

**SAFETY DATA SHEET****Hydrogen Peroxide 28%**

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

SECTION 1: Identification of the substance/mixture and of the company/undertaking1.1. Product identifier

Product name Hydrogen Peroxide 28%

Product number ACF-04698

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

Identified uses Bleaching agent for pulp. Raw Material. Water treatment. Laboratory reagent.

1.3. Details of the supplier of the safety data sheet

Supplier: Advance Grass Solutions LTD
Unit 6, Norcot Industrial Estate
Stirling Way
Reading
Berkshire
RG30 6HW
01183914540

1.4. Emergency telephone number

Emergency telephone 01183 914540 (Mon - Fri, 08:00 - 17:00 UK time only)

Mobile 07789 935208 out of hours

National emergency telephone number National Poisons Information Service

For medical advice or information you should contact your GP or NHS 111 (or NHS 24 in Scotland) on 111 (for 24 hour health advice)

If you are a healthcare professional with an enquiry please visit www.TOXBASE.org

SECTION 2: Hazards identification2.1. Classification of the substance or mixture Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Eye Dam. 1 - H318

Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

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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. P310
Immediately call a POISON CENTER/ doctor.

Contains hydrogen peroxide solution ... %

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

hydrogen peroxide solution		20-30%
CAS number: 7722-84-1	EC number: 231-765-0	REACH registration number: 012119485845-22-XXXX
Classification Ox. Liq. 1 - H271 Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT SE 3 - H335 Aquatic Chronic 3 - H412		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if symptoms are severe or persist.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Get medical attention immediately.
Skin contact	It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes. Get medical attention immediately.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	May cause respiratory irritation.
Ingestion	May cause stomach pain or vomiting.
Skin contact	May cause irritation. Discoloration of the skin. Redness.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray.
Unsuitable extinguishing media	Do not use the following: Foam. Carbon dioxide (CO ₂). Powder. Dry chemicals.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Oxygen.

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. May cause or intensify fire; oxidiser. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Avoid inhalation of dust and vapours. No smoking, sparks, flames or other sources of ignition near spillage. Do not touch or walk into spilled material. Use suitable respiratory protection if ventilation is inadequate.
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6.2. Environmental precautions

Environmental precautions	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Absorb spillage with inert, damp, non-combustible material. Do not use sawdust or other combustible material. Dispose of waste to licensed
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waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Mechanical ventilation or local exhaust ventilation may be required. If ventilation is inadequate, suitable respiratory protection must be worn. Do not breathe vapour/spray. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product.

Advice on general occupational hygiene Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash promptly if skin becomes contaminated. Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from oxidising materials, heat and flames. Keep away from combustible materials. Protect from light. Store away from incompatible materials (see Section 10).

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 hydrogen peroxide solution

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

hydrogen peroxide solution (CAS: 7722-84-1)

DNEL	Workers - Inhalation; Short term local effects: 3 mg/m ³
	Workers - Inhalation; Long term local effects: 1.4 mg/m ³
	Consumer - Inhalation; Short term local effects: 1.93 mg/m ³
	Consumer - Inhalation; Long term local effects: 0.21 mg/m ³
PNEC	- Fresh water; 0.0126 mg/l
	- marine water; 0.0126 mg/l
	- Soil; 0.0023 mg/kg
	- STP; 4.66 mg/l
	- Sediment (Freshwater); 0.047 mg/kg
	- Sediment (Marinewater); 0.047 mg/kg
	- Intermittent release; 0.0138 mg/l

8.2. Exposure controls

Protective equipment



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Appropriate engineering controls	Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.
Eye/face protection	Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	It is recommended that chemical-resistant, impervious gloves are worn. 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. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Gas filter, type A2. Gas filter, type B.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Clear liquid.

Colour Colourless.

pH pH (concentrated solution): ≤ 3 Bulk density $\sim 1100 \text{ kg/m}^3$

Solubility(ies) Completely soluble in water.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

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Conditions to avoid Avoid heat. Light.

10.5. Incompatible materials

Materials to avoid Organic Materials. Acetone. Alkalis. Some metals. Metal oxides. Reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition Does not decompose when used and stored as recommended. Thermal decomposition or products combustion products may include the following substances: Oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects Acute toxicity - oral

ATE oral (mg/kg) 2,150.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 39.29

Toxicological information on ingredients. hydrogen peroxide solution

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 602.0
mg/kg)

Species Rat

ATE oral (mg/kg) 602.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

ATE inhalation (vapours 11.0
mg/l)

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin. Causes severe burns.

