

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 11.07.2017

Version 17.1

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## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Catalogue No. 108603

Product name Triton® X-100 for analysis

REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. 9036-19-5

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

Identified uses Reagent for analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

1.4 Emergency telephone number Please contact the regional company representation in your country.

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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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Acute toxicity, Category 4, Oral, H302

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*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*

Prevention

P273 Avoid release to the environment.

P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.

P313 Get medical advice/ attention.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108603  
Product name Triton® X-100 for analysis

---

## Reduced labelling (≤125 ml)

### Hazard pictograms



### Signal word

Danger

### Hazard statements

H318 Causes serious eye damage.

### Precautionary statements

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

Contains: Octylphenol polyethoxyethanol

CAS-No. 9036-19-5

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	$\text{C}_8\text{H}_{17}\text{C}_6\text{H}_4(\text{OCH}_2\text{CH}_2)_n\text{OH}$	$\text{C}_{14}\text{H}_{21}(\text{C}_2\text{H}_4\text{O})_n\text{OH}$ (Hill)
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### Hazardous components (REGULATION (EC) No 1272/2008)

#### Chemical name (Concentration)

CAS-No.	Registration number	Classification
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Octylphenol polyethoxyethanol ( $\geq 50\%$  -  $\leq 100\%$ )

9036-19-5 \*)

Acute toxicity, Category 4, H302

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

---

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

M-Factor: 10

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

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

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

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

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

Dermatitis, Vomiting

Risk of corneal clouding.

Drying-out effect resulting in rough and chapped skin.

Irritation and corrosion

Risk of serious damage to eyes.

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

No information available.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

#### *Suitable extinguishing media*

Water, Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible.

Vapours 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.

### 5.3 Advice for firefighters

#### *Special protective equipment 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*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

---

## 6.3 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.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

#### *Storage conditions*

Tightly closed.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### **Engineering measures**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108603  
Product name Triton® X-100 for analysis

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Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

## Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

### *Eye/face protection*

Tightly fitting safety goggles

### *Hand protection*

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 898 Butoject® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

---

## *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter A-(P2)

The entrepreneur 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.

## **Environmental exposure controls**

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	liquid
Colour	colourless
Odour	weak
Odour Threshold	No information available.
pH	5,0 - 8,0 at 10 g/l 20 °C
Solidification point	6 °C
Boiling point/boiling range	> 200 °C at 1.013 hPa



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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Flash point	251 °C at 1.013 hPa
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Method: ASTM D 93

Evaporation rate	No information available.
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Flammability (solid, gas)	No information available.
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Lower explosion limit	No information available.
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Upper explosion limit	No information available.
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Vapour pressure	< 0,01 hPa at 20 °C
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Relative vapour density	No information available.
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Density	1,07 g/cm <sup>3</sup> at 20 °C
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Relative density	No information available.
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Water solubility	at 20 °C soluble
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Partition coefficient: n-octanol/water	log Pow: 2,7 (20 °C) (calculated) (External MSDS) Bioaccumulation is not expected.
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Auto-ignition temperature	No information available.
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Decomposition temperature	No information available.
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Viscosity, dynamic	No information available.
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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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Explosive properties	Not classified as explosive.
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Oxidizing properties	none
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## 9.2 Other data

Cloud point	63 - 69 °C
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## SECTION 10. Stability and reactivity

### 10.1 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.

### 10.2 Chemical stability

In case of decomposition in closed containers and tubes risk of bursting due to buildup of overpressure.

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents, Strong acids

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

LD50 Rat: 1.900 - 5.000 mg/kg

(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 oedema and pneumonitis.

#### *Acute inhalation toxicity*

Symptoms: Possible damages:, mucosal irritations

#### *Acute dermal toxicity*

LD50 Rabbit: > 3.000 mg/kg

(External MSDS)

#### *Skin irritation*

Rabbit

Result: irritating

OECD Test Guideline 404

The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol  
Causes skin irritation.

Drying-out effect resulting in rough and chapped skin. Dermatitis

#### *Eye irritation*

Risk of corneal clouding.

Causes serious eye damage.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

---

## *Sensitisation*

Sensitisation test: human

Result: negative

(External MSDS)

## *Germ cell mutagenicity*

This information is not available.

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## 11.2 Further information

After absorption:

We have no description of any toxic symptoms.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

#### *Toxicity to fish*

semi-static test LC50 *Leuciscus idus* (Golden orfe): 0,26 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

---

## *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 Daphnia magna (Water flea): 0,011 mg/l; 48 h

(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

(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

Analytical monitoring: yes

OECD Test Guideline 210

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

Analytical monitoring: yes

OECD Test Guideline 202

The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

## **12.2 Persistence and degradability**

### *Biodegradability*

22 %; 28 d; aerobic

OECD Test Guideline 301C

Not readily biodegradable.

## **12.3 Bioaccumulative potential**

### *Partition coefficient: n-octanol/water*

log Pow: 2,7 (20 °C)

(calculated)

(External MSDS) Bioaccumulation is not expected.

## **12.4 Mobility in soil**

No information available.

## **12.5 Results of PBT and vPvB assessment**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## 12.6 Other adverse effects

*Additional ecological information*

Causes endocrine disruption.

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number	UN 3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OCTYLPHENOXYPOLYETHOXYETHANOL)
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	-

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

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<b>14.1 UN number</b>	UN 3082
<b>14.2 Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OCTYLPHENOXYPOLYETHOXYETHANOL)
<b>14.3 Class</b>	9
<b>14.4 Packing group</b>	III
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	no

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

## Sea transport (IMDG)

<b>14.1 UN number</b>	UN 3082
<b>14.2 Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OCTYLPHENOXYPOLYETHOXYETHANOL)
<b>14.3 Class</b>	9
<b>14.4 Packing group</b>	III
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	yes

EmS	F-A S-F
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Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard	SEVESO III
Legislation	ENVIRONMENTAL HAZARDS
	E1
	Quantity 1: 100 t
	Quantity 2: 200 t

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108603  
Product name Triton® X-100 for analysis

---

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 59 above the respective regulatory concentration limit of > 0.1 % (w/w).  
Contains: 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*

Storage class 10 - 13

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108603  
Product name Triton® X-100 for analysis

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### Hazard pictograms



#### 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

##### Prevention

P273 Avoid release to the environment.  
P280 Wear eye protection.

##### Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108603
Product name	Triton® X-100 for analysis

---

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

Contains: Octylphenol polyethoxyethanol

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## Regional representation

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*