


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

- **1.1 Product identifier**
- **Trade name:** PEROXAN AHP
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Reaction initiator
For industrial use
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** PERGAN GmbH
Hilfsstoffe für industrielle Prozesse
Schlavenhorst 71
D-46395 Bocholt
Tel: +49 2871 9902-0
Fax: +49 2871 9902-50
- **Further information obtainable from:** Environment protection / Security of labour
Competent person:
* Sales Manager Germany: Mr. Ansgar Pappenheim, e-mail: a.pappenheim@pergan.com
* Export Sales Manager: Mr. Dr. Thomas Philipps, e-mail: dr.philipps@pergan.com
* Environment protection / : Mr. Christoph Wiltling, e-mail: c.wiltling@pergan.com
Security of labour
- **1.4 Emergency telephone number:** - Tel: +49 2871 9902-0

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Flam. Liq. 3 H226 Flammable liquid and vapour.
Org. Perox. E H242 Heating may cause a fire.
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** 
GHS02 GHS05 GHS07
- **Signal word** Danger
- **Hazard-determining components of labelling:** tert-pentyl hydroperoxide
2-methylbutan-2-ol
hydrogen peroxide solution
- **Hazard statements**
H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines).
P234 Keep only in original packaging.
P243 Take action to prevent static discharges.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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 CENTER/doctor.
P405 Store locked up.
P410 Protect from sunlight.
P411+P235 Store at temperatures not exceeding +30°C. Keep cool.

Trade name: **PEROXAN AHP**

(Contd. of page 1)

P420
P501

Do not mix with peroxide-accelerators or reducing agents.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures


· Dangerous components:

| | | |
|--|---|--------|
| CAS: 3425-61-4 EINECS: 222-321-7 | tert-pentyl hydroperoxide Org. Perox. E, H242; Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332 | 80-90% |
| CAS: 75-85-4 EINECS: 200-908-9 Index number: 603-007-00-2 | 2-methylbutan-2-ol Flam. Liq. 2, H225; Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335 | 1-2,5% |
| CAS: 3052-70-8 | 2,2-bis (t-amyl peroxy) propane Org. Perox. C, H242 | 0,1-1% |
| CAS: 7722-84-1 EINECS: 231-765-0 Index number: 008-003-00-9 Reg-No.: 01-2119485845-22 | hydrogen peroxide solution Ox. Liq. 1, H271; Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335; Aquatic Chronic 3, H412 | 0,1-1% |

- **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.
 Take care of personal protection for the first aider.
- **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. Take affected persons into fresh air and keep quiet.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly. Immediately remove contaminated clothing.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately. Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **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:** CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** Under certain fire conditions, traces of other toxic gases cannot be excluded. Hydrocarbons, carbon dioxide and -monoxid.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device. Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

(Contd. on page 3)

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Trade name: **PEROXAN AHP**

(Contd. of page 2)