Serious eye damage/irritation

Serious eye Causes serious eye damage.
damage/irritation

Respiratory sensitisation

Respiratory sensitisation No data available.

Skin sensitisation

Skin sensitisation Conclusive data but not sufficient for classification.

Germ cell mutagenicity

Genotoxicity - in vitro Conclusive data but not sufficient for classification.

Genotoxicity - in vivo Conclusive data but not sufficient for classification.

Carcinogenicity

Carcinogenicity Conclusive data but not sufficient for classification.

Reproductive toxicity

Reproductive toxicity - Conclusive data but not sufficient for classification.
Fertility

Reproductive toxicity Conclusive data but not sufficient for classification.
development

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Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 3 - H335 Respiratory system irritation.

Target organs Respiratory tract

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Conclusive data but not sufficient for classification. LOAEL 0.0029 mg/l, Inhalation, Rat NOAEL 26 mg/kg/day, Oral, Rat

Aspiration hazard

Aspiration hazard No data available.

SECTION 12: Ecological information

12.1. Toxicity

Ecological information on ingredients.

hydrogen peroxide solution

Toxicity Aquatic Chronic 3 - H412

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hour: 16.4 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates LC₅₀, 48 hour: 2.4 mg/l, Daphnia magna

Acute toxicity - aquatic plants ErC₅₀, 72 hour: 1.38 mg/l, skeletonema costatum

Acute toxicity microorganisms EC₅₀, 0.5 hour: 466 mg/l, Activated sludge

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 day: 0.63 mg/l, Daphnia magna hydrogen peroxide solution

12.2. Persistence and degradability Ecological information on ingredients.

Persistence and degradability

12.3. Bioaccumulative potential

Ecological information on ingredients.

Substance is inorganic. hydrogen peroxide solution

Partition coefficient

12.4. Mobility in soil

Ecological information on ingredients.

Kow: -1.57 Calculation method. hydrogen peroxide solution

Henry's law constant 0.001 Pa m³/mol @ 20°C

Surface tension 80.4 mN/m @ 20°C

12.5. Results of PBT and vPvB assessment Ecological information on ingredients. hydrogen peroxide solution

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

12.6. Other adverse effects

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

General information	The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous. Do not discharge into drains or watercourses or onto the ground.
Disposal methods	Dispose of contents/container in accordance with local regulations.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	2014
UN No. (IMDG)	2014
UN No. (ICAO)	2014
UN No. (ADN)	2014

14.2. UN proper shipping name

Proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION (ADR/RID)
Proper shipping name (IMDG)	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Proper shipping name (ICAO)	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Proper shipping name (ADN)	HYDROGEN PEROXIDE, AQUEOUS SOLUTION

14.3. Transport hazard class(es)

ADR/RID class	5.1
ADR/RID subsidiary risk	8
ADR/RID classification code	OC1
ADR/RID label	5.1
IMDG class	5.1
IMDG subsidiary risk	8
ICAO class/division	5.1
ICAO subsidiary risk	8
ADN class	5.1
ADN subsidiary risk	8

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II

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ADN packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS F-H, S-Q

ADR transport category 2

Emergency Action Code 2P

Hazard Identification Number 58
(ADR/RID)

Tunnel restriction code (E)

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits. The Poisons Act 1972 (Explosives Precursors) (Amendment) Regulations 2018. Control of Poisons and Explosives Precursors Regulation 2015.
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). Commission Regulation (EU) No 453/2010 of 20 May 2010. 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. Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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.
 GHS: Globally Harmonized System.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
 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.
 SVHC: Substances of Very High Concern.
 vPvB: Very Persistent and Very Bioaccumulative.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEL: No Observed Adverse Effect Level.
 UN: United Nations.
 IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).

Classification abbreviations and
acronyms

Acute Tox. = Acute toxicity
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)
 Eye Dam. = Serious eye damage
 Ox. Liq. = Oxidising liquid
 Skin Corr. = Skin corrosion
 STOT SE = Specific target organ toxicity-single exposure

Key literature references and
sources for data

Source: European Chemicals Agency, <http://echa.europa.eu/>

Classification procedures
according to Regulation (EC)
1272/2008

Eye Dam. 1 - H318: Expert judgement.

Training advice

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Revision comments

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

Revision date

18/09/2019

Revision

3

Supersedes date

10/05/2017

SDS number

4698

Hazard statements in full

H271 May cause fire or explosion; strong oxidiser.
 H302 Harmful if swallowed.

