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*

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SECI	FION 1: Identification of the substance/mixture and of the company/undertaki
1.1 Pro	oduct identifier
Trade	name: <u>35% W/W Hydrogen Peroxide</u>
Article	e number: 50-3100
	ration number Mixture
	levant identified uses of the substance or mixture and uses advised against
	ct category
	Adhesives, sealants
	Adsorbents Riocidal products
	Biocidal products Coatings and paints, thinners, paint removers
	Fertilisers
PC13	
	Metal surface treatment products
	Non-metal-surface treatment products
PC19	Intermediate
	Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
	Laboratory chemicals
	Leather treatment products
	Lubricants, greases, release products
	Metal working fluids
	Paper and board treatment products
	Plant protection products Pharmaceuticals
	Polishes and wax blends
	Polymer preparations and compounds
	Semiconductors
	Textile dyes, and impregnating products
	Washing and cleaning products (including solvent based products)
	Water treatment chemicals
PC39	Cosmetics, personal care products
PC0 (
	ation of the substance / the mixture
	oduct has many industrial, professional and consumer applications.
	dvised against
	ses involving the use of incompatible substances - refer to section 10. se involving aerosol formation or vapour release in excess of the assigned WEL where workers
	d without suitable RPE.
	e carrying a risk of direct contact with eyes/skin where workers are exposed without adequate perso
	ive equipment (PPE).
	ses involving extreme heat use advised against.
The pro	oduct is stictly intended for industrial or professional use only.
	gen peroxide at a concentration of 12% w/w or above shall not be made available to members of
general	public on its own, or in mixtures or substances including it at 12% w/w or above.
1.3 De	tails of the supplier of the safety data sheet
	acturer/Supplier:
Severn	Biotech Ltd.
Unit 2,	
Park L	
	minster,
	stershire.
DY11	51J
UK	14 1560 205026
	44 1562 825286)44 1562 825284
	info@severnbiotech.com
Furthe	er information obtainable from: Product safety department. (Contd. on pa
	(Contd. on pa

Safety data sheet 4.4

	according to 1907/2006/EC, Article 31 as amer	nded
Printing date 19.12.20	Version number 4	Revision: 19.12.2023
Trade name: 35% W	//W Hydrogen Peroxide	
Members of the p	elephone number: ublic seeking specific information on poisons should contact vales: NHS 111 - dial 111 24 - dial 111	(Contd. of page 1)
SECTION 2:	Hazards identification	
	a of the substance or mixture cording to Regulation (EC) No 1272/2008	
corrosi 👻	on	
Eye Dam. 1	H318 Causes serious eye damage.	
Skin Irrit. 2	H315 Causes skin irritation.	
STOT SE 3	H335 May cause respiratory irritation.	
Aquatic Chronic	3 H412 Harmful to aquatic life with long lasting effects.	
The product is cla	ling to Regulation (EC) No 1272/2008 Issified and labelled according to the GB CLP regulation. ms GHS05, GHS07	
· Hazard-determi	ning components of labelling:	
Hydrogen peroxic	le solution	
• Hazard statemen H315 Causes skir		
H318 Causes seri		
H335 May cause	respiratory irritation.	
	aquatic life with long lasting effects.	
Precautionary st P220	Keep away from combustible materials.	
P260	Do not breathe mist/vapours/spray.	
P273	Avoid release to the environment.	
P280	Wear protective gloves/protective clothing/eye protection.	setion/face protection/hearing
P302+P352	IF ON SKIN: Wash with plenty of water.	
P305+P351+P33	3 IF IN EYES: Rinse cautiously with water for several min	nutes. Remove contact lenses, if
· 2.3 Other hazard	present and easy to do. Continue rinsing.	
	nd vPvB assessment	
• PBT: Not applica	ble.	
• vPvB: Not applic	able.	

SECTION 3: Composition/information on ingredients

*

· 3.2 Chemical characterisation: Mixtures
· Description: Aqueous solution of the subtance(s) listed below.

(Contd. on page 3)

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Dangerous components:		
CAS: 7722-84-1	Hydrogen peroxide solution	35 - < 50
EINECS: 231-765-0	🚯 Ox. Liq. 1, H271; 🚯 Skin Corr. 1A, H314; 🚯 Acute	
Reg.nr.: 01-2119485845-22-XXX	X Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335;	
-	Aquatic Chronic 3, H412	
	Note: B	
	Specific concentration limits: Ox. Liq. 1; H271: $C \ge 70 \%$	
	Ox. Liq. 2; H272: 50 % ≤ C <	
	70 %	
	Skin Corr. 1A; H314: C ≥ 70	
	%	
	Skin Corr. 1B; H314: 50 % ≤	
	C < 70 %	
	Skin Irrit. 2; H315: 35 % ≤ C	
	< 50 %	
	Eye Dam. 1; H318: C ≥ 8 %	
	Eye Irrit. 2; H319: 5 % ≤ C <	
	8 %	
	STOT SE 3; C ≥ 35 %	

• Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

- · General information:
- Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately rinse with water.

