Safety Data Sheet

TRITON X-100

Section 1: Chemical Product and Company Identification

Product Name: TRITON X-100

Catalog Codes: 282

CAS#: 9002-93-1

RTECS: MD0907700

Synonym: Octoxynol, (P-tert Octylphenoxy)polyethoxyethanol

Chemical Name: TRITON X-100

Chemical Formula: -

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
TRITON X-100	9002-93-1	100

Toxicological Data on Ingredients: LD50 Oral - Rat - 1.900 - 5.000 mg/kg. LD50 Dermal - Rabbit - > 3.000 mg/kg.

Section 3: Hazards Identification

Classification of the substance or mixture

Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Serious eye damage, (Category1)	H318: Causes serious eye damage.
Short-term (acute) aquatic hazard, (Category 1)	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, (Category 1)	H410: Very toxic to aquatic life with long lasting effects.

Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal Word Danger
Hazard Statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H410	Very toxic to aquatic life with long lasting effects.
	Precautionary Statements
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
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.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)
Pictogram

Signal Word	Danger
Hazard Statements	
H318	Causes serious eye damage.
Precautionary Statements	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	None

Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
This substance/mixture contains components considered to have endocrine disrupting

properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.
Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 4: First Aid Measures

Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Section 5: Fire and Explosion Data

Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture
Carbon oxides
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

Reference to other sections
For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling
For precautions see section 3.

Conditions for safe storage, including any incompatibilities
Storage conditions
Tightly closed.

Recommended storage temperature see product label.

Storage class
Storage class (TRGS 510): 10: Combustible liquids

Section 8: Exposure Controls/Personal Protection

Control parameters

Ingredients with workplace control parameters

Exposure controls

Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: butyl-rubber
Minimum layer thickness: 0,7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: butyl-rubber
Minimum layer thickness: 0,7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

Body Protection
protective clothing

Respiratory protection
Recommended Filter type: Filter A-(P2)
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Physical state	liquid
b) Color	colorless
c) Odor	weak
d) Melting point/freezing point	Solidification point: 6 °C
e) Initial boiling point	> 200 °C at 1.013 hPa

and boiling range	
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	251 °C - closed cup - c.c.
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	No data available
n) Partition coefficient: n-octanol/water	No data available
o) Vapor pressure	< 1.33 hPa at 20 °C
p) Density	1,07 g/cm3 at 20 °C
Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	Not classified as explosive.
t) Oxidizing properties	none

Other safety information
No data available

Section 10: Stability and Reactivity Data

Reactivity
Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions
Violent reactions possible with:
Strong oxidizing agents
Strong acids

Conditions to avoid
Strong heating.

Incompatible materials
Strong oxidizing agents

Hazardous decomposition products
In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - 1.900 - 5.000 mg/kg
Remarks: (External MSDS)
Symptoms: Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.
Acute toxicity estimate Oral - 1.900 mg/kg
(ATE value derived from LD50/LC50 value)
Inhalation: No data available
LD50 Dermal - Rabbit - > 3.000 mg/kg
Remarks: (External SDS)

Skin corrosion/irritation
Skin - Rabbit
Result: irritating - 4 h
(OECD Test Guideline 404)
Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Risk of serious damage to eyes.
(Draize Test)
Remarks: Risk of corneal clouding.

Respiratory or skin sensitization
Sensitisation test: - Human
Result: negative
Remarks: (External SDS)
Patch test on human volunteers did not demonstrate sensitization properties.

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
Ingestion of excessive amounts by pregnant animals resulted in maternal and fetal toxicity.
Did not show teratogenic effects in animal experiments.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Ingestion of large amounts may cause:, Nausea, Diarrhea
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

Toxicity

Toxicity to fish	semi-static test LC50 - Leuciscus idus (Golden orfe) - 0,26 mg/l - 96h (OECD Test Guideline 203) Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 0,011 mg/l - 48 h Remarks: (ECOTOX Database) The value is given in analogy to the following substances: 4-(1,1,3,3-

	tetramethylbutyl)phenol
Toxicity to	algae static test EC50 - Pseudokirchneriella subcapitata (green algae) - 1,9 mg/l - 96 h Remarks: (ECHA) The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol
Toxicity to fish(Chronic toxicity)	flow-through test - Danio rerio (zebra fish) - 0,012 mg/l (OECD Test Guideline 210) Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 0,03 mg/l - 21 d (OECD Test Guideline 202) Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 22 % - Not readily biodegradable. (OECD Test Guideline 301C)

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties

Product:

Assessment	: This substance/mixture contains components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Components:

Octylphenol polyethoxyethanol:

Assessment	: The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

Other adverse effects
Causes endocrine disruption.
Discharge into the environment must be avoided.

Section 13: Disposal Considerations

Waste treatment methods
No data available

Section 14: Transport Information

UN number
ADR/RID: 3082 IMDG: 3082 IATA: 3082

UN proper shipping name
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (p-tertiary-Octylphenoxy polyethyl alcohol)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (p-tertiary-Octylphenoxy polyethyl alcohol)

IATA: Environmentally hazardous substance, liquid, n.o.s. (p-tertiary-Octylphenoxy polyethyl alcohol)

Transport hazard class(es)
ADR/RID: 9 IMDG: 9 IATA: 9

Packaging group
ADR/RID: III IMDG: III IATA: III

Environmental hazards
ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

Special precautions for user
Tunnel restriction code : (-)

Further information
EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

Section 15: Other Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Octylphenol polyethoxyethanol

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.

Listed substance / Sunset Date : Octylphenol polyethoxyethanol / 04.01.2021

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.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E1	ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

Created: 01/08/2024

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