

Zal Perax II

Hazards for humans and the environment



Contains hydrogen peroxide (Hydrogen Peroxide), acetic acid (Acetic Acid), peracetic acid (Peracetic Acid)

Signal word:

Hazard statements:

Danger.

H272 - May intensify fire; oxidiser.

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.

H314 - Causes severe skin burns and eye damage.

H335 - May cause respiratory irritation.

H410 - Very toxic to aquatic life with long lasting effects.

H290 - May be corrosive to metals.

Prevention and conduct



The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet. If available, please refer to the product information sheet for application and handling instructions. Normal use conditions are assumed for this section.



Recommended safety measures for handling the undiluted product:

Covering activities such as filling and transfer of product to application equipment, flasks or buckets

Appropriate engineering controls:

If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.

Appropriate organisational controls:

Avoid direct contact and/or splashes where possible. Train personnel.



Personal protective equipment

Eye / face protection:

Safety glasses or goggles (EN 166). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.

Hand protection:

Chemical-resistant protective gloves (EN 374). Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.



Body protection:

No special requirements under normal use conditions. Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection:

Respiratory protection is not normally required. However, inhalation of vapour, spray, gas or aerosols should be avoided.

Environmental exposure controls:

Should not reach sewage water or drainage ditch undiluted or unneutralised.



Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 5

Appropriate engineering controls:

Provide a good standard of general ventilation.

Appropriate organisational controls:

Employees and/or livestock should not be present in the treated facility during fogging. Users are advised to consider national Occupational Exposure Limits or other equivalent values, if available.

Personal protective equipment

Eye / face protection:

No special requirements under normal use conditions.

Hand protection:

No special requirements under normal use conditions.

Body protection:

No special requirements under normal use conditions.

Respiratory protection:

Spraying/fogging by machine application: If exposure to liquid particles cannot be avoided use: self-contained or compressed air breathing apparatus (EN 137 / EN 138). Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type providing similar protection may be chosen.

Environmental exposure controls:

Should not reach sewage water or drainage ditch undiluted or unneutralised.

Emergency procedure



Suitable extinguishing media

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

Environmental precautions

Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

Methods for cleaning up

Ensure adequate ventilation. Dyke to collect large liquid spills. Absorb onto dry sand or similar inert material. Do not use fabric, sawdust, paper or other inflammable materials (danger of spontaneous combustion). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

First aid measures



Inhalation:

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE, doctor or physician.

Skin contact:

Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.



Eye contact:

Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.

Ingestion:

Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.

Always check the product labels and consult the Safety Data Sheet for details. The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract.



Zal Perax II

Revision: 2021-10-10

Version: 09.4

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

1.1 Product identifier

Trade name: Zal Perax II

UFI: 6UJ4-W0TU-K00F-FC4C

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

Product use:

Surface disinfectant.
Cleaning in place chemical.
for general surface disinfection.
for food contact surface disinfection.
For professional and industrial use only.

Uses advised against:

Uses other than those identified are not recommended.

SWED - Sector-specific worker exposure description :

AISE_SWED_PW_1_1
AISE_SWED_PW_8a_1
AISE_SWED_IS_8b_1
AISE_SWED_PW_4_1
AISE_SWED_PW_11_1
AISE_SWED_PW_13_2
AISE_SWED_PW_19_1
AISE_SWED_IS_4_1
AISE_SWED_IS_7_2
AISE_SWED_IS_7_5
AISE_SWED_IS_13_3

1.3 Details of the supplier of the safety data sheet

Diversey Europe Operations BV, Maarssenbroeksedijk 2, 3542DN Utrecht, The Netherlands

Contact details

Diversey Ltd
Weston Favell Centre, Northampton NN3 8PD, United Kingdom
Tel: 01604 405311, Fax: 01604 406809
Regulatory Email: customerservice.uk@diversey.com

1.4 Emergency telephone number

Seek medical advice (show the label or safety data sheet where possible)

For medical or environmental emergency only:
call 0800 052 0185

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Ox. Liq. 2 (H272)
Skin Corr. 1A (H314)
Acute Tox. 4 (H302)
Acute Tox. 4 (H312)
Acute Tox. 4 (H332)
STOT SE 3 (H335)
Aquatic Chronic 1 (H410)
Met. Corr. 1 (H290)

2.2 Label elements



Zal Perax II

Signal word: Danger.

