

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006**Hydrogen peroxide solution >0.1 - <5%**

Version 1.0

Print Date 2018/10/02

Revision date / valid from 2018/10/02

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : Hydrogen peroxide solution >0.1 - <5%
Substance name : hydrogen peroxide solution
Index-No. : 008-003-00-9
CAS-No. : 7722-84-1
EC-No. : 231-765-0
EU REACH-Reg. No. : 01-2119485845-22-xxxx

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

Use of the Substance/Mixture : industrial use
Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK Limited
Alpha House, Lawnswood Business Park
GB LS16 6QY Leeds
Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

Most important adverse effects

Human Health : See section 11 for toxicological information.

Hydrogen peroxide solution >0.1 - <5%

Physical and chemical hazards : See section 9/10 for physicochemical information.
 Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is not labeled as dangerous according to Regulation (EC) No. 1272/2008.

Additional Labelling:

Handle in accordance with good industrial hygiene and safety practice.
 EUH210 Safety data sheet available on request.

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical nature : Aqueous solution

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
hydrogen peroxide solution			
Index-No. : 008-003-00-9	>= 0.1 - < 5	Ox. Liq.1	H271
CAS-No. : 7722-84-1		Acute Tox.4	H332
EC-No. : 231-765-0		Acute Tox.4	H302
EU REACH- : 01-2119485845-22-xxxx		Skin Corr.1A	H314
Reg. No.		Eye Dam.1	H318
		STOT SE3	H335
		Aquatic Chronic3	H412

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : Take off all contaminated clothing immediately. If symptoms call a physician.

If inhaled : Remove to fresh air. If symptoms persist, call a physician.

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| In case of skin contact | : Wash off with soap and water. If skin irritation persists, call a physician. |
| In case of eye contact | : Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist. |
| If swallowed | : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. |

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

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| Symptoms | : See Section 11 for more detailed information on health effects and symptoms. |
| Effects | : Health injuries are not known or expected under normal use. See Section 11 for more detailed information on health effects and symptoms. |

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

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| Treatment | : Treat symptomatically. |
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SECTION 5: Firefighting measures

5.1. Extinguishing media

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| Suitable extinguishing media | : water spray |
| Unsuitable extinguishing media | : High volume water jet |

5.2. Special hazards arising from the substance or mixture

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| Specific hazards during firefighting | : The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
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5.3. Advice for firefighters

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|---|---|
| Special protective equipment for firefighters | : In the event of fire, wear self-contained breathing apparatus. Choose protective equipment according to size of fire. |
| Further advice | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool closed containers exposed to fire with water spray. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal. Do not keep the container sealed.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container firmly closed but do not keep it gas-tight. To this a packaging with ventilation cap is to be used. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep away from direct sunlight.

Advice on protection against fire and explosion : The product is not flammable. Normal measures for preventive fire protection.

Further information on storage conditions : Do not keep the container sealed. Keep in a dry place. Store in cool place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Keep away from combustible material.

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Suitable packaging materials : Stainless steel, PTFE, polyethylene

Unsuitable packaging materials : , Copper, Aluminium, Zinc, Iron

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)		

DNEL		
Workers, Acute - local effects, Inhalation	:	3 mg/m ³
DNEL		
Workers, Long-term - local effects, Inhalation	:	1.4 mg/m ³
DNEL		
Consumers, Acute - local effects, Inhalation	:	1.93 mg/m ³
DNEL		
Consumers, Long-term - local effects, Inhalation	:	0.21 mg/m ³

Predicted No Effect Concentration (PNEC)

Fresh water	:	0.0126 mg/l
Marine water	:	0.0126 mg/l
Intermittent releases	:	0.0138 mg/l
Sewage treatment plant (STP)	:	4.66 mg/l
Fresh water sediment	:	0.047 mg/kg dry weight (d.w.)
Marine sediment	:	0.047 mg/kg dry weight (d.w.)
Soil	:	0.0023 mg/kg dry weight (d.w.)