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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.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario

Industrial use in chemical synthesis or processes and formulation

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
Revision date	08/05/2017
Version number	2 ES1
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Industrial use in chemical synthesis or processes and formulation
Sector of use	SU3 Industrial uses SU4 Manufacture of food 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

Industrial use in chemical synthesis or processes and formulation

Environment

Environmental release category	ERC2 Formulation into mixture
Worker	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
	ERC6a Use of intermediate
	ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
	ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
	ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
 PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 PROC4 Chemical production where opportunity for exposure arises
 PROC5 Mixing or blending in batch processes
 PROC15 Use as laboratory reagent.

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

Control of environmental exposure

Risk from environmental exposure is driven by fresh water.

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Annual amount per site: 8950 tonnes

Frequency and duration of use

Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Emission factor to air: 29.8 kg/day
Emission factor - soil	Emission factor to soil: 2.98 kg/day

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

Air	Exhaust air scrubber.
Water	Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 99.3%. External treatment and disposal of waste should comply with applicable local and/or national regulations.

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

Control of workers exposure

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
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Product characteristics

Physical state	Liquid
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Industrial use in chemical synthesis or processes and formulation

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 70 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

Control of workers exposure

Process category PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC15 Use as laboratory reagent.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 70 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Provide extract ventilation at the points where emissions occur.

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Environmental release category

ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)
ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Assessment method Used EUSES model.

Environmental release
Maximum concentration/release value: marine water: 0.0126 mg/l
Fresh water: 0.0126 mg/l

Industrial use in chemical synthesis or processes and formulation

Environmental exposure Water: Exposure , PNEC , RCR <1 Soil:
Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use suitable respirator when performing operations involving exposure to vapour of the product (in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Exposure

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions Long term, Inhalation: Exposure , DNEL , RCR <0.1

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75

Long term, Inhalation: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 2)

Process category

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC15 Use as laboratory reagent.

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions

Provide extract ventilation at the points where emissions occur. Efficiency of at least 90%

Industrial use in chemical synthesis or processes and formulation

Exposure

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Long term, Inhalation: Exposure , DNEL , RCR <0.1

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes PROC15 Use as laboratory reagent.

Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



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
Revision date	08/05/2017
Version number	2 ES2
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title Loading and unloading operations, distribution covering all identified uses

Sector of use

SU3 Industrial uses
 SU4 Manufacture of food products
 SU6a Manufacture of wood and wood 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

Worker

Process category PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated

Loading and unloading operations, distribution covering all identified uses facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

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

Product characteristics

Physical state Liquid
 Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

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

Product characteristics

Physical state Liquid
 Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 70 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor.

Risk management measures

Provide extract ventilation at the points where emissions occur.
 Efficiency of at least 90%
 Use suitable respirator when performing operations involving exposure to vapour of the product (in case of high concentration).
 Wear suitable coveralls to prevent exposure to the skin.
 Wear suitable gloves tested to EN374.
 Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

Product characteristics

Physical state Liquid
 Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 70 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor.

Provide extract ventilation at the points where emissions occur.
 Efficiency of at least 97%
 Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
 Wear suitable coveralls to prevent exposure to the skin.
 Wear suitable gloves tested to EN374.
 Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Loading and unloading operations, distribution covering all identified uses

3. Exposure estimation (Environment 1)

Assessment method Environmental exposure for loading/unloading is covered by the other scenarios.

3. Exposure estimation (Health 1)

Process category

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Assessment method Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions Provide extract ventilation at the points where emissions occur. Efficiency of at least 90%

Exposure PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity. Qualitative approach used to conclude safe use.

3. Exposure estimation (Health 2)

Process category PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Assessment method Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions Provide extract ventilation at the points where emissions occur. Efficiency of at least 97%

Exposure PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Long term, Inhalation: Exposure , DNEL , RCR <0.1

Long term, Dermal: Exposure , DNEL , RCR Not relevant

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

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
Revision date	08/05/2017
Version number	2 ES3
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper
Sector of use	SU3 Industrial uses SU5 Manufacture of textiles, leather, fur SU6a Manufacture of wood and wood products

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article) ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
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Worker

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises PROC13 Treatment of articles by dipping and pouring.

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

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

Control of environmental exposure

Pulp bleaching and de-inking.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Annual amount per site: 9810 tonnes

Frequency and duration of use

Emission days: 360 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 27.3 kg/day

Emission factor - soil Emission factor to soil: 2.73 kg/day
Risk from environmental exposure is driven by fresh water.

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

Air Exhaust air scrubber.

Water Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 99.3%.
External treatment and disposal of waste should comply with applicable local and/or national regulations.