If skin irritation continues, consult a doctor.

- · After eye contact:
- Check for and remove any contact lenses.
- Rinse opened eye for several minutes under running water. Then consult a doctor.

Notify emergency physician immediately (key words: burns in eye).

· After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

- Information for doctor: Refer to section 11.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- · 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: Water
- · For safety reasons unsuitable extinguishing agents: Use only water!
- · 5.2 Special hazards arising from the substance or mixture
- Risk of explosion on heating.

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Peroxides will decompose, releasing oxygen.

- · 5.3 Advice for firefighters
- Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Do not inhale explosion gases or combustion gases.

· Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures
- Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

Consult an expert in the event of a large spillage.

Keep ignition sources away - no smoking.

· 6.2 Environmental precautions:

Do not allow to penetrate the ground/soil.

Do not allow product to reach sewage system or any water course in the undiluted form.

· 6.3 Methods and material for containment and cleaning up:

Contain and collect spillage with non-combustible, absorbent material e.g.sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Do not use combustible materials such as paper towels to clean up spills.

Significant release:

Pump into a clean labelled emergency container. After cleaning, flush away traces with water. Recover water for later processing.

Wash the area with plenty of water.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Store in cool, dry place in tightly closed receptacles.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Conduct maintenance and other work on or in storage/reactor/mixing vessels or closed spaces ONLY under strict Permit to Work conditions.

Rinse contaminated clothing with plenty of water (Fire hazard)

Safety showers and eye wash facilities should be available at the work area.

· Information about fire - and explosion protection: No special measures required.

· 7.2 Conditions for safe storage, including any incompatibilities

- · Storage:
- Requirements to be met by storerooms and receptacles:
- Prevent any seepage into the ground.

Store only in the original receptacle.

Do not store on combustible materials such as wooden floors or wooden pallets.

- · Information about storage in one common storage facility:
- Store away from reducing agents.

Store away from oxidising agents.

Store away from foodstuffs.

Do not store together with textiles.

Store away from flammable substances.

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Trade name: 35% W/W Hydrogen Peroxide

· Furt	her	info	orm	atio	about storage conditions:	
-			-			

Store in a bunded area. Store in cool, dry conditions in well sealed receptacles. Protect from heat and direct sunlight. Maximum storage temperature: 15 °C Protect from frost. • Storage class: 5.1 B

• 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Additional information about design of technical facilities: No further data; see section 7.

· Ingredients with limit values that require monitoring at the workplace:

	84-1 Hydrogen peroxide solution
WEL	Short-term value: 2.8 mg/m ³ , 2 ppm

	Long-term value: 1.4 mg/m ³ , 1 ppm
1	Short term value. 2.0 mg/m, 2 ppm

· DNELs

7722-84-1 Hydrogen peroxide solution

Inhalative	DNEL Long-term local effects	0.21 mg/m ³ (general population)
		1.4 mg/m ³ (worker)
	DNEL Short-term local effects	1.93 mg/m ³ (general population)
		3 mg/m ³ (worker)

· PNECs

7722-84-1 Hydrogen peroxide solutionPNEC Freshwater12.6 µg/I

	PNEC Freshwater	12.6 µg/L
	PNEC Freshwater - Intermittent releases	13.8 μg/L
	PNEC Marine water	12.6 µg/L
	PNEC Sewage Treatment Plant	4.66 mg/L
	PNEC Sediment (freshwater)	47 μg/kg
	PNEC Sediment (marine water)	47 μg/kg
	PNEC Soil	2.3 µg/kg
-		1 1 1 1 1 1 1

• Additional information: The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:

\cdot General protective and hygienic measures:

Take note of assigned Workplace Exposure Limits.

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Ensure that eyewash stations and safety showers are close to the workstation location.

Contaminated clothes are a fire hazard. Rinse with plenty of water.

· Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter NO-P3

· Protection of hands:



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Butyl rubber, BR

Natural rubber, NR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

\cdot Penetration time of glove material

Break-through time: >480 minutes

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• Eye protection:



Tightly sealed goggles conforming to EN166.

· Body protection:



Impervious protective clothing

Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by the product. Suitable protective equipment may include: Chemical resistant boots, Chemical resistant apron, Full chemical protective suit with a hood, Chemical protective suit consisting of a jacket and trousers. The jacket should be buttoned up to the neck, sleeves sealed at the gloves, and trouser legs worn outside the boots. These precautions are required to prevent the clothing from accidentally trapping product against the skin.

- Limitation and supervision of exposure into the environment
- Do not let product enter drains. Risk of explosion.
- · Risk management measures
- The operators shall be instructed adequately.