Other Occupational Exposure Limit Values

UK. EH40 Workplace Exposure Limits (WELs), Short Term Exposure Limit (STEL):
2 ppm, 2.8 mg/m³

UK. EH40 Workplace Exposure Limits (WELs), Time Weighted Average (TWA):
1 ppm, 1.4 mg/m³

ELV (IE), Time Weighted Average (TWA):
1 ppm, 1.5 mg/m³

ELV (IE), Short Term Exposure Limit (STEL):
2 ppm, 3 mg/m³

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : Required, if exposure limit is exceeded (e.g. OEL).
Respiratory protection complying with EN 141.
Recommended Filter type:
Combination filter: B-P2

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : Natural Rubber
Break through time : >= 8 h
Glove thickness : 0.5 mm

Material : polychloroprene
Break through time : >= 8 h
Glove thickness : 0.5 mm

Material : Nitrile rubber
Break through time : >= 8 h
Glove thickness : 0.35 mm

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Material : butyl-rubber
Break through time : ≥ 8 h
Glove thickness : 0.5 mm

Material : Fluorinated rubber
Break through time : ≥ 8 h
Glove thickness : 0.4 mm

Material : Polyvinylchloride
Break through time : ≥ 8 h
Glove thickness : 0.5 mm

Eye protection

Advice : Goggles giving complete protection to the eyes

Skin and body protection

Advice : Protective work clothing

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
If the product contaminates rivers and lakes or drains inform respective authorities.
If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : liquid
Colour : colourless
Odour : odourless
Odour Threshold : Not applicable
pH : 2 - 3 (20 °C)
Freezing point/range : ca. 0 °C
Boiling point/boiling range : ca. 100 °C

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Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: Not applicable
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Vapour pressure	: no data available
Relative vapour density	: no data available
Density	: 1.003 g/cm ³ (20 °C) 1% solution 1.017 g/cm ³ (20 °C) 5% solution
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: log Kow -1.57 (20 °C) (calculated)
Auto-ignition temperature	: Not applicable
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Explosivity	: Product is not explosive.
Oxidizing properties	: Oxidizing agents

9.2. Other information

Molecular weight	: 34.01 g/mol
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SECTION 10: Stability and reactivity

10.1. Reactivity

Advice	: No decomposition if stored and applied as directed.
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10.2. Chemical stability

Advice	: Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
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10.4. Conditions to avoid

Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight. Generation of gas from decomposition causes
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Hydrogen peroxide solution >0.1 - <5%

pressure in closed systems

10.5. Incompatible materials

Materials to avoid : Keep away from combustible material. Organic materials, Keep away from strong oxidizing agents and strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : Oxygen

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product

Acute toxicity

Oral

Acute toxicity estimate : > 2000 mg/kg) (Calculation method)Not classified based on the calculation method according to CLP regulation.

Inhalation

Acute toxicity estimate : > 5 mg/l (4 h; dust/mist) (Calculation method)Not classified based on the calculation method according to CLP regulation.

Dermal

Acute toxicity estimate : > 2000 mg/kg) Not classified based on the calculation method according to CLP regulation.

Irritation

Skin

Result : Not classified based on the calculation method according to CLP regulation.

Eyes

Result : Not classified based on the calculation method according to CLP regulation.

Sensitisation

Result : Not classified based on the calculation method according to CLP regulation.

CMR effects

CMR Properties

Carcinogenicity : Not classified based on the calculation method according to CLP regulation.

Hydrogen peroxide solution >0.1 - <5%

Mutagenicity	:	Not classified based on the calculation method according to CLP regulation.
Teratogenicity	:	Not classified based on the calculation method according to CLP regulation.
Reproductive toxicity	:	Not classified based on the calculation method according to CLP regulation.