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

Control of environmental exposure

Bleaching of other materials

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Annual amount per site: 405 tonnes

Frequency and duration of use

Emission days: 360 days, days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 13.5 kg/day

Emission factor - soil Emission factor to soil: 0.135 kg/day
Risk from environmental exposure is driven by fresh water.

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

Air Exhaust air scrubber.

Water Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 99.3%.
External treatment and disposal of waste should comply with applicable local and/or national regulations.

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

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

Control of workers exposure

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.
Concentration details Covers concentrations up to 35 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable gloves tested to EN374.
Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

Control of workers exposure

Process category PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.
Concentration details Covers concentrations up to 35 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Provide extract ventilation at the points where emissions occur.
Efficiency of at least 90%
Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable gloves tested to EN374.
Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

2. Conditions of use affecting exposure (Workers Health 3)

Control of workers exposure

Process category Product characteristics PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 15 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable gloves tested to EN374.
Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

2. Conditions of use affecting exposure (Workers - Health 4)

Control of workers exposure

Process category PROC13 Treatment of articles by dipping and pouring.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 35 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Provide extract ventilation at the points where emissions occur.

Efficiency of at least 90%

, or:

Wear a respirator conforming to EN140 with Type A filter or better.

Efficiency of at least 95%

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

3. Exposure estimation (Environment 1)

Sector of use	Pulp bleaching and de-inking.
Assessment method	Used EUSES model.
Environmental release	Maximum concentration/release value: marine water: 0.0126 mg/l Fresh water: 0.0126 mg/l
Environmental exposure	Water: Exposure , PNEC , RCR <1 Soil: Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Environment 2)

Sector of use	Bleaching of other materials
Assessment method	Used EUSES model.
Environmental release	Maximum concentration/release value: marine water: 0.0126 mg/l Fresh water: 0.0126 mg/l
Environmental exposure	Water: Exposure , PNEC , RCR <1 Soil: Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Exposure	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions Long term, Inhalation: Exposure , DNEL , RCR <0.1 Long term, Dermal: Exposure Not relevant., DNEL , RCR PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5 Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 1)

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 2)

Process category	<p>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions</p> <p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4 Chemical production where opportunity for exposure arises</p>
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Provide extract ventilation at the points where emissions occur. Efficiency of at least 90%
Exposure	<p>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions</p> <p>Long term, Inhalation: Exposure , DNEL , RCR <0.1</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p> <p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4 Chemical production where opportunity for exposure arises</p> <p>Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p>

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 3)

Process category	<p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4 Chemical production where opportunity for exposure arises</p>
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Covers concentrations up to 15 %.
Exposure	<p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p> <p>PROC4 Chemical production where opportunity for exposure arises</p> <p>Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p>

4. Guidance to check compliance with the exposure scenario (Health 3)

Bleaching (industrial) covering bleaching of (non-)fibrous materials, pulp and de-inking of recycled paper

Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Provide extract ventilation at the points where emissions occur. Efficiency of at least 90% , or: Wear a respirator conforming to EN140 with Type A filter or better. Efficiency of at least 95%
Exposure	PROC13 Treatment of articles by dipping and pouring. Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5 Long term, Dermal: Exposure Not relevant., DNEL , RCR For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 4)

Process category	PROC13 Treatment of articles by dipping and pouring.
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4. Guidance to check compliance with the exposure scenario (Health 4)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario

Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

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
Revision date	08/05/2017
Version number	2 ES4
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper
Product category	PC23 Leather treatment products PC24 Lubricants, greases and release products. PC26 Paper and board treatment products PC34 Textile dyes and impregnating products
Sector of use	SU21 Consumer uses SU22 Professional uses

Environment

Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises PROC13 Treatment of articles by dipping and pouring.
	PROC19 Manual activities involving hand contact

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

Control of environmental exposure

Pulp bleaching and de-inking.

Amounts used

Annual amount per site: 9810 tonnes

Frequency and duration of use

Emission days: 360 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 27.3 kg/day

Emission factor - soil Emission factor to soil: 2.73 kg/day
Risk from environmental exposure is driven by fresh water.

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

Air Exhaust air scrubber.

Water Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 99.3%.
External treatment and disposal of waste should comply with applicable local and/or national regulations.

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

Control of environmental exposure

Bleaching of other materials

Amounts used

Annual amount per site: 405 tonnes

Frequency and duration of use

Emission days: 360 days, days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 13.5 kg/day

Emission factor - soil Emission factor to soil: 0.135 kg/day
Risk from environmental exposure is driven by fresh water.

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

Air Exhaust air scrubber.

Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

Water

Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 99.3%.
External treatment and disposal of waste should comply with applicable local and/or national regulations.