Contains hydrogen peroxide (Hydrogen Peroxide), acetic acid (Acetic Acid), peracetic acid (Peracetic Acid)

Hazard statements:

H272 - May intensify fire; oxidiser.
H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects.
H290 - May be corrosive to metals.

Precautionary statements:

P210 - Keep away from heat.
P221 - Take any precaution to avoid mixing with combustibles.
P260 - Do not breathe vapours.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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 CENTRE, doctor or physician.

2.3 Other hazards

Regulation (EU) 2019/118: Restricted explosives precursor.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Ingredient(s)	EC number	CAS number	REACH number	Classification	Notes	Weight percent
hydrogen peroxide	231-765-0	7722-84-1	[6]	Ox. Liq. 1 (H271) Skin Corr. 1A (H314) Acute Tox. 4 (H302) Acute Tox. 4 (H332) STOT SE 3 (H335) Aquatic Chronic 3 (H412)		20-30
acetic acid	200-580-7	64-19-7	01-2119475328-30	Flam. Liq. 3 (H226) Skin Corr. 1A (H314)		10-20
peracetic acid	201-186-8	79-21-0	[6]	Org. Perox. D (H242) Flam. Liq. 3 (H226) Skin Corr. 1A (H314) Acute Tox. 4 (H302) Acute Tox. 4 (H332) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 M=10 (H410)		3-10
alkyl alcohol ethoxylate	[4]	68439-46-3	[4]	Acute Tox. 4 (H302) Eye Dam. 1 (H318)		1-3

Specific concentration limits

hydrogen peroxide:

- Eye Dam. 1 (H318) >= 8% > Eye Irrit. 2 (H319) >= 5%
- Skin Corr. 1A (H314) >= 70% > Skin Corr. 1A (H314) >= 60% > Skin Corr. 1B (H314) >= 50% > Skin Irrit. 2 (H315) >= 35%
- STOT SE 3 (H335) >= 35%

acetic acid:

- Eye Dam. 1 (H318) >= 25% > Eye Irrit. 2 (H319) >= 10%
- Skin Corr. 1A (H314) >= 90% > Skin Corr. 1B (H314) >= 25% > Skin Irrit. 2 (H315) >= 10%

peracetic acid:

- STOT SE 3 (H335) >= 1%

Workplace exposure limit(s), if available, are listed in subsection 8.1.

ATE, if available, are listed in section 11.

[4] Exempted: polymer. See Article 2(9) of Regulation (EC) No 1907/2006.

[6] Exempted: biocidal active. See Article 15(2) of Regulation (EC) No 1907/2006.

For the full text of the H and EUH phrases mentioned in this Section, see Section 16..

SECTION 4: First aid measures

4.1 Description of first aid measures

General Information:

Symptoms of intoxication may even occur after several hours. It is recommended to continue medical observation for at least 48 hours after the incident. If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial

Zal Perax II

Inhalation:	respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE, doctor or physician.
Skin contact:	Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.
Eye contact:	Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.
Ingestion:	Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.
Self-protection of first aider:	Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns.
Eye contact:	Causes severe or permanent damage.
Ingestion:	Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

No special hazards known.

5.3 Advice for firefighters

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Do not breathe dust or vapour. Wear suitable protective clothing. Wear eye/face protection. Wear suitable gloves.

6.2 Environmental precautions

Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Dyke to collect large liquid spills. Absorb onto dry sand or similar inert material. Do not use fabric, sawdust, paper or other inflammable materials (danger of spontaneous combustion). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Measures to prevent fire and explosions:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use non-sparking tools.

