

TRITON X-100

Version No:2.0
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GHS SAFETY DATA SHEET

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

TRITON6-X-100

OTHER NAMES

(C₂-H₄-O)_n.C₁₄-H₂₂-O, p-tert-octylphenoxy polyethoxy ethanol, "polyethylene glycol monoether with p-tert-octylphenyl", "polyethylene glycol mono(4-octylphenyl) ether", "polyethylene glycol octylphenyl ether", "polyethylene glycol p-tert-octylphenyl ether", "polyethylene glycol p-1, 1, 3, 3-tetramethylbutylphenyl ether", octoxynol, "octyl phenol", Alfenol, "Triton X"

PRODUCT USE

Non-ionic surfactants used as wetting and dispersing agents in wettable powders, metal cleaning compounds, alkaline cleaners and agricultural powders; and as emulsifiers in solvent based pesticidal products and oils.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

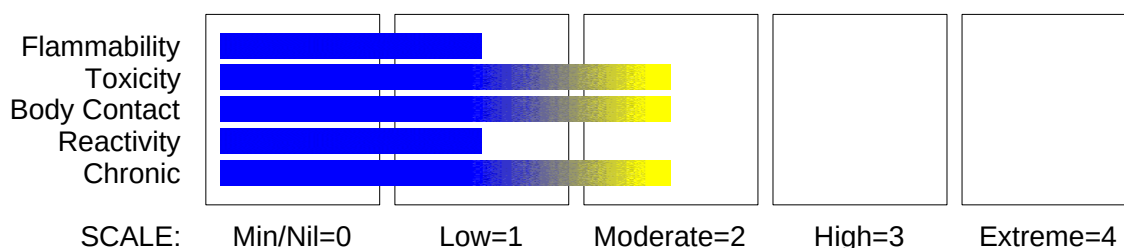
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HAZARD RATINGS



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Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Oral) Category 4
Eye Irritation Category 2B
Reproductive Toxicity Category 2
Respiratory Effects Category 3
Respiratory Sensitizer Category 1
Skin Corrosion/Irritation Category 3



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by using GHS criteria:

H336 H302 H316 H320 H334 H361

May cause drowsiness and dizziness

Harmful if swallowed

Causes mild skin irritation

Causes eye irritation

May cause allergic or asthmatic symptoms or breathing difficulties if inhaled

Suspected of damaging fertility

PRECAUTIONARY STATEMENTS

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

In case of inadequate ventilation wear respiratory protection.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Use personal protective equipment as required.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Response

If exposed or concerned: Get medical attention advice.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

If experiencing respiratory symptoms call a POISON CENTER or doctor/physician.

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

Specific treatment: refer to Label or MSDS.

If eye irritation persists, get medical advice/attention.

If skin irritation occurs, seek medical advice/attention.

Storage

Store locked up.

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Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
polyethylene glycol mono- p- octylphenyl ether (p- tertiary- octylphenoxy polyethoxy ethanol)	9002-93-1	>99
Head space of drum may contain trace amounts of ethylene oxide	75-21-8	

Section 4 - FIRST AID MEASURES

SWALLOWED

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

- If this product comes in contact with the eyes:
- Immediately hold eyelids apart and flush the eye continuously with running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 - Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
 - Transport to hospital or doctor without delay.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

Wear self-contained breathing apparatus and full body protective clothing including boots.

Use fire fighting procedures suitable for surrounding area.

DO NOT approach containers suspected to be hot.

If safe to do so, remove containers from path of fire.

Use water delivered as a fine spray to control the fire and cool adjacent area.

Fight fire from a safe distance, with adequate cover.

FIRE/EXPLOSION HAZARD

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).
- May emit acrid smoke.
- Mists containing combustible materials may be explosive.

Other combustion products include: carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

Slippery when spilt.

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

Slippery when spilt.

Minor hazard.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.

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- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

polyethylene glycol mono-p-octylphenyl ether 500 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

polyethylene glycol mono-p-octylphenyl ether 300 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

polyethylene glycol mono-p-octylphenyl ether 40 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

polyethylene glycol mono-p-octylphenyl ether 15 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Overheating of ethoxylates in air should be avoided. When some ethoxylates are heated vigorously in the presence of air or oxygen, at temperatures exceeding 160 C, they may undergo exothermic oxidative degeneration resulting in self-heating and autoignition.
- Nitrogen blanketing will minimise the potential for ethoxylate oxidation.
- Trace quantities of ethylene oxide may be present in the material. Although these may accumulate in the headspace of storage and transport vessels, concentrations are not expected to exceed levels which might produce a flammability or worker exposure hazard.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.

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- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

SUITABLE CONTAINER

- Glass container.
- Plastic container.
- Plastic drum.
- Steel drum.
- Check that containers are clearly labelled.
- Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY

- Avoid oxidising agents, acids, acid chlorides, acid anhydrides.