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

Control of workers exposure

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Product characteristics

Concentration details Covers concentrations up to 35 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

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

Control of workers exposure

Process category PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Product characteristics

Concentration details Covers concentrations up to 35 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

Provide extract ventilation at the points where emissions occur.

Efficiency of at least 80%

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

2. Conditions of use affecting exposure (Workers - Health 3)

Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

Control of workers exposure

Process category PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Product characteristics

Concentration details Limit the substance in product to 15%.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

2. Conditions of use affecting exposure (Workers - Health 4)

Control of workers exposure

Process category PROC13 Treatment of articles by dipping and pouring.
PROC19 Manual activities involving hand contact

Product characteristics

Concentration details Covers concentrations up to 15 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

Provide extract ventilation at the points where emissions occur.

Efficiency of at least 80%

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Sector of use Pulp bleaching and de-inking.

Assessment method Used EUSES model.

Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

Environmental release	Maximum concentration/release value: marine water: 0.0126 mg/l Fresh water: 0.0126 mg/l
Environmental exposure	Water: Exposure , PNEC , RCR <1 Soil: Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Environment 2)

Sector of use	Bleaching of other materials
Assessment method	Used EUSES model.
Environmental release	Maximum concentration/release value: marine water: 0.0126 mg/l Fresh water: 0.0126 mg/l
Environmental exposure	Water: Exposure , PNEC , RCR <1 Soil: Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Exposure	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions Long term, Inhalation: Exposure , DNEL , RCR <0.1 Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 2)

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises
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Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Provide extract ventilation at the points where emissions occur. Efficiency of at least 80%
Exposure	<p>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions</p> <p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p> <p>PROC4 Chemical production where opportunity for exposure arises</p> <p>Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p>

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 3)

Process category	<p>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions</p> <p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p>
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Limit the substance in product to 15%.
Exposure	<p>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions</p> <p>Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75</p> <p>Long term, Dermal: Exposure Not relevant., DNEL , RCR</p> <p>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>Inhalation, Long term: Exposure , DNEL , RCR 0.1 - 0.5</p> <p>Dermal, Long term: Exposure Not relevant., DNEL , RCR</p>

4. Guidance to check compliance with the exposure scenario (Health 3)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 4)

Process category	<p>PROC13 Treatment of articles by dipping and pouring. PROC19</p> <p>Manual activities involving hand contact</p>
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Bleaching (professional) covering bleaching of (non-fibrous materials, pulp and de-inking of recycled paper

Specific conditions Provide extract ventilation at the points where emissions occur. Efficiency of at least 80%
Covers concentrations up to 15 %.

Exposure PROC13 Treatment of articles by dipping and pouring.
Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5
Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC19 Manual activities involving hand contact
Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75
Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 4)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario

Industrial use in treatment of wastewater, exhaust gas and solid waste

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
Revision date	08/05/2017
Version number	2 ES5
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Industrial use in treatment of wastewater, exhaust gas and solid waste
Product category	PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC37 Water treatment chemicals.
Sector of use	SU3 Industrial uses SU2 Mining (including offshore industries) SU8 Manufacture of bulk, large-scale chemicals (including petroleum products)

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
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Worker

Industrial use in treatment of wastewater, exhaust gas and solid waste

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
 PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 PROC4 Chemical production where opportunity for exposure arises

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

Control of environmental exposure

Environmental release category ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)

Product characteristics

Physical state Liquid
 Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Annual amount per site: 493 tonnes

Frequency and duration of use

Emission days: 15 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 32.9 kg/day
 Emission factor - soil Emission factor to soil: 263 kg/day
 Risk from environmental exposure is driven by fresh water.

Risk management measures

This substance is consumed during use and no waste of the substance is generated.

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

Control of workers exposure

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
 PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Product characteristics

Physical state Liquid
 Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.
 Concentration details Covers concentrations up to 50 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
 Wear suitable coveralls to prevent exposure to the skin.
 Wear suitable gloves tested to EN374.
 Use suitable eye protection.
 Assumes a good basic standard of occupational hygiene is implemented.

Industrial use in treatment of wastewater, exhaust gas and solid waste

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

Control of workers exposure

Process category PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.
Concentration details Covers concentrations up to 50 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor use.

Risk management measures

Provide extract ventilation at the points where emissions occur.
Efficiency of at least 90%
Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable gloves tested to EN374.
Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

2. Conditions of use affecting exposure (Workers - Health 3)

Control of workers exposure

Process category Product characteristics PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Physical state Liquid
Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.
Concentration details Limit the substance content in the product to 15%.
Frequency and duration of use daily

Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable gloves tested to EN374.
Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

2. Conditions of use affecting exposure (Workers - Health 4)

Industrial use in treatment of wastewater, exhaust gas and solid waste

Control of workers exposure

Process category PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises

Product characteristics

Concentration details Concentration of substance in product: 50%

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Outdoor use.