Measures required to protect the environment:

For environmental exposure controls see subsection 8.2.

Advices on general occupational hygiene:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless advised by Diversey. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Avoid contact with skin and eyes. Do not breathe vapours. Do not breathe spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging. Keep from freezing. Keep away from heat and direct sunlight. Keep at temperature not exceeding 40 °C.

For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

Seveso - Lower Tier requirements (tonnes): 50
Seveso - Upper Tier requirements (tonnes): 200

7.3 Specific end use(s)

No specific advice for end use available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits

Air limit values, if available:

Ingredient(s)	UK - Long term value(s)	UK - Short term value(s)
hydrogen peroxide	1 ppm 1.4 mg/m ³	2 ppm 2.8 mg/m ³
acetic acid	10 ppm 25 mg/m ³	20 ppm 50 mg/m ³

Biological limit values, if available:

Recommended monitoring procedures, if available:

Additional exposure limits under the conditions of use, if available:

DNEL/DMEL and PNEC values

Human exposure

DNEL oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
hydrogen peroxide	-	-	-	-
acetic acid	-	-	-	-
peracetic acid	-	1.25	-	1.25
alkyl alcohol ethoxylate	-	-	-	-

DNEL dermal exposure - Worker

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
hydrogen peroxide	-	-	-	-
acetic acid	-	-	-	-
peracetic acid	0.12 %	-	-	-
alkyl alcohol ethoxylate	-	-	-	-

DNEL dermal exposure - Consumer

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
hydrogen peroxide	-	-	-	-
acetic acid	-	-	-	-
peracetic acid	0.12 %	-	-	-
alkyl alcohol ethoxylate	-	-	-	-

DNEL inhalatory exposure - Worker (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
hydrogen peroxide	3	-	1.4	-
acetic acid	25	-	25	-
peracetic acid	0.6	0.6	0.6	0.6
alkyl alcohol ethoxylate	-	-	-	-

DNEL inhalatory exposure - Consumer (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
hydrogen peroxide	1.93	-	0.21	-
acetic acid	25	-	25	-
peracetic acid	0.3	0.6	0.6	0.6
alkyl alcohol ethoxylate	-	-	-	-

Environmental exposure

Zal Perax II

Environmental exposure - PNEC

Ingredient(s)	Surface water, fresh (mg/l)	Surface water, marine (mg/l)	Intermittent (mg/l)	Sewage treatment plant (mg/l)
hydrogen peroxide	0.0126	0.0126	0.0138	4.66
acetic acid	3.058	0.3058	30.58	85
peracetic acid	0.000224	0.0000049	0.0016	0.051
alkyl alcohol ethoxylate	-	-	-	-

Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m ³)
hydrogen peroxide	0.047	0.047	0.0023	-
acetic acid	11.36	1.136	0.47	-
peracetic acid	0.00018	0.000015	0.320	-
alkyl alcohol ethoxylate	-	-	-	-

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet. If available, please refer to the product information sheet for application and handling instructions. Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:

Appropriate engineering controls: If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.

Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

REACH use scenarios considered for the undiluted product:

	SWED - Sector-specific worker exposure description	LCS	PROC	Duration (min)	ERC
Automatic transfer and dilution	AISE_SWED_IS_8b_1	IS	PROC 8b	60	ERC4
Manual transfer and dilution	AISE_SWED_PW_8a_1	PW	PROC 8a	60	ERC8a
Automatic application in a dedicated closed system	AISE_SWED_PW_1_1	PW	PROC 1	60	ERC8a

Personal protective equipment

Eye / face protection:

Safety glasses or goggles (EN 166). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.

Hand protection:

Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection:

No special requirements under normal use conditions. Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection:

Respiratory protection is not normally required. However, inhalation of vapour, spray, gas or aerosols should be avoided.

