N/A		
Explosive Properties	N/A		
Explosion Limits	N/A		
Vapor Pressure	< 1 mmHg	20 °C	
SG/Density	1.07 g/cm3		
Partition Coefficient	N/A		
Viscosity	N/A		
Vapor Density	> 1 g/l		
Saturated Vapor Conc.	N/A		
Evaporation Rate	< 0.01		
Bulk Density	N/A		
Decomposition Temp.	N/A		
Solvent Content	N/A		
Water Content	N/A		
Surface Tension	N/A		
Conductivity	N/A		
Miscellaneous Data	N/A		
Solubility	Solubility in Water:Soluble.		

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong bases, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: MD0907700

ACUTE TOXICITY

LD50

Oral

rat, female

707 mg/kg

LD50
Oral
rat, male
500 mg/kg
LD50
Skin
Rabbit
12,300 mg/kg
LD50
Skin
Rabbit
8,000 mg/kg

LD50
Oral
Rat
1800 mg/kg

LD50
Intravenous
Mouse
1200 MG/KG

IRRITATION DATA

Eyes
Rabbit
0.01 ml
Remarks: Severe irritation effect
Eyes
Rabbit
0.01 ml

Skin
Rabbit
0.5 ml
24H
Remarks: Mild irritation effect

Eyes
Rabbit
0.01 ml
24H
Remarks: Moderate irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

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

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes severe eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: Harmful if swallowed.

CHRONIC EXPOSURE - MUTAGEN

Human
21 MG/L
Cell Type: HeLa cell
DNA inhibition

Human
14 MG/L
Cell Type: HeLa cell
Other mutation test systems

Mouse
200 PPM
Cell Type: Ascites tumor
Unscheduled DNA synthesis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 65500 MG/KG
Route of Application: Oral
Exposure Time: (26W PRE)
Result: Maternal Effects: Ovaries, fallopian tubes.

Species: Rat
Dose: 40 ML/KG
Route of Application: Skin
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Maternal Effects: Other effects.

Species: Rat
Dose: 5 MG/KG
Route of Application: Parenteral
Exposure Time: (1D PRE)
Result: Maternal Effects: Ovaries, fallopian tubes.

12 - Ecological Information

ELIMINATION

Elimination: 90 %

ECOTOXICOLOGICAL EFFECTS

Test Type: IC50 Algae
Species: other microorganisms
Value: 5,000 mg/l

Test Type: EC50 Daphnia
Species: Daphnia
Time: 48 h
Value: 26 mg/l

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 8.9 mg/l

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 4.3 - 6.0 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose

of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 3082
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

IMDG

UN#: 3082
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Marine Pollutant: Yes
Severe Marine Pollutant: No
Technical Name: Required

IATA

UN#: 3082
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 22-41

Harmful if swallowed. Risk of serious damage to eyes.

S-PHRASES: 26-36/39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and eye/face protection.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

SWITZERLAND

SWISS POISON CLASS: 4

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc.,

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