



SAFETY DATA SHEET HYDROGEN PEROXIDE <8%

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

1.1. Product identifier

Product name	HYDROGEN PEROXIDE <8%
Product number	21933
Synonyms; trade names	HYDROGEN PEROXIDE CO-3% DIL
REACH registration number	01-2119485845-22-XXXX
CAS number	7722-84-1
EU index number	008-003-00-9
EC number	231-765-0

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

Identified uses	Chemical For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	21933

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Eye Irrit. 2 - H319
Environmental hazards	Not Classified

2.2. Label elements

EC number	231-765-0
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Pictogram



HYDROGEN PEROXIDE <8%

Signal word	Warning
Hazard statements	H319 Causes serious eye irritation.
Precautionary statements	P280 Wear protective gloves/ protective clothing/ eye protection/ face 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.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	HYDROGEN PEROXIDE <8%
REACH registration number	01-2119485845-22-XXXX
EU index number	008-003-00-9
CAS number	7722-84-1
EC number	231-765-0
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

Skin contact	Causes mild skin irritation.
Eye contact	Irritating to eyes.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with the following media: Water.
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5.2. Special hazards arising from the substance or mixture

Specific hazards	Oxygen.
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5.3. Advice for firefighters

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Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of spray mist and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Provide adequate ventilation. Flush contaminated area with plenty of water. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid contact with skin and eyes. Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Static electricity and formation of sparks must be prevented.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Keep only in the original container.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 1 ppm 1.4 mg/m³

Short-term exposure limit (15-minute): WEL 2 ppm 2.8 mg/m³

WEL = Workplace Exposure Limit

DNEL

Workers - Inhalation; Short term local effects: 3 mg/m³

Workers - Inhalation; Long term local effects: 1.4 mg/m³

Consumer - Inhalation; Short term local effects: 1.93 mg/m³

Consumer - Inhalation; Long term local effects: 0.21 mg/m³

PNEC

- Fresh water; 0.0126 mg/l

- Marine water; 0.0126 mg/l

- STP; 4.66 mg/l

- Intermittent release; 0.0138 mg/l

- Sediment (Freshwater); 0.047 mg/l

- Sediment (Marinewater); 0.047 mg/l

- Soil; 0.0023 mg/kg

8.2. Exposure controls

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Protective equipment



Eye/face protection

The following protection should be worn: Chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. For exposure up to 8 hours, wear gloves made of the following material: Butyl rubber. (0.7 mm) Nitrile rubber. (0.33 mm) Rubber (natural, latex). (1.0 mm)

Other skin and body protection

Wear rubber apron. Wear rubber footwear.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Combination filter, type A2/P2. EN 136/140/141/145/143/149

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	No information available.
Odour threshold	No information available.
pH	pH (concentrated solution): 1 - 4
Melting point	No information available.
Initial boiling point and range	100 - 103°C
Flash point	No information available.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	1.03
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.

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Decomposition Temperature No information available.

Viscosity No information available.

Explosive properties No information available.

Explosive under the influence of a flame No information available.

Oxidising properties No information available.

9.2. Other information

Other information No information required.

Refractive index No information available.

Particle size No information available.

Molecular weight No information available.

Volatility No information available.

Saturation concentration No information available.

Critical temperature No information available.

Volatile organic compound No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Does not decompose when used and stored as recommended.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not determined.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Strong acids. Strong alkalis. Strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Skin corrosion/irritation

Animal data No information available.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation No information available.

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Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation May cause respiratory system irritation.

Ingestion May cause stomach pain or vomiting.

Skin contact Slightly irritating.

Eye contact Irritating to eyes.

SECTION 12: Ecological Information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 16.4 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 2.4 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 0.85 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient No information available.

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

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12.6. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

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EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Japan - MITI

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

31/07/2018

Version number

3.000

Supersedes date

18/04/2017

SDS number

21933

SDS status

Approved.

HYDROGEN PEROXIDE <8%

Hazard statements in full H319 Causes serious eye irritation.