Specific Target Organ Toxicity

Single exposure

Remarks	:	Not classified based on the calculation method according to CLP regulation.
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Repeated exposure

Remarks	:	Not classified based on the calculation method according to CLP regulation.
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Other toxic properties

Repeated dose toxicity

no data available

Aspiration hazard

Not applicable,

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
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Acute toxicity

Oral

LD50 Oral	:	418 mg/kg (Rat, male) (US-EPA method)The toxicological value for the pure substance was calculated on basis of a value for an aqueous solution.
LD50 Oral	:	445 mg/kg (Rat, female) (US-EPA method)The toxicological value for the pure substance was calculated on basis of a value for an aqueous solution.
LD50 Oral	:	431 mg/kg (Rat, male and female) (US-EPA method)The toxicological value for the pure substance was calculated on basis of a value for an aqueous solution.

Inhalation

No valid data available.

Dermal

LD50	:	> 2000 mg/kg (Rabbit) The toxicological value for the pure substance was calculated on basis of a value for an aqueous solution.
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Hydrogen peroxide solution >0.1 - <5%

Irritation

Skin

Result : corrosive effects (Rabbit)

Eyes

Result : Causes serious eye damage. (Rabbit)

Sensitisation

Result : not sensitizing (Magnusson & Kligman; Guinea pig)

CMR effects

CMR Properties

Carcinogenicity : Not classified due to inconclusive data.
 Mutagenicity : In vitro tests showed mutagenic effects
 In vivo tests did not show mutagenic effects
 Teratogenicity : no data available
 Reproductive toxicity : Not classified due to lack of data.

Genotoxicity in vitro

Result : positive (Chromosome aberration test in vitro; In vitro gene mutation study in mammalian cells; no) (OECD Test Guideline 473)
 positive (In vitro gene mutation study in mammalian cells; no) (OECD Test Guideline 476)
 Positive as well as negative results were obtained. (Mutagenicity (Escherichia coli - reverse mutation assay); with and without metabolic activation)

Genotoxicity in vivo

Result : negative (In vivo micronucleus test; Mouse) (Test substance: Hydrogen peroxide solution (35%); intraperitoneal;) (OECD Test Guideline 474)

Specific Target Organ Toxicity

Single exposure

Inhalation : Target Organs: Respiratory system May cause respiratory irritation.

Repeated exposure

Hydrogen peroxide solution >0.1 - <5%

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

NOEL : 37 mg/kg
(Mouse, female; Test substance: Hydrogen peroxide solution (35%))(Oral; 90 d; Subsequent observation period 6 weeks) (OECD Test Guideline 408)Target Organs: Blood; Symptoms: Depression of body weight, Irritation, Gastrointestinal tract

NOEL : 26 mg/kg
(Mouse, male; Test substance: Hydrogen peroxide solution (35%))(Oral; 90 d; Subsequent observation period 6 weeks) (OECD Test Guideline 408)Target Organs: Blood; Symptoms: Depression of body weight, Irritation, Gastrointestinal tract

Aspiration hazard

No aspiration toxicity classification,

SECTION 12: Ecological information

12.1. Toxicity

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
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Acute toxicity

Fish

LC50 : 16.4 mg/l (Pimephales promelas; 96 h) (semi-static test)

Toxicity to daphnia and other aquatic invertebrates

EC50 : 2.4 mg/l (Daphnia pulex (Water flea); 48 h) (semi-static test)

algae

NOEC : 0.63 mg/l (Skeletonema costatum (marine diatom); 72 h) (static test; End point: Growth rate)

ErC50 : 1.38 mg/l (Skeletonema costatum (marine diatom); 72 h) (End point: Growth rate)

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Bacteria

EC50	:	> 1000 mg/l (activated sludge; 3 h) (static test; OECD Test Guideline 209)
EC50	:	466 mg/l (activated sludge; 30 min) (OECD Test Guideline 209)

Chronic toxicity

Aquatic invertebrates

NOEC	:	0.63 mg/l (Daphnia magna (Water flea); 21 d)
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12.2. Persistence and degradability

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
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Persistence and degradability

Persistence

Result	:	(Related to: Air) The product can be degraded by abiotic (e.g. chemical or photolytic) processes. Decomposition under release of oxygen.
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Biodegradability

Result	:	100 % (Related to: O ₂ consumption; Test substance: 30% solution)(OECD)Readily biodegradable.
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12.3. Bioaccumulative potential

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
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Bioaccumulation

Result	:	log Kow -1.57 (20 °C) Does not bioaccumulate.
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12.4. Mobility in soil

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
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Mobility

Water	:	The product is mobile in water environment.
Soil	:	Not expected to adsorb on soil.