Environmental exposure controls: Should not reach sewage water or drainage ditch undiluted or unneutralised.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 5

Appropriate engineering controls: Provide a good standard of general ventilation.

Appropriate organisational controls: Employees and/or livestock should not be present in the treated facility during fogging. Users are advised to consider national Occupational Exposure Limits or other equivalent values, if available.

REACH use scenarios considered for the diluted product:

	SWED	LCS	PROC	Duration (min)	ERC
Manual application by dipping, soaking, pouring	AISE_SWED_IS_13_3	IS	PROC 13	240	ERC4
Automatic application in a dedicated system	AISE_SWED_IS_4_1	IS	PROC 4	480	ERC8a
Fogging	AISE_SWED_IS_7_2	IS	PROC 7	480	ERC4
Spray application	AISE_SWED_IS_7_5				
Spray application	AISE_SWED_PW_11_1	PW	PROC 11	60	ERC8a

Zal Perax II

Manual application by dipping, soaking, pouring	AISE SWED PW 13 2	PW	PROC 13	60	ERC8a
Manual application	AISE SWED PW 19 1	PW	PROC 19	480	ERC8a
Automatic application in a dedicated system	AISE SWED PW 4 1	PW	PROC 4	480	ERC8a

Personal protective equipment**Eye / face protection:**

No special requirements under normal use conditions.

Hand protection:

No special requirements under normal use conditions.

Body protection:

No special requirements under normal use conditions.

Respiratory protection:

Spraying/fogging by machine application: If exposure to liquid particles cannot be avoided use: self-contained or compressed air breathing apparatus (EN 137 / EN 138) Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type providing similar protection may be chosen.

Environmental exposure controls:

Should not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Information in this section refers to the product, unless it is specifically stated that substance data is listed

Method / remark**Physical State:** Liquid**Colour:** Clear , Colourless**Odour:** Product specific**Odour threshold:** Not applicable**Melting point/freezing point (°C):** Not determined

Not relevant to classification of this product

Initial boiling point and boiling range (°C): Not determined

See substance data

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)
hydrogen peroxide	150.2	Method not given	
acetic acid	103	Method not given	
peracetic acid	No data available		
alkyl alcohol ethoxylate	> 232.2	Method not given	

Method / remark**Flammability (solid, gas):** Not applicable to liquids**Flammability (liquid):** Not flammable.**Flash point (°C):** ≈ 100 °C

closed cup

Sustained combustion: Not applicable.

(UN Manual of Tests and Criteria, section 32, L.2)

Lower and upper explosion limit/flammability limit (%): Not determined

See substance data

Substance data, flammability or explosive limits, if available:

Ingredient(s)	Lower limit (% vol)	Upper limit (% vol)
acetic acid	4	17

Method / remark**Autoignition temperature:** Not determined**Decomposition temperature:** ≥ 60 (°C) SADT (self-accelerating decomposition temperature)**pH:** < 2 (neat)

ISO 4316

Kinematic viscosity: Not determined**Solubility in / Miscibility with Water:** Fully miscible

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
hydrogen peroxide	1000	Method not given	20
acetic acid	Soluble	Method not given	
peracetic acid	No data available		
alkyl alcohol ethoxylate	100 Soluble	Method not given	

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Method / remark**Vapour pressure:** Not determined

See substance data

Substance data, vapour pressure

Ingredient(s)	Value	Method	Temperature
---------------	-------	--------	-------------

	(Pa)		(°C)
hydrogen peroxide	214	Method not given	20
acetic acid	1500	Method not given	20
peracetic acid	No data available		
alkyl alcohol ethoxylate	< 10	Method not given	37.8

Relative density: ≈ 1.10 (20 °C)
Relative vapour density: No data available.
Particle characteristics: No data available.

Method / remark
 OECD 109 (EU A.3)
 Not relevant to classification of this product
 Not applicable to liquids.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties: Not explosive.
Oxidising properties: May intensify fire; oxidiser.
Corrosion to metals: Corrosive

Weight of evidence
 Weight of evidence

9.2.2 Other safety characteristics

No other relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid

None known under normal storage and use conditions.