Signature Jitendra Panchal



Exposure scenario
Loading and unloading operations, distribution covering all identified uses

Identification

Product name	Hydrogen Peroxide
REACH registration number	01-2119485845-22-XXXX
CAS number	7722-84-1
EC number	231-765-0
EU index number	008-003-00-9
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Loading and unloading operations, distribution covering all identified uses
Product category	PC1 Adhesives, sealants. PC8 Biocidal products. PC12 Lawn and garden preparations (- fertilizers). PC14 Metal surface treatment products, including galvanic and electroplating products. PC15 Non-metal-surface treatment products. PC21 Laboratory chemicals. PC25 Metal working fluids. PC27 Plant protection products. PC29 Pharmaceuticals. PC31 Polishes and wax blends. PC32 Polymer preparations and compounds. PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids. PC35 Washing and cleaning products (including solvent-based products). PC37 Water treatment chemicals. PC39 Cosmetics, personal care.
Main sector	SU3 Industrial uses

Loading and unloading operations, distribution covering all identified uses

Sector of use	SU4 Manufacture of food products SU5 Manufacture of textiles, leather, fur SU6 Manufacture of paper and paper products SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals SU10 Formulation [mixing] of preparations and/or re-packaging SU11 Manufacture of rubber products SU12 Manufacture of plastics products, including compounding and conversion SU14 Manufacture of basic metals, including alloys SU15 Manufacture of fabricated metal products, except machinery and equipment SU16 Manufacture of computer, electronic and optical products, electrical equipment SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU21 Consumer uses SU22 Professional uses
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Environment

Environmental release category	ERC1 Manufacture of substances. ERC2 Formulation of preparations. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC6a Industrial use resulting in manufacture of another substance (use of intermediates). ERC6b Industrial use of reactive processing aids. ERC6c Industrial use of monomers for manufacture of thermoplastics. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.
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Worker

Process category	PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 90 %.

Other given operational conditions affecting environmental exposure

Emission factor - air	Air emission controls are not applicable as there is no direct release to air.
Emission factor - water	Wastewater emission controls are not applicable as there is no direct release to wastewater.
Emission factor - soil	Not applicable - no direct release to soil.

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
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Conditions and measures related to external treatment of waste for disposal

Waste treatment	Hazardous waste incineration.
Disposal method	Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Loading and unloading operations, distribution covering all identified uses

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 90 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Provide extract ventilation to points where emissions occur.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wash hands before breaks and after work.
Wear suitable coveralls to prevent exposure to the skin.
Use suitable eye protection and gloves.
Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

3. Exposure estimation (Environment 1)

No exposure assessment presented for the environment. Qualitative approach used to conclude safe use.

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
Exposure	PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. Worker - inhalation: Exposure 0.99 mg/m³, DNEL 2.8 mg/m³, RCR 0.35 PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Worker - inhalation: Exposure 0.21 mg/m³, DNEL 2.8 mg/m³, RCR 0.075 PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Worker - inhalation: Exposure 0.71 mg/m³, DNEL 2.8 mg/m³, RCR 0.25



Exposure scenario

Bleaching with hydrogen peroxide solutions

Identification

Product name	Hydrogen Peroxide
REACH registration number	01-2119485845-22-XXXX
CAS number	7722-84-1
EC number	231-765-0
EU index number	008-003-00-9
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Bleaching with hydrogen peroxide solutions
Product category	PC23 Leather tanning, dye, finishing, impregnation and care products. PC24 Lubricants, greases and release products. PC26 Paper and board dye, finishing and impregnation products, including bleaches and other processing aids. PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids.
Main sector	SU3 Industrial uses
Sector of use	SU5 Manufacture of textiles, leather, fur SU6 Manufacture of paper and paper products SU21 Consumer uses SU22 Professional uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC6b Industrial use of reactive processing aids. ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems.
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Worker

Bleaching with hydrogen peroxide solutions

Process category	PROC1 Use in closed process, no likelihood of exposure.
	PROC2 Use in closed, continuous process with occasional controlled exposure
	PROC3 Use in closed batch process (synthesis or formulation).
	PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
	PROC13 Treatment of articles by dipping and pouring.
	PROC19 Hand-mixing with intimate contact and only PPE available.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 35 %.

Amounts used

Annual amount per site: 9810 tonnes
Regional use tonnage: 43600 tonnes/year

Frequency and duration of use

Emission days: 360 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (after typical onsite RMMs): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.009
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default)
	Local marine water dilution factor: 100 (Default)

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP type	Municipal STP.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Filtration.
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Conditions and measures related to external treatment of waste for disposal

Disposal method	Contain and dispose of waste according to local regulations. Hazardous waste incineration.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 35 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	SU3 Industrial uses Local exhaust ventilation - efficiency of at least [%]: 90 SU22 Professional uses Local exhaust ventilation - efficiency of at least [%]: 80

Bleaching with hydrogen peroxide solutions

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wash hands before breaks and after work.

