Safety Data Sheet

Cat. # 786-513

Triton® X-100

Size: 500ml
### SECTION 1: Identification of the substance/mixture and of the company/undertaking

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Triton® X-100</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>9002-93-1</td>
</tr>
<tr>
<td>Type of product</td>
<td>Polymer</td>
</tr>
<tr>
<td>Formula</td>
<td>C34H62O12</td>
</tr>
<tr>
<td>Synonyms</td>
<td>2-[4-(2,4,4-trimethylpentan-2-yl)phenoxy]ethanol / 4(1,1,3,3-tetramethylbutyl)phenyl polyethylene glycol / poly(oxy-1,2-ethanediyl), alpha-(4-(1,1,3,3-tetramethylbutyl)phenyl)-omega-hydroxy- / polyethylene glycol tert-octylphenyl ether / tert-octylphenoxypolyethoxyethanol / TRITON X-100</td>
</tr>
<tr>
<td>Product group</td>
<td>Raw material</td>
</tr>
<tr>
<td>BIG No</td>
<td>18801</td>
</tr>
<tr>
<td>REACH authorisation exemptions</td>
<td>Exempted from REACH registration</td>
</tr>
</tbody>
</table>

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

#### 1.2.1. Relevant identified uses

**Use of the substance/mixture**
- Surfactant

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre) Royal Victoria Hospital</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre) City Hospital</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre) Gwernwyn Ward, Llandough Hospital</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit Medical Toxicology Unit, Guy's &amp; St Thomas' Hospital Trust</td>
<td>Avonley Road SE14 5ER London</td>
<td>+44 20 7188 7188</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4
Serious eye damage/eye irritation, Category 2
Hazardous to the aquatic environment — Chronic Hazard, Category 2

Full text of H-statements: see section 16

2.2. Label elements

Hazard pictograms (CLP):

GHS07
GHS09

CLP Signal word: Warning

Hazard statements (CLP):

H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP):

P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330 - Rinse mouth.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P391 - Collect spillage.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type: Polymer

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether</td>
<td>(CAS-No.) 9002-93-1</td>
<td>100</td>
<td>Acute Tox. 4 (Oral), H302, Eye Irrit. 2, H319, Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>

3.2. Mixtures

Not applicable
### SECTION 4: First aid measures

#### 4.1. Description of first aid measures


**First-aid measures after inhalation:** Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

**First-aid measures after skin contact:** Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.

**First-aid measures after eye contact:** Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

**First-aid measures after ingestion:** Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre (www.big.be/antgif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

**Symptoms/effects after skin contact:** Slight irritation.

**Symptoms/effects after eye contact:** Irritation of the eye tissue.

**Symptoms/effects after ingestion:** AFTER INGESTION OF HIGH QUANTITIES: Nausea. Vomiting. Diarrhoea.

**Chronic symptoms:** No effects known.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media:** Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.

**Unsuitable extinguishing media:** Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

#### 5.2. Special hazards arising from the substance or mixture

**Fire hazard:** DIRECT FIRE HAZARD: Not easily combustible. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard.

**Hazardous decomposition products in case of fire:** Toxic fumes may be released.

#### 5.3. Advice for firefighters

**Precautionary measures fire:** Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

**Firefighting instructions:** No specific fire-fighting instructions required.

**Protection during firefighting:** Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**6.1.1. For non-emergency personnel**

- **Protective equipment:** Gloves. Safety glasses. Protective clothing.
- **Emergency procedures:** Mark the danger area. No naked flames. Wash contaminated clothes.

**6.1.2. For emergency responders**

- **Protective equipment:** Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

**For containment:** Contain released product, pump into suitable containers. Plug the leak, cut off the supply.

**Methods for cleaning up:** Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

**Other information:** Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:

Hygiene measures:
- Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:
- Store in a well-ventilated place. Keep cool.

Storage temperature:
- 15 - 25 °C

Heat and ignition sources:
- KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage:
- KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases.

Storage area:
- Meet the legal requirements.

Special rules on packaging:
- SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials:
- SUITABLE MATERIAL: metal. glass. MATERIAL TO AVOID: copper. bronze.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:
- Ensure good ventilation of the work station.

Materials for protective clothing:
- GIVE EXCELLENT RESISTANCE: nitrile rubber

Hand protection:
- Protective gloves against chemicals (EN374)

Eye protection:
- Safety glasses

Skin and body protection:
- Protective clothing

Respiratory protection:
- Respiratory protection not required in normal conditions

Environmental exposure controls:
- Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:
- Liquid

Appearance:
- Liquid.