Hydrogen peroxide solution >0.1 - <5%

Air : not volatile

12.5. Results of PBT and vPvB assessment

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
Results of PBT and vPvB assessment		

Result : The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

12.6. Other adverse effects

Component:	hydrogen peroxide solution	CAS-No. 7722-84-1
Adsorbed organic bound halogens (AOX)		

Result : Product does not contain any organic halogens.

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
- Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

Hydrogen peroxide solution >0.1 - <5%**14.2. UN proper shipping name**

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

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

IMDG : Not applicable.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Data for the product**

EU. REACH, Annex XVII, : ; The substance/mixture does not fall under this legislation.
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

EU. Directive : ; The substance/mixture does not fall under this legislation.
2012/18/EU (SEVESO
III) Annex I

Component: hydrogen peroxide solution CAS-No. 7722-84-1

EU. Regulation EU No. : ; The substance/mixture does not fall under this legislation.
649/2012 concerning the
export and import of
dangerous chemicals

EU. Annexes I and II, : Limit: 12 % w/w; Annex I: Substances which shall not be made
Regulation 98/2013/EU available to members of the general public on their own, or in
on the Marketing and mixtures or substances including them, except if the
Use of Explosives concentration is equal to or lower than the limit values set out.;

Hydrogen peroxide solution >0.1 - <5%

Precursors Listed
 Combined Nomenclature (CN) Number(s): 3824 90 97;
 Combined Nomenclature (CN) code for a mixture without constituents; Listed
 Combined Nomenclature (CN) Number(s): 2847 00 00;
 Combined Nomenclature (CN) code for a separate chemically defined compound; Listed

EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325) : EC Number: , 231-765-0; Listed

EU. Regulation No. 1223/2009 on cosmetic products, Annex III: List of Restricted Substances in Cosmetic Products : Maximum concentration in ready for use preparation: 6 %; Tooth whitening or bleaching products; See the text of the regulation for applicable exceptions or provisions.

Maximum concentration in ready for use preparation: 0.1 %; Oral products (including mouth rinse, tooth paste and tooth whitening or bleaching products); See the text of the regulation for applicable exceptions or provisions.

Maximum concentration in ready for use preparation: 4 %; Skin products; See the text of the regulation for applicable exceptions or provisions.

Maximum concentration in ready for use preparation: 2 %; Cosmetic products for eyelashes; See the text of the regulation for applicable exceptions or provisions.

Maximum concentration in ready for use preparation: 12 %; Hair products; See the text of the regulation for applicable exceptions or provisions.

Maximum concentration in ready for use preparation: 2 %; Products for hardening nails; See the text of the regulation for applicable exceptions or provisions.

WGK (DE) : WGK 1: slightly hazardous to water: 288

Notification status hydrogen peroxide solution:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	231-765-0
ENCS (JP)	YES	(1)-419
IECSC	YES	
ISHL (JP)	YES	(1)-419
KECI (KR)	YES	97-1-2
KECI (KR)	YES	KE-20204

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NZIOC	YES	HSR001326
NZIOC	YES	HSR001450
NZIOC	YES	HSR001449
PHARM (JP)	YES	
PICCS (PH)	YES	
TSCA	YES	

15.2. Chemical safety assessment

no data available

SECTION 16: Other information

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

H271	May cause fire or explosion; strong oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and Acronyms

BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
OECD	Organisation for Economic Cooperation and Development

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OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
REACH Auth. No.:	REACH Authorisation Number
REACH AppC. No.:	REACH Application Consultation Number
PNEC	predicted no-effect concentration
STOT	specific target organ toxicity
SVHC	substance of very high concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
vPvB	very persistent and very bioaccumulative

Further information

- Key literature references : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
- Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
- Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.
The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.