Wear suitable coveralls to prevent exposure to the skin.

Use suitable eye protection and gloves.

Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

2. Conditions of use affecting exposure (Non-industrial - Health 2)

Product characteristics

Physical state Liquid

Concentration details Avoid using at a product concentration greater than 12%.

Amounts used

Amount per use: 100 ml

Frequency and duration of use

Covers daily exposure up to 10minutes

Other given operational conditions affecting Non-industrial exposure

Temperature Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Exposure route Inhalation

Consumer information Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.0098 mg/l, PNEC 0.0126 mg/l, RCR 0.78
Marine water: Exposure 0.001 mg/l, PNEC 0.0126 mg/l, RCR 0.079
Soil: Exposure 0.000154 mg/kg, PNEC 0.0023 mg/kg, RCR 0.067
STP: Exposure 0.098 mg/l, PNEC 4.66 mg/l, RCR 0.021
Worst case assumption

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Bleaching with hydrogen peroxide solutions

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation: Exposure 0.005 mg/m³, DNEL 2.8 mg/m³, RCR 0.002

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation: Exposure 0.496 mg/m³, DNEL 2.8 mg/m³, RCR 0.18

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation: Exposure 0.298 mg/m³, DNEL 2.8 mg/m³, RCR 0.11

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation: Exposure 0.992 mg/m³, DNEL 2.8 mg/m³, RCR 0.35

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation: Exposure 0.496 mg/m³, DNEL 2.8 mg/m³, RCR 0.18

PROC19 Hand-mixing with intimate contact and only PPE available.

Worker - inhalation: Exposure 0.85 mg/m³, DNEL 2.8 mg/m³, RCR 0.30

3. Exposure estimation (Health 2)

Exposure

Consumer - inhalation: Exposure 0.13 mg/m³, DNEL 2.8 mg/m³, RCR 0.046



Exposure scenario

Environmental and agricultural use of hydrogen peroxide solutions

Identification

Product name	Hydrogen Peroxide
REACH registration number	01-2119485845-22-XXXX
CAS number	7722-84-1
EC number	231-765-0
EU index number	008-003-00-9
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Environmental and agricultural use of hydrogen peroxide solutions
Product category	PC20 Products such as ph-regulators, flocculants, precipitants, neutralization agents PC37 Water treatment chemicals.
Main sector	SU3 Industrial uses SU21 Consumer uses SU22 Professional uses
Sector of use	SU1 Agriculture, forestry, fishery SU2a Mining (without offshore industries) SU2b Offshore industries SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC6b Industrial use of reactive processing aids. ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems.
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Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.
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Environmental and agricultural use of hydrogen peroxide solutions

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 50 %.

Amounts used

Annual amount per site: 4.93 tonnes
Regional use tonnage: 2465 tonnes/year

Frequency and duration of use

Emission days: 360 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (after typical onsite RMMs): 0.1
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.8

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default) Local marine water dilution factor: 100 (Default)
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Filtration.
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Conditions and measures related to external treatment of waste for disposal

Disposal method	Contain and dispose of waste according to local regulations. Hazardous waste incineration.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 50 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	SU3 Industrial uses Local exhaust ventilation - efficiency of at least [%]: 90 SU22 Professional uses Local exhaust ventilation - efficiency of at least [%]: 80

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Provide extract ventilation to points where emissions occur.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Environmental and agricultural use of hydrogen peroxide solutions

Wash hands before breaks and after work.

Wear suitable coveralls to prevent exposure to the skin.

Use suitable eye protection and gloves.

Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.0085 mg/l, PNEC 0.0126 mg/l, RCR 0.67 Marine water: Exposure 0.000775 mg/l, PNEC 0.0126 mg/l, RCR 0.006 Soil: Exposure 0.000113 mg/kg, PNEC 0.0023 mg/kg, RCR 0.049 STP: Exposure 0.088 mg/l, PNEC 4.66 mg/l, RCR 0.019 Worst case assumption

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
Exposure	PROC1 Use in closed process, no likelihood of exposure. Worker - inhalation: Exposure 0.007 mg/m ³ , DNEL 2.8 mg/m ³ , RCR 0.0025 PROC2 Use in closed, continuous process with occasional controlled exposure Worker - inhalation: Exposure 0.708 mg/m ³ , DNEL 2.8 mg/m ³ , RCR 0.25 PROC3 Use in closed batch process (synthesis or formulation). Worker - inhalation: Exposure 0.425 mg/m ³ , DNEL 2.8 mg/m ³ , RCR 0.15 PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. Worker - inhalation: Exposure 1.06 mg/m ³ , DNEL 2.8 mg/m ³ , RCR 0.38 Worst case assumption