STORAGE REQUIREMENTS

- Store in a cool, dry place.
- Store in a well-ventilated area.
- Store away from incompatible materials.
- Keep containers securely sealed.
- Protect containers against physical damage.
- Check regularly for spills and leaks.
- Observe manufacturer's storing and handling recommendations.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



- +: May be stored together
O: May be stored together with specific precautions
X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- polyethylene glycol mono- p- octylphenyl ether: CAS:9002- 93- 1

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
ethylene oxide		800 [Unch]

ODOUR SAFETY FACTOR (OSF)

OSF=0.0023 (ETHYLENE OXIDE)

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm
Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

MATERIAL DATA

No exposure limits set by NOHSC or ACGIH.

INGREDIENT DATA

ETHYLENE OXIDE:

Odour Threshold Value: 257-690 ppm (detection), 493 ppm (recognition)

NOTE: Detector tubes for ethylene oxide, measuring in excess of 1 ppm, are available commercially.

Exposure at or below the TLV-TWA is thought reduce the potential oncogenic risk and the risk from potential, non-neoplastic adverse effects non lungs, liver, kidneys, endocrine system, blood forming elements and the central nervous system. OSHA recognised that ethylene oxide exposures at 1 ppm still might produce significant health risks. A quantitative risk assessment shows an excess cancer mortality risk of 12 to 23 deaths per 10,000 workers at this level. It must be stated that risk assessment models are fraught with much uncertainty.

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure,

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Rubber gloves.
PVC gloves.
Impervious gloves.
Safety footwear.
Rubber boots.

OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	AX P1 Air- line*	- -	AX PAPR- P1 -
50 x ES	Air- line**	AX P2	AX PAPR- P2
100 x ES	-	AX P3	-
		Air- line*	-
100+ x ES	-	Air- line**	AX PAPR- P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

None under normal operating conditions.

General exhaust is adequate under normal operating conditions.

If inhalation risk of overexposure exists, wear SAA approved organic-vapour respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Family of products which vary in their physical properties as a result of variations in production. Data presented here is for typical family member.

Most are clear colourless liquids. Teric X16 is an off-white paste and Teric X40 is a solid. Soluble in water, except Teric X5 & X7 - dispersible in water. Soluble in alcohol and most organic solvents.

May produce a foam on dilution with water.

Melting Point (deg. C) for Teric Series : X5, 7, 8 : < 0; X10: 7; X11: 8; X13: 15; X16: 24; X40: 44.

PHYSICAL PROPERTIES

Liquid.
Mixes with water.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight: Not applicable.
Melting Range (°C): Varies by grade
Solubility in water (g/L): Miscible
pH (1% solution): 6- 8
Volatile Component (%vol): Negligible
Relative Vapour Density (air=1): 21
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not available.
State: Non slump paste

Boiling Range (°C): 270
Specific Gravity (water=1): 1.00- 1.08 @ 50 C
pH (as supplied): Not applicable
Vapour Pressure (kPa): Negligible
Evaporation Rate: Not available
Flash Point (°C): >150 (open)
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available.

log Kow (Sangster 1997): - 0.3
log Kow: -0.3

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

Considered an unlikely route of entry in commercial/industrial environments.

Nonionic surfactants may produce localised irritation of the oral or gastrointestinal mucosa and induce vomiting and mild diarrhoea.

EYE

Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

Some nonionic surfactants may produce a localised anaesthetic effect on the cornea; this may effectively eliminate the warning discomfort produced by other substances and lead to corneal injury. Irritant effects range from minimal to severe dependent on the nature of the surfactant, its concentration and the duration of contact. Pain and corneal damage represent the most severe manifestation of irritation.

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Considered an unlikely route of entry in commercial/industrial environments.

CHRONIC HEALTH EFFECTS

The alkyl phenolics (which may occur as breakdown products of some polyethoxylated surfactants) have been implicated in a phenomenon which has apparently occurred since the mid 1960s, namely lower sperm counts and reduced fertility in males. Nonyl phenol acts like an oestrogen hormone which stimulates breast cells to divide in vitro. When pregnant rats are fed nonylphenols at doses comparable to that at which humans might be exposed, male offspring had significantly smaller testicles and lower sperm counts. Although the human foetus is "bathed" in naturally occurring oestrogens during pregnancy it is suggested that it has developed a protective mechanism against natural oestrogens but is not safe from synthetic variants. These tend to accumulate in body fats which sets them apart from the natural product. During early pregnancy, fats are broken down and may flood the body with concentrated pollutants. Drinking water may be one source of exposure to alkyl phenols as many polyethoxylated surfactants are discharged to water treatment systems where they undergo degradation.

