Safety Data Sheet

Cat. # 786-516

Triton® X-114

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

#### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>tertiary-octylphenoxypoly(ethoxyethanol)</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Triton® X-114, Regular concentration</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>9036-19-5</td>
</tr>
<tr>
<td>Product code</td>
<td>211T, 210T</td>
</tr>
<tr>
<td>Type of product</td>
<td>Polymer, Group</td>
</tr>
<tr>
<td>Formula</td>
<td>((C_2H_4O)<em>n.C</em>{14}H_{22}O)</td>
</tr>
<tr>
<td>Synonyms</td>
<td>2-methyl-2-propenoic acid, polymer with 2-propenoic acid and N-octy-2-propenamide / 2-methyl-2-propensyra, polymer med 2-propensyra och N-okty-2-propenamid / 2-metyl-2-propensyra, polymeer 2-propesinhappon ja N-oktyll-2-propenamidin kanssa / alpha((1,1,3,3-tetramethylbutyl)phenyl)omega-hydroxy(poly-oxi-1,2-ethanediyl) / Charger E / etere polietilenglicolmono((1,1,3,3-tetrametilbutil)fenilico) / ethoxylated octyphenol / ethyl CP / glycols, polyethylene, mono((1,1,3,3-tetramethylbutyl) phenyl)ether / igepal CA / igepal CA20 / igepal CAS20 / nevronyx 622 / nevronyx 675 / nonidet P40 / nonion HS206 / nonion HS208 / NP-40 / octylxylol-9 / octyl phenol condensed with 20 moles ethylene oxide / octyl phenol condensed with 3 moles ethylene oxide / octyl phenol with 16 moles ethylene oxide / octyl phenol EO 16 / octyl phenol EO 3 / octylphenol polyethoxylate / octylphenoxypoly(ethoxyethanol) / octylphenoxypoly(ethylenoxy)ethanol / OP 1062 / OPE-3 / poly(ethylenoxy)octyphenol ether / poly(ethylene oxide)tertiary-octyphenol ether / poly(oxy-1,2-ethanediyl), alpha-((1,1,3,3-tetramethylbutyl)phenyl)-(omega-hydroxy-poly(oxyethylene)octyphenol ether / poly(oxyethylene)tertiary-octyphenol ether / poly(oxyethylene)tertiary-octyphenol ether / polylethylenglycolmono((1,1,3,3-tetramethylbutyl)fenil)ether / polyethylene glycol tertiary-octyphenol ether / polyethylene glycol tertiary-octyphenol ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / polyethylene glycol mono((1,1,3,3-tetramethylbutyl)phenyl)ether / saponification</td>
</tr>
</tbody>
</table>

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

##### 1.2.1. Relevant identified uses

**Main use category**: Research purposes  
**Use of the substance/mixture**: Emulsifier  
**Use of the substance/mixture**: Detergent according to Regulation (EC) No 648/2004  

##### 1.2.2. Uses advised against

No additional information available

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

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
63132-1429 Saint Louis - United States  
T 800-628-7730 - F 314-991-1504  
technical@GBiosciences.com - www.GBiosciences.com

#### 1.4. Emergency telephone number

<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)</td>
<td>Grosvenor Road BT12 8BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</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)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>
tertiary-octylphenoxy(polyethoxyethanol)
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category H319

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects
Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP): ☑
CLP Signal word: Warning
Hazard statements (CLP): H315 - Causes skin irritation.
Precautionary statements (CLP): P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

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

<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>tertiary-octylphenoxy(polyethoxyethanol)</td>
<td>(CAS-No.) 9036-19-5</td>
<td>&gt; 99</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16
SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general:

First-aid measures after inhalation:
- Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact:
- Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact:
- Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion:
- Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Give activated charcoal. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation:
- ON CONTINUOUS EXPOSURE/CONTACT: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

Symptoms/effects after skin contact:
- Tingling/irritation of the skin. Irritation.

Symptoms/effects after eye contact:
- Irritation of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Inflammation/damage of the eye tissue.

Symptoms/effects after ingestion:
- Gastrointestinal complaints.

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:

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: Non-flammable. INDIRECT FIRE HAZARD: Heating increases the fire 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:
- Cool tanks/drumS with water spray/remove them into safety.

Protection during firefighting:
- Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment:
- Gloves. Face-shield. Protective clothing.

Emergency procedures:
- Ventilate spillage area. Mark the danger area. No naked flames. Wash contaminated clothes. Avoid contact with skin and eyes.

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".
tertiary-octylphenoxypoly(ethoxyethanol)
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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 absorbent material. Take up liquid spill into absorbent material sand/earth. 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

Hygiene measures: Wash contaminated clothing before reuse. 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.
Heat and ignition sources: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) bases. water/moisture.
Storage area: Store in a cool area. Store in a dry area. Store in a dark area. Ventilation at floor level. May be stored under argon. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. dry. correctly labelled. meet the legal requirements.
Packaging materials: SUITABLE MATERIAL: steel with plastic inner lining.

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 GOOD RESISTANCE: rubber. plastics

Hand protection:
Gloves

Eye protection:
Face shield. Safety glasses

Skin and body protection:
Protective clothing

Respiratory protection:
Mist formation: aerosol mask
Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Light yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>Almost odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 7.5 (1 %)</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 177 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 110 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 2</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.05</td>
</tr>
<tr>
<td>Density</td>
<td>1050 kg/m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>0.39 Pa.s (20 °C)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

VOC content : 100 %
Other properties : Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Hygroscopic.

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) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
tertiary-octylphenoxypoly(ethoxyethanol)
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<table>
<thead>
<tr>
<th>tertiary-octylphenoxypoly(ethoxyethanol) (9036-19-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation. pH: 6 - 7.5 (1 %)
Serious eye damage/irritation : Causes serious eye irritation. pH: 6 - 7.5 (1 %)
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

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Mild water pollutant (surface water). Insufficient data available on ecotoxicity.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

### Persistence and degradability

<table>
<thead>
<tr>
<th>tertiary-octylphenoxypoly(ethoxyethanol) (9036-19-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity, kinematic</td>
</tr>
</tbody>
</table>

Potential adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Causes skin irritation. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Causes serious eye irritation.

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>tertiary-octylphenoxypoly(ethoxyethanol) (9036-19-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

### Mobility in soil

No additional information available

### Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>tertiary-octylphenoxypoly(ethoxyethanol) (9036-19-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
</tr>
<tr>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

### Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : 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. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.
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European List of Waste (LoW) code: 15 01 10*- packaging containing residues of or contaminated by dangerous substances
16 03 05* - organic wastes containing dangerous substances

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

14.1. UN number
UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

ADN
Transport hazard class(es) (ADN) : Not regulated

RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group
Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
Not regulated
- Transport by sea
Not regulated
- Air transport
Not regulated
- Inland waterway transport
Not regulated
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- Rail transport
Not regulated

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
No REACH Annex XVII restrictions
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:

<table>
<thead>
<tr>
<th>Authorisation number</th>
<th>Sunset date</th>
<th>REACH authorisation exemptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>04/01/2021</td>
<td></td>
</tr>
</tbody>
</table>

VOC content : 100 %

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:

| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

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.