Exposure scenario

Use of hydrogen peroxide solutions in cleaning agents

Identification

Product name	Hydrogen Peroxide
REACH registration number	01-2119485845-22-XXXX
CAS number	7722-84-1
EC number	231-765-0
EU index number	008-003-00-9
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use of hydrogen peroxide solutions in cleaning agents
Product category	PC21 Laboratory chemicals. PC35 Washing and cleaning products (including solvent-based products).
Main sector	SU21 Consumer uses SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems.
<u>Worker</u>	
Process category	PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC19 Hand-mixing with intimate contact and only PPE available.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 50 %.

Amounts used

Use of hydrogen peroxide solutions in cleaning agents

Regional use tonnage: 6210 tonnes/year

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Not applicable.
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.8
Emission factor - soil	Not applicable - no direct release to soil.

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 (Default) Local marine water dilution factor: 100 (Default)
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Filtration.
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Conditions and measures related to external treatment of waste for disposal

Disposal method	Household solid waste (e.g. product packaging) is treated at municipal waste disposal sites.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
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Amounts used

Small scale

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wash hands before breaks and after work.
Wear suitable coveralls to prevent exposure to the skin.
Use suitable eye protection and gloves.
Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
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Use of hydrogen peroxide solutions in cleaning agents

Environmental exposure

Fresh water: Exposure 0.0085 mg/l, PNEC 0.0126 mg/l, RCR 0.67

Marine water: Exposure 0.000775 mg/l, PNEC 0.0126 mg/l, RCR 0.006

Soil: Exposure 0.000113 mg/kg, PNEC 0.0023 mg/kg, RCR 0.049

STP: Exposure 0.088 mg/l, PNEC 4.66 mg/l, RCR 0.019

Worst case assumption

3. Exposure estimation (Health 1)

Assessment method

Used ECETOC TRA model.

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation: Exposure 0.007 mg/m³, DNEL 2.8 mg/m³, RCR 0.0025

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation: Exposure 0.708 mg/m³, DNEL 2.8 mg/m³, RCR 0.25

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation: Exposure 0.425 mg/m³, DNEL 2.8 mg/m³, RCR 0.15

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation: Exposure 1.06 mg/m³, DNEL 2.8 mg/m³, RCR 0.38

Worst case assumption



Exposure scenario

Use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching

Identification

Product name	Hydrogen Peroxide
REACH registration number	01-2119485845-22-XXXX
CAS number	7722-84-1
EC number	231-765-0
EU index number	008-003-00-9
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching
Product category	PC39 Cosmetics, personal care.
Main sector	SU21 Consumer uses SU22 Professional uses

Environment

Environmental release category	ERC8b Wide dispersive indoor use of reactive substances in open systems.
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Worker

Process category	PROC19 Hand-mixing with intimate contact and only PPE available.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
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Amounts used

Regional use tonnage: 6210 tonnes/year

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Not applicable.
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Use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.8

Emission factor - soil Not applicable - no direct release to soil.

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10 (Default)
Local marine water dilution factor: 100 (Default)

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Filtration.

Conditions and measures related to external treatment of waste for disposal

Disposal method Household solid waste (e.g. product packaging) is treated at municipal waste disposal sites.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes activities are at ambient temperature (unless stated differently).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wash hands before breaks and after work.
Wear suitable coveralls to prevent exposure to the skin.
Use suitable eye protection and gloves.
Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.0085 mg/l, PNEC 0.0126 mg/l, RCR 0.67
Marine water: Exposure 0.000775 mg/l, PNEC 0.0126 mg/l, RCR 0.006
Soil: Exposure 0.000113 mg/kg, PNEC 0.0023 mg/kg, RCR 0.049
STP: Exposure 0.088 mg/l, PNEC 4.66 mg/l, RCR 0.019

Worst case assumption

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation: Exposure 0.007 mg/m³, DNEL 2.8 mg/m³, RCR 0.0025

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation: Exposure 0.708 mg/m³, DNEL 2.8 mg/m³, RCR 0.25

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation: Exposure 0.425 mg/m³, DNEL 2.8 mg/m³, RCR 0.15

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation: Exposure 1.06 mg/m³, DNEL 2.8 mg/m³, RCR 0.38

Worst case assumption