Risk management measures

Wear a respirator conforming to EN140 with Type A filter or better.
Efficiency of at least 90%

, or:

Limit the substance content in the product to 35%.

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Environmental release category ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)

Assessment method Used EUSES model.

Environmental release
Maximum concentration/release
value: marine water: 0.0126 mg/l
Fresh water: 0.0126 mg/l

Environmental exposure
Water: Exposure , PNEC , RCR <1
Soil: Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Assessment method Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Industrial use in treatment of wastewater, exhaust gas and solid waste

Exposure PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions Long term, Inhalation: Exposure , DNEL , RCR <0.1
Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5
Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 2)

Process category

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions

Provide extract ventilation to points where emissions occur. Efficiency of at least 90%

Exposure

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5
Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 3)

Process category

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions

Limit the substance content in the product to 15%.

Exposure

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Indoor.
Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75
Long term, Dermal: Exposure Not relevant., DNEL , RCR
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises Outdoor.
Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5
Dermal, Long term: Exposure Not relevant., DNEL , RCR

Industrial use in treatment of wastewater, exhaust gas and solid waste

PROC4 Chemical production where opportunity for exposure arises
Indoor.

Inhalation, Long term: Exposure , DNEL , RCR 0.5 - 0.75

Dermal, Long term: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 3)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 4)

Process category

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Exposure

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
Efficiency of at least 90%

Wear a respirator conforming to EN140 with Type A filter or better.

Long term, Inhalation: Exposure , DNEL , RCR <0.1

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Limit the substance content in the product to 35%.

Inhalation, Long term: Exposure , DNEL , RCR 0.5 - 0.75

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC4 Chemical production where opportunity for exposure arises

Efficiency of at least 90%

Wear a respirator conforming to EN140 with Type A filter or better.

Inhalation, Long term: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 4)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario

Professional use in treatment of water, environmental remediation and agricultural uses - part

1

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
Revision date	08/05/2017
Version number	2
Es reference	ES6 - Part 1
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Professional use in treatment of water, environmental remediation and agricultural uses - part 1
Product category	PC0 Other products. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC37 Water treatment chemicals.
Sector of use	SU1 Agriculture, forestry, fishery SU21 Consumer uses SU22 Professional uses

Professional use in treatment of water, environmental remediation and agricultural uses - part

1

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
	ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
	ERC9a Widespread use of functional fluid (indoor)
	ERC9b Widespread use of functional fluid (outdoor)

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises

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

Control of environmental exposure

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
	ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
	ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
	ERC9a Widespread use of functional fluid (indoor)
	ERC9b Widespread use of functional fluid (outdoor)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Annual amount per site: 493 tonnes

Frequency and duration of use

Emission days: 15 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Emission factor to air: 32.9 kg/day
Emission factor - soil	Emission factor to soil: 263 kg/day Risk from environmental exposure is driven by fresh water.

Risk management measures

This substance is consumed during use and no waste of the substance is generated.

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

Control of workers exposure

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
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Product characteristics

Physical state	Liquid
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Professional use in treatment of water, environmental remediation and agricultural uses - part

1

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 50 %.

Frequency and duration of use

daily

Other given operational conditions affecting workers exposure

Setting Indoor.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

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

Process category PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 50 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Outdoor.

Risk management measures

Wear a respirator conforming to EN140 with Type A filter or better.

Efficiency of at least 90%

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

2. Conditions of use affecting exposure (Workers - Health 3)Control of workers exposure

Process category PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Professional use in treatment of water, environmental remediation and agricultural uses - part

1

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure 0.5 - 10 kPa at STP.
Concentration details	Limit the substance content in the product to 15%.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

2. Conditions of use affecting exposure (Workers - Health 4)Control of workers exposure

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises
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Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure 0.5 - 10 kPa at STP.
Concentration details	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Covers concentrations up to 50 %. PROC4 Chemical production where opportunity for exposure arises Limit the substance content in the product to 35%.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor.

Risk management measures

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Provide extract ventilation at the points where emissions occur.

Efficiency of at least 80%

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

Professional use in treatment of water, environmental remediation and agricultural uses - part

1

3. Exposure estimation (Environment 1)

Environmental release
category

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
ERC9a Widespread use of functional fluid (indoor)
ERC9b Widespread use of functional fluid (outdoor)

Assessment method Used EUSES model.