10.5 Incompatible materials

Keep away from clothing and other combustible materials. May be corrosive to metals. Reacts with alkali. Keep away from products containing chlorine-based bleaching agents or sulphites.

10.6 Hazardous decomposition products

Oxygen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture data:.

Acute oral toxicity

LD50 Oral > 300

Species Rat

Method Weight of evidence

Acute dermal toxicity

LD50 Dermal 1147 (mg/kg)

Species Rabbit

Method Weight of evidence

Acute inhalation toxicity

LC50 (Dust/Mist) 4 (mg/l)

Species Rat

Method Weight of evidence

Relevant calculated ATE(s):

ATE - Oral (mg/kg): >2000

ATE - Inhalatory, vapours (mg/l): >20

Substance data, where relevant and available, are listed below:.

Acute toxicity

Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE (mg/kg)
hydrogen peroxide	LD ₅₀	> 300-2000	Rat	Weight of evidence		2500
acetic acid	LD ₅₀	3310	Rat	Weight of evidence		Not established
peracetic acid	LD ₅₀	> 50-2000	Rat	Substance was tested as 5 % aqueous solution OECD 401 (EU		10000

Zal Perax II

				B.1)		
alkyl alcohol ethoxylate	LD ₅₀	1400	Rat	Method not given		16000

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE (mg/kg)
hydrogen peroxide	LD ₅₀	> 2000	Rabbit	Substance was tested as 35 % aqueous solution		Not established
acetic acid		No data available				Not established
peracetic acid	LD ₅₀	1147	Rabbit	EPA OPP 81-2 Substance was tested as 5 % aqueous solution		Not established
alkyl alcohol ethoxylate	LD ₅₀	2000 - 5000	Rat	Method not given		Not established

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
hydrogen peroxide	LC ₀	No mortality observed	Rat	Method not given	4
acetic acid	LC ₅₀	> 40	Rat	Weight of evidence	4
peracetic acid	LC ₅₀	> 0.05-0.5 (dust) (mist)	Rat	EPA OPP 81-3 Substance was tested as 5 % aqueous solution	
alkyl alcohol ethoxylate		No data available			

Acute inhalative toxicity, continued

Ingredient(s)	ATE - inhalation, dust (mg/l)	ATE - inhalation, mist (mg/l)	ATE - inhalation, vapour (mg/l)	ATE - inhalation, gas (mg/l)
hydrogen peroxide	Not established	Not established	15	Not established
acetic acid	Not established	Not established	Not established	Not established
peracetic acid	Not established	Not established	12	Not established
alkyl alcohol ethoxylate	Not established	Not established	Not established	Not established

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
hydrogen peroxide	Corrosive	Rabbit	Method not given	
acetic acid	Corrosive	Rabbit	OECD 404 (EU B.4)	
peracetic acid	Corrosive	Rabbit	OECD 404 (EU B.4)	
alkyl alcohol ethoxylate	Not irritant		Method not given	

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
hydrogen peroxide	Corrosive	Rabbit	Method not given	
acetic acid	Severe damage	Rabbit	OECD 405 (EU B.5)	
peracetic acid	Corrosive	Rabbit	Method not given	
alkyl alcohol ethoxylate	Severe damage	Rabbit	Method not given	

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
hydrogen peroxide	Irritating to respiratory tract		Method not given	
acetic acid	No data available			
peracetic acid	Irritating to respiratory tract	Rat	Method not given	
alkyl alcohol ethoxylate	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
hydrogen peroxide	Not sensitising	Guinea pig	Method not given	
acetic acid	Not sensitising		Method not given	
peracetic acid	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	
alkyl alcohol ethoxylate	Not sensitising	Guinea pig	Method not given	