Molecular mass:
- 646.37 g/mol

Colour:
- Light yellow.

Odour:
- Mild odour.

Odour threshold:
- No data available

pH:
- 9.7

Relative evaporation rate (butylacetate=1):
- < 1

Melting point:
- 6 °C

Freezing point:
- No data available

Boiling point:
- > 200 °C

Flash point:
- 251 °C (Closed cup)

Auto-ignition temperature:
- No data available

Decomposition temperature:
- No data available
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Flammability (solid, gas) : Not applicable
Vapour pressure : < 1.33 hPa (20 °C)
Relative vapour density at 20 °C : > 1
Relative density : 1.007
Density : 1007 kg/m³
Log Pow : 4.86 (Estimated value)
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information
Other properties : Gas/vapour heavier than air at 20°C. Clear. Slightly volatile. Basic reaction.

SECTION 10: Stability and reactivity
10.1. Reactivity
Reacts with (strong) oxidizers and with (strong) reducers.
10.2. Chemical stability
Stable under normal conditions.
10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.
10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).
10.5. Incompatible materials
No additional information available
10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
LD50 oral rat : 1800 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit : 8000 mg/kg (Rabbit, Literature study, Dermal)
Skin corrosion/irritation : Not classified
pH : 9.7
Serious eye damage/irritation : Causes serious eye irritation.
pH : 9.7
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Potential adverse human health effects and symptoms : Harmful if swallowed. Non-toxic in contact with skin (LD50 skin > 5000 mg/kg). Slightly irritant to skin. Causes serious eye irritation. Caution! Substance is absorbed through the skin.

SECTION 12: Ecological information
12.1. Toxicity
Ecology - general : Toxic to aquatic life with long lasting effects. Toxic to aquatic life.
Ecology - air : Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014).
Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Harmful to crustacea. Toxic to fishes. pH shift.
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)
Persistence and degradability Not readily biodegradable in water.

Chemical oxygen demand (COD) 2.19 mg/g
ThOD 2.16 g O₂/g substance

12.3. Bioaccumulative potential
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)
Log Pow 4.86 (Estimated value)
Bioaccumulative potential Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

12.4. Mobility in soil
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)
Ecology - soil No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. In authorized incinerator equipped with flue gas scrubber with energy recovery. Dissolve or mix with a combustible solvent. May be discharged to wastewater treatment installation.


European List of Waste (LoW) code : 15 01 10* - packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : UN 3082
UN-No. (IMDG) : UN 3082
UN-No. (IATA) : UN 3082
UN-No. (ADN) : UN 3082
UN-No. (RID) : UN 3082

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name (IMDG) : Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name (ADN) : Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name (RID) : Environmentally hazardous substance, liquid, n.o.s.
Transport document description (ADR) : UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III, (-)
Transport document description (IMDG) : UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III, MARINE POLLUTANT
polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : 9
Danger labels (ADR) : 9

IMDG
Transport hazard class(es) (IMDG) : 9
Danger labels (IMDG) : 9

IATA
Transport hazard class(es) (IATA) : 9
Hazard labels (IATA) : 9

ADN
Transport hazard class(es) (ADN) : 9
Danger labels (ADN) : 9

RID
Transport hazard class(es) (RID) : 9
Danger labels (RID) : 9

14.4. Packing group
Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards
Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available
14.6. Special precautions for user

Overland transport
Transport regulations (ADR) : Subject
Classification code (ADR) : M6
Hazard identification number (Kemler No.) : 90
Orange plates : 3082

Tunnel restriction code (ADR) : -
EAC code : •3Z

Transport by sea
Transport regulations (IMDG) : Subject
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F

Air transport
Transport regulations (IATA) : Subject to the provisions

Inland waterway transport
Classification code (ADN) : M6
Carriage permitted (ADN) : T

Rail transport
Transport regulations (RID) : Subject
Classification code (RID) : M6

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

<table>
<thead>
<tr>
<th>Reference code</th>
<th>Applicable on</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether</td>
</tr>
</tbody>
</table>

4-(1,1,3,3-Tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues] is on the REACH Candidate List.
4-(1,1,3,3-Tetramethylbutyl) phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues) is on the REACH Annex XIV List: polyethyleneglycol para-(1,1,3,3-tetramethylbutyl) phenyl ether is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral) Acute toxicity (oral), Category 4
Aquatic Chronic 2 Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Irrit. 2 Serious eye damage/eye irritation, Category 2
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.