Environmental release
Maximum concentration/release
value: marine water: 0.0126 mg/l
Fresh water: 0.0126 mg/l

Environmental exposure
Water: Exposure , PNEC , RCR <1
Soil: Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Assessment method Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Exposure
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
Long term, Inhalation: Exposure , DNEL , RCR <0.1
Long term, Dermal: Exposure , DNEL , RCR Not relevant

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 2)

Process category
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises

Assessment method Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions
Exposure
Wear a respirator conforming to EN140 with Type A filter or better. Efficiency of at least 90%
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Professional use in treatment of water, environmental remediation and agricultural uses - part

1

PROC4 Chemical production where opportunity for exposure arises

Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Inhalation, Long term: Exposure , DNEL , RCR <0.1

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 3)

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
Assessment method	Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Limit the substance content in the product to 15%.
Exposure	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Indoor. Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75 Long term, Dermal: Exposure Not relevant., DNEL , RCR Dermal, Long term: Exposure Not relevant., DNEL , RCR PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Outdoor. Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5 Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 3)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 4)

Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
Assessment method	PROC4 Chemical production where opportunity for exposure arises Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.
Specific conditions	Provide extract ventilation at the points where emissions occur. Efficiency of at least 80%
Exposure	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Professional use in treatment of water, environmental remediation and agricultural uses - part

1

Long term, Inhalation: Exposure , DNEL , RCR <0.1

Long term, Dermal: Exposure Not relevant., DNEL , RCR

PROC4 Chemical production where opportunity for exposure arises

Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 4)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario

Professional use in treatment of water, environmental remediation and agricultural uses - part

2

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
Revision date	08/05/2017
Version number	2
Es reference	ES6 - part 2
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Professional use in treatment of water, environmental remediation and agricultural uses - part 2
Product category	PC0 Other products. PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC37 Water treatment chemicals.
Sector of use	SU1 Agriculture, forestry, fishery SU21 Consumer uses SU22 Professional uses
<u>Environment</u>	
Environmental release indoor)	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, category

ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
 ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
 ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)
 ERC9a Widespread use of functional fluid (indoor)
 ERC9b Widespread use of functional fluid (outdoor)

Professional use in treatment of water, environmental remediation and agricultural uses - part 2

Worker

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
 PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 PROC4 Chemical production where opportunity for exposure arises

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

Control of workers exposure

Process category Product characteristics PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Limit the substance content in the product to 35%.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Outdoor.

Risk management measures

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).
 Wear suitable coveralls to prevent exposure to the skin.
 Wear suitable gloves tested to EN374. Use suitable eye protection.
 Assumes a good basic standard of occupational hygiene is implemented.

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

Control of workers exposure

Process category PROC4 Chemical production where opportunity for exposure arises

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 50 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor.

Risk management measures

Professional use in treatment of water, environmental remediation and agricultural uses - part

2

Provide extract ventilation at the points where emissions occur.

Efficiency of at least 90%

Use suitable respirator when performing operations involving exposure to vapour of the product(in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374. Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Health 1)

Process category

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions

Limit the substance content in the product to 35%.

Exposure

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Long term, Inhalation: Exposure , DNEL , RCR 0.5 - 0.75

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 2)

Process category

PROC4 Chemical production where opportunity for exposure arises

Assessment method

Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions

Provide extract ventilation at the points where emissions occur. Efficiency of at least 90%

Exposure

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure Not relevant., DNEL , RCR

4. Guidance to check compliance with the exposure scenario (Health 2)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario
Professional use in cleaners

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
Revision date	08/05/2017
Version number	2 ES7
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Professional use in cleaners
Product category	PC21 Laboratory chemicals. PC35 Washing and cleaning products
Sector of use	SU21 Consumer uses SU22 Professional uses

Environment

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)

Worker

Professional use in cleaners

Process category PROC4 Chemical production where opportunity for exposure arises
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring.
PROC19 Manual activities involving hand contact

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

Control of environmental exposure (Non-industrial)

Environmental release category ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) Risk from environmental exposure is driven by fresh water.

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Daily amount for wide dispersive uses: 41 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 0.1 kg/day
Emission factor - soil Emission factor to soil: 2 kg/day
Water Estimated substance removal from wastewater via domestic sewage treatment: 99.3%

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

Control of Non-industrial exposure

Process category PROC4 Chemical production where opportunity for exposure arises
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring.
PROC19 Manual activities involving hand contact

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 12 %.