Zal Perax II

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
hydrogen peroxide	No data available			
acetic acid	No data available			
peracetic acid	No data available			
alkyl alcohol ethoxylate	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
hydrogen peroxide	No evidence for mutagenicity	OECD 471 (EU B.12/13)	No evidence of genotoxicity, negative test results	Method not given
acetic acid	No evidence for mutagenicity, negative test results	OECD 471 (EU B.12/13)	No data available	
peracetic acid	No evidence for mutagenicity, negative test results	OECD 471 (EU B.12/13)	No evidence for mutagenicity, negative test results	Method not given
alkyl alcohol ethoxylate	No evidence for mutagenicity, negative test results	OECD 473	No data available	

Carcinogenicity

Ingredient(s)	Effect
hydrogen peroxide	No evidence for carcinogenicity, negative test results
acetic acid	No evidence for carcinogenicity, negative test results
peracetic acid	No evidence for carcinogenicity, negative test results
alkyl alcohol ethoxylate	No evidence for carcinogenicity, negative test results

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
hydrogen peroxide			No data available				No evidence for reproductive toxicity
acetic acid			No data available				No evidence for reproductive toxicity
peracetic acid	NOAEL		200	Rat	Not known		
alkyl alcohol ethoxylate	NOAEL		> 250	Rat	Not known		No effects on fertility No developmental toxicity

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
hydrogen peroxide	NOAEL	100	Mouse	OECD 408 (EU B.26)	90	
acetic acid		No data available				
peracetic acid	NOAEL	23.4	Rat	Weight of evidence	90	No adverse effects observed
alkyl alcohol ethoxylate	NOAEL	80 - 400		Method not given		

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
hydrogen peroxide		No data available				
acetic acid		No data available				
peracetic acid		No data available				
alkyl alcohol ethoxylate	NOAEL	80		OECD 411 (EU B.28)	90	

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
hydrogen peroxide	NOAEL	7	Mouse	OECD 413 (EU B.29)	28	
acetic acid		No data available				
peracetic acid		No data available				
alkyl alcohol ethoxylate		No data				

		available				
--	--	-----------	--	--	--	--

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
hydrogen peroxide			No data available					
acetic acid			No data available					
peracetic acid			No data available					
alkyl alcohol ethoxylate			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
hydrogen peroxide	No data available
acetic acid	No data available
peracetic acid	Not applicable
alkyl alcohol ethoxylate	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
hydrogen peroxide	No data available
acetic acid	No data available
peracetic acid	No data available
alkyl alcohol ethoxylate	No data available

Aspiration hazard

Substances with an aspiration hazard (H304), if any, are listed in section 3.

Potential adverse health effects and symptoms

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Endocrine disrupting properties - Human data, if available:

11.2.2 Other information

No other relevant information available.

SECTION 12: Ecological information

12.1 Toxicity

No data is available on the mixture.

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
hydrogen peroxide	LC ₅₀	16.4	<i>Pimephales promelas</i>	EPA-OPPTS 850.1075	96
acetic acid	LC ₅₀	75	<i>Lepomis macrochirus</i>	Method not given	96
peracetic acid	LC ₅₀	13	<i>Fish</i>	OECD 203, semi-static	96
alkyl alcohol ethoxylate	LC ₅₀	5 - 7	<i>Fish</i>	92/69/EEC, C1, semi-static	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
hydrogen peroxide	EC ₅₀	2.4	<i>Daphnia pulex</i>	Method not given	48
acetic acid	EC ₅₀	95	<i>Daphnia magna Straus</i>	Method not given	24
peracetic acid	EC ₅₀	3.3	<i>Daphnia magna Straus</i>	OECD 202 (EU C.2)	48
alkyl alcohol ethoxylate	EC ₅₀	5.3	<i>Daphnia</i>	92/69/EEC	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
hydrogen peroxide	EC ₅₀	1.38	<i>Chlorella vulgaris</i>	OECD 201 (EU C.3)	72
acetic acid	EC ₅₀	300.82	<i>Not specified</i>	Method not given	72
peracetic acid		No data available			
alkyl alcohol ethoxylate	EC ₅₀	1.4 - 47	<i>Not specified</i>	92/69/EEC	72