One of the constituents of the product has produced skin sensitisation reactions in either experimental animals and/or humans. Such reactions may be manifested as a localised reddening and/or urticaria (a hive-like asthma-like symptoms (shortness of breath, difficult breathing) and/or rhinitis (runny nose). This finding, however, remains speculative as the constituent has not been shown to raise specific antibodies in the blood in the same way as other confirmed allergens. The finding may also be confined to certain hypersensitive (atopic) individuals who show heightened reactions to other allergens such as pollen.

TOXICITY AND IRRITATION

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 1800 mg/kg

IRRITATION

Skin (human): 2 mg/3d - I - Mild

Eye (rabbit): 1 mg - Moderate

ETHYLENE OXIDE:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 72 mg/kg

Inhalation (rat) LC50: 800 ppm/4 hr

Inhalation (human) TCLO: 12500 ppm/10 s

Inhalation (woman) TCLO: 500 ppm/2 m

IRRITATION

Skin (human): 1%/7 sec - Irritant

Eye (rabbit): 18 mg/6h - Moderate

WARNING: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS.

Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen
[National Toxicology Program: U.S. Dep. of Health & Human Services 2002].

Section 12 - ECOLOGICAL INFORMATION

Alcohol ethoxylates are generally biodegradable and do not persist for any substantial period in the environment. They are not usually present at concentrations which might produce problems. Contamination of natural waters, however, should be avoided.

A EU Risk Assessment Report (RAR) concluded that octyl- and nonyl- phenol ethoxylates are not readily biodegradable but are inherently biodegradable

As a group, these materials are generally toxic to fish with LC50s ranging, typically, between 1-6 mg/l.

Of special concern are the following families which are classified as "Environmentally

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Hazardous Substances" by either or both the ADR (Accord Europeen Relatif au Transport International des Merchandises Dangerous par Route) and the IMDG Code (International Maritime Dangerous Goods Code).

alcohols C 6-17 (secondary) with 3-6 moles of ethoxylation.

alcohols C12-15 with 1-3 moles of ethoxylation (1-6 moles of ethoxylation IMDG)

alcohols C13-15 with 1-6 moles of ethoxylation.

New aquatic data suggests that

alcohols C 8-9 branched with 3-10 moles of ethoxylation

alcohols C 8-9 branched with > 10 moles of ethoxylation should also be classified as 'harmful to the environment'

These alcohols may also be found linked to aromatic structures (in nonylphenol ethoxylates for example). The current consensus determines that such entities become Environmental Toxins by association.

Refer to data for ingredients, which follows:

ETHYLENE OXIDE:

Hazardous Air Pollutant:	Yes
Fish LC50 (96hr.) (mg/l):	90 (24hr)
log Kow (Sangster 1997):	- 0.3
BOD5:	0.06
COD:	1.74
Half- life Soil - High (hours):	285
Half- life Soil - Low (hours):	251
Half- life Air - High (hours):	9167
Half- life Air - Low (hours):	917
Half- life Surface water - High (hours):	285
Half- life Surface water - Low (hours):	251
Half- life Ground water - High (hours):	285
Half- life Ground water - Low (hours):	251
Aqueous biodegradation - Aerobic - High (hours):	4320
Aqueous biodegradation - Aerobic - Low (hours):	672
Aqueous biodegradation - Anaerobic - High (hours):	17280
Aqueous biodegradation - Anaerobic - Low (hours):	2688
Photooxidation half- life air - High (hours):	9167
Photooxidation half- life air - Low (hours):	917
First order hydrolysis half- life (hours):	285
Base rate constant [MOH]- HR]- 1:	1.0E- 04 M-

log Kow: -0.3

Koc: 16

Half-life (hr) air: 2880

Half-life (hr) H2O surface water: 216-336

Henry's atm m³ /mol: 1.20E-04

BOD 5 if unstated: 0.06

COD: 1.74

Toxicity invertebrate: cell mult. inhib.4.3-27mg/L

Effects on algae and plankton: cell mult. inhib. algae 0.12-0.37mg/L

In the atmosphere, ethylene oxide degrades slowly by reacting with hydroxy-radicals; the estimated half-life is 100-200 days.

In water it is removed by volatilisation, hydrolysis and to a lesser extent, biodegradation.

Volatilisation half-lives for a model river and lake are estimated to be 5.9 hours and 38 days respectively.

It is not strongly adsorbed to soil and is not expected to bioconcentrate in the food chain.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

No regulations applicable

No data available for polyethylene glycol mono-p-octylphenyl ether as CAS: 9002-93-1.

Section 16 - OTHER INFORMATION

REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
ethylene oxide	1.8 mg/m ³	NA	D	600	Yes

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive
American Industrial Hygiene Association Journal 57: 641-649 (1996).

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The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

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