The workplace shall be inspected regularly by competent personnel e.g. the safety representative.

SECTION 9: Physical and chemical properties

• 9.1 Information on basic physical an	nd chemical properties
· Appearance:	
Form:	Fluid
Colour:	Colourless
· Odour:	Mild
· Odour threshold:	Not determined.
· pH-value at 20 °C:	3.3
 Change in condition Melting point/freezing point: Initial boiling point and boiling ratio 	-33 to -50 °C inge: 108-114 °C
· Flash point:	Not applicable.
· Ignition temperature:	Product is not self-igniting.
· Explosive properties:	Product does not present an explosion hazard.
· Vapour pressure at 20 °C:	1.9 hPa
· Density at 20 °C:	1.15-1.2 g/cm ³
	(Contd. on page

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	(Contd. of page 6)
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Kinematic at 20 °C:	<2 cSt (DIN 53211/4)
· Solvent content: VOC (EC)	0.00 %
• 9.2 Other information	NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

- 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided:

Decomposes on warming or under influence of light, producing oxygen.

- Oxygen released during thermal decomposition may support combustion.
- · 10.3 Possibility of hazardous reactions
- Danger of receptacles bursting because of high vapour pressure when heated. Reacts violently with many substances.
- Many reactions may cause fire or explosion.
- 10.4 Conditions to avoid Heat and static discharge.
- · 10.5 Incompatible materials:
- Combustible materials.
- Strong oxidising agents. Strong bases.
- Finely powdered metals.
- Alkalis
- Metals
- Metal salts
- Flammable materials
- Reducing agents
- Organic solvents.
- · 10.6 Hazardous decomposition products: Oxygen

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

 \cdot Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

ATE (Acu		y Estimates)
Oral	LD50	2,244.9 mg/kg (rat)
Inhalative	LC50/4 h	22.449 mg/l

7722-84-1 Hydrogen peroxide solution

 Oral
 LD50
 1,100 mg/kg (rat)

 Dermal
 LD50
 > 2,000 mg/kg (rat)

· Primary irritant effect:

- · Skin corrosion/irritation
- Causes skin irritation.
- \cdot Serious eye damage/irritation

Causes serious eye damage.

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according to 1907/2006/EC, Article 31 as amended

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(Contd. of page 7) • Respiratory or skin sensitisation Based on available data, the classification criteria are not met. • Subacute to chronic toxicity:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the respiratory tract and lungs, resulting in chronic bronchitis.

· Additional toxicological information:

ROUTES OF EXPOSURE: Can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK: A harmful contamination of the air will be reached very quickly on evaporation of this substance at 20°C.

Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Ingestion may produce oxygen bubbles (embolism) in the blood, resulting in shock.

- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- \cdot Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure

May cause respiratory irritation.

- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential Product is not expected to bioaccumulate.
- 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Recommended Hierarchy of Controls:

- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

- · Uncleaned packaging:
- · Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

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Container remains hazardous when empty. Continue to observe all precautions. Containers, even those that are "empty," may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Disposal must be made according to official regulations.

Do not mix with other waste streams.

 \cdot **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information	
14.1 UN-Number ADR/RID/ADN, IMDG, IATA	UN2014
14.2 UN proper shipping name ADR/RID/ADN	UN2014 HYDROGEN PEROXIDE, AQUEOU SOLUTION
IMDG, IATA	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
14.3 Transport hazard class(es)	
ADR/RID/ADN	
Class Label	5.1 Oxidising substances.
IMDG	5.1+8
Class	5.1 Oxidising substances.
Label	5.1/8
IATA	5.1 Oxidising substances.
Label	Forbidden
14.4 Packing group ADR/RID/ADN, IMDG, IATA	II
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user Hazard identification number (Kemler code):	Warning: Oxidising substances. 58
EMS Number: Segregation groups	F-H,S-Q (SGG16) Peroxides
Stowage Category	D
Stowage Code	SW1 Protected from sources of heat.
Segregation Code	SG16 Stow "separated from" class 4.1 SG59 Stow "separated from" SGG14-permanganates SG72 See 7.2.6.3.2.

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	(Contd. of page
· 14.7 Transport in bulk according to Anne	ex II of
Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· Transport category	2
• Tunnel restriction code	E
· IMDG	
Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 2014 HYDROGEN PEROXIDE, AQUEOU
	SOLUTION, 5.1 (8), II

SECTION 15: Regulatory information

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

· Poisons Act

· Regulated explosives precursors

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· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

· Directive 2012/18/EU

- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Training hints

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

· Department issuing SDS: Product safety department.

- Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society) VOC: Volatile Organic Compounds (USA, EU)

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Trade name: 35% W/W Hydrogen Peroxide

DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Ox. Liq. 1: Oxidizing liquids – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3
• * Data compared to the previous version altered.