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
hydrogen peroxide	ErC ₅₀	1.38	<i>Skeletonema costatum</i>	Method not given	72
acetic acid		No data available			
peracetic acid		No data available			
alkyl alcohol ethoxylate		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
hydrogen peroxide	EC ₅₀	466	<i>Activated sludge</i>	Method not given	
acetic acid	EC ₁₀	1000	<i>Pseudomonas putida</i>	Method not given	0.5 hour(s)
peracetic acid		No data available			
alkyl alcohol ethoxylate	EC ₅₀	> 140	<i>Bacteria</i>	Method not given	3 hour(s)

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
hydrogen peroxide	NOEC	4.3	<i>Pimephales promelas</i>	Method not given	96 hour(s)	
acetic acid		No data available				
peracetic acid	NOEC	0.00094	<i>Brachydanio rerio</i>	OECD 210	33 day(s)	
alkyl alcohol ethoxylate	EC ₁₀	8.983	<i>Not specified</i>	Method not given	21 day(s)	

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
hydrogen peroxide	NOEC	1	<i>Daphnia pulex</i>	Method not given	48 hour(s)	
acetic acid		No data available				
peracetic acid		No data available				
alkyl alcohol ethoxylate	EC ₁₀	2.579	<i>Daphnia sp.</i>	Method not given	21 day(s)	

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
hydrogen peroxide		No data available				
acetic acid		No data available				
peracetic acid		No data available				
alkyl alcohol ethoxylate		No data available				

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
hydrogen peroxide		No data				

Zal Perax II

		available				
--	--	-----------	--	--	--	--

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
hydrogen peroxide		No data available				

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
hydrogen peroxide		No data available				

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
hydrogen peroxide		No data available				

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
hydrogen peroxide		No data available				

12.2 Persistence and degradability**Abiotic degradation**

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
hydrogen peroxide	24 hour(s)	Method not given	OH radical	

Abiotic degradation - hydrolysis, if available:

Ingredient(s)	Half-life time in fresh water	Method	Evaluation	Remark
hydrogen peroxide	No data available			

Abiotic degradation - other processes, if available:

Ingredient(s)	Type	Half-life time	Method	Evaluation	Remark
hydrogen peroxide		No data available			

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT ₅₀	Method	Evaluation
hydrogen peroxide	Activated sludge, aerobe	Specific analysis (primary degradation)	> 50 % in < 1 day(s)		Not applicable (inorganic substance)
acetic acid	Activated sludge, aerobe		96% in 20 day(s)		Readily biodegradable
peracetic acid				Method not given	Readily biodegradable
alkyl alcohol ethoxylate				OECD 301B	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Ingredient(s)	Medium & Type	Analytical method	DT ₅₀	Method	Evaluation
hydrogen peroxide					No data available

Degradation in relevant environmental compartments, if available:

Ingredient(s)	Medium & Type	Analytical method	DT ₅₀	Method	Evaluation
hydrogen peroxide					No data available

12.3 Bioaccumulative potentialPartition coefficient n-octanol/water (log K_{ow})

Ingredient(s)	Value	Method	Evaluation	Remark
hydrogen peroxide	-1.57		No bioaccumulation expected	

Zal Perax II

acetic acid	-0.17	Method not given	No bioaccumulation expected	
peracetic acid	No data available		Not relevant, does not bioaccumulate	
alkyl alcohol ethoxylate	3.11 - 4.19	Method not given	High potential for bioaccumulation	

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
hydrogen peroxide	No data available				
acetic acid	3.16		Method not given	No bioaccumulation expected	
peracetic acid	No data available				
alkyl alcohol ethoxylate	< 500		Method not given	High potential for bioaccumulation	

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log K _{oc}	Desorption coefficient Log K _{oc} (des)	Method	Soil/sediment type	Evaluation
hydrogen peroxide	2				Mobile in soil
acetic acid	No data available				Potential for mobility in soil, soluble in water
peracetic acid	No data available				Mobile in aqueous environment
alkyl alcohol ethoxylate	No data available				Potential for mobility in soil, soluble in water

12.5 Results of PBT and vPvB assessment

Substances that fulfill the criteria for PBT/vPvB, if any, are listed in section 3.