Frequency and duration of use daily Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Other given operational conditions affecting Non-industrial exposure

Consumer information	Wear suitable coveralls to prevent exposure to the skin. Wear suitable gloves tested to EN374. Use suitable eye protection.
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Professional use in cleaners

Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Environmental release
category

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
ERC8e Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)

Assessment method

Used EUSES model.

Environmental release

Maximum concentration/release
value: marine water: 0.0126 mg/l
Fresh water: 0.0126 mg/l

Environmental exposure

Water: Exposure , PNEC , RCR <1 Soil:
Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category

PROC4 Chemical production where opportunity for exposure arises
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring. PROC19
Manual activities involving hand contact

Assessment method

Inhalation ConsExpo. Dermal Short term Qualitative approach used to conclude safe use.

Specific conditions

Covers concentrations up to 12 %.

Exposure

PROC4 Chemical production where opportunity for exposure arises
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring. PROC19
Manual activities involving hand contact
Long term, Inhalation: Exposure , DNEL , RCR 0.75
Long term, Dermal: Exposure Not relevant., DNEL , RCR
Short term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario

Professional 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
Revision date	08/05/2017
Version number	2 ES8
Es reference	
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario**Main title**

Professional use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching

Product category PC39 Cosmetics, personal care.

Sector of use
SU21 Consumer uses SU22
Professional uses**Environment****Environmental release category**

ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

Worker**Process category**

PROC19 Manual activities involving hand contact

2. Conditions of use affecting exposure (Non-industrial - Environment 1)**Control of environmental exposure (Non-industrial)**

Environmental release ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) category

Professional use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching

Risk from environmental exposure is driven by fresh water.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Amounts used

Daily amount for wide dispersive uses: 41 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Emission factor to air: 0.1 kg/day

Emission factor - soil Emission factor to soil: 2 kg/day
Water Estimated substance removal from wastewater via domestic sewage treatment: 99.3%**2. Conditions of use affecting exposure (Non-industrial - Health 1)****Control of Non-industrial exposure**

Process category PROC19 Manual activities involving hand contact

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Other given operational conditions affecting Non-industrial exposure

Consumer information Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: for cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.

3. Exposure estimation (Environment 1)

ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

Environmental release
category

Assessment method Used EUSES model.

Environmental release

Maximum concentration/release
value: marine water: 0.0126 mg/l
Fresh water: 0.0126 mg/l

Environmental exposure

Water: Exposure , PNEC , RCR <1 Soil:
Exposure , PNEC , RCR <0.1

4. Guidance to check compliance with the exposure scenario (Environment 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.

3. Exposure estimation (Health 1)

Process category PROC19 Manual activities involving hand contact

Professional use of hydrogen peroxide solutions for hair bleaching and dyeing and tooth bleaching

Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: for cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.



Exposure scenario
Use as a laboratory chemical

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
Revision date	08/05/2017
Version number	2
Es reference	ES9
Supplier	Advance Grass Solutions LTD Unit 6, Norcot Industrial Estate Stirling Way Reading Berkshire RG30 6HW 01183914540

1. Title of exposure scenario

Main title	Use as a laboratory chemical
Sector of use	SU3 Industrial uses SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals SU22 Professional uses

Worker

Process category

PROC15 Use as laboratory reagent.

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

Control of environmental exposure

Environmental exposure is covered by other scenarios.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

2. Conditions of use affecting exposure (Workers - Health 1)**Use as a laboratory chemical**Control of workers exposure

Process category PROC15 Use as laboratory reagent.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure 0.5 - 10 kPa at STP.

Concentration details Covers concentrations up to 70 %.

Frequency and duration of use daily Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

Handle in a fume cupboard or under extract ventilation.

Efficiency of at least 90%

Use suitable respirator when performing operations involving exposure to vapour of the product (in case of high concentration).

Wear suitable coveralls to prevent exposure to the skin.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Environmental exposure is covered by other scenarios.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Environmental exposure is covered by other scenarios.

3. Exposure estimation (Health 1)

Process category PROC15 Use as laboratory reagent.

Assessment method Short term Qualitative approach used to conclude safe use. Long term Used ECETOC TRA model.

Specific conditions Handle in a fume cupboard or under extract ventilation. Efficiency of at least 90%

Exposure

PROC15 Use as laboratory reagent.

Long term, Inhalation: Exposure , DNEL , RCR 0.1 - 0.5

Long term, Dermal: Exposure , DNEL , RCR Not relevant

4. Guidance to check compliance with the exposure scenario (Health 1)

For a given contributing scenario, several risk management measures can be proposed. It is your responsibility to select the configuration that best suits your activity.