12.6 Endocrine disrupting properties

Endocrine disrupting properties - Environmental effects, if available:

12.7 Other adverse effects

No other adverse effects known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products:

The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

European Waste Catalogue:

16 09 03* - peroxides, for example hydrogen peroxide.

Empty packaging

Recommendation:

Dispose of observing national or local regulations.

Suitable cleaning agents:

Water, if necessary with cleaning agent.

SECTION 14: Transport information



Land transport (ADR/RID), Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

14.1 UN number: 3149

14.2 UN proper shipping name:

Hydrogen peroxide and peroxyacetic acid mixture, stabilized

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 5.1(8)

14.4 Packing group: II

14.5 Environmental hazards:

Environmentally hazardous: Yes

Marine pollutant: Yes

14.6 Special precautions for user: None known.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: The product is not transported in bulk tankers.

Other relevant information:**ADR**

Classification code: OC1

Tunnel restriction code: E

Hazard identification number: 58

IMO/IMDG

EmS: F-H, S-Q

The product has been classified, labelled and packaged in accordance with the requirements of ADR and the provisions of the IMDG Code. Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

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

- Regulation (EC) No. 1907/2006 - REACH
- Regulation (EC) No 1272/2008 - CLP
- Regulation (EC) No. 648/2004 - Detergents regulation
- Regulation (EU) No 528/2012 on biocidal products
- Regulation (EU) 2019/1148 - Explosive Precursors
- substances identified as having endocrine disrupting properties in accordance with the criteria set out in Delegated Regulation (EU) 2017/2100 or Regulation (EU) 2018/605

Authorisations or restrictions (Regulation (EC) No 1907/2006, Title VII respectively Title VIII): Not applicable.

Ingredients according to EC Detergents Regulation 648/2004

oxygen-based bleaching agents

15 - 30 %

non-ionic surfactants

< 5 %

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Seveso - Classification: P8 - OXIDISING LIQUIDS AND SOLIDS

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out on the mixture

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

SDS code: MSDS3728**Version:** 09.4**Revision:** 2021-10-10**Reason for revision:**

Overall design adjusted in accordance with Amendment 2020/878, Annex II of Regulation (EC) No 1907/2006. This data sheet contains changes from the previous version in section(s):, 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16

Classification procedure

The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

Full text of the H and EUH phrases mentioned in section 3:

- H226 - Flammable liquid and vapour.
- H242 - Heating may cause a fire.
- H271 - May cause fire or explosion; strong oxidiser.
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage.
- H332 - Harmful if inhaled.
- H335 - May cause respiratory irritation.
- H400 - Very toxic to aquatic life.
- H410 - Very toxic to aquatic life with long lasting effects.
- H412 - Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

- AISE - The international Association for Soaps, Detergents and Maintenance Products
- ATE - Acute Toxicity Estimate
- DNEL - Derived No Effect Limit
- EC50 - effective concentration, 50%
- ERC - Environmental release categories
- EUH - CLP Specific hazard statement
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- LCS - Life cycle stage
- LD50 - Lethal Dose, 50% / Median Lethal dose
- NOAEL - No observed adverse effect level
- NOEL - No observed effect level
- OECD - Organization for Economic Cooperation and Development
- PBT - Persistent, Bioaccumulative and Toxic
- PNEC - Predicted No Effect Concentration
- PROC - Process categories
- REACH number - REACH registration number, without supplier specific part
- vPvB - very Persistent and very Bioaccumulative

End of Safety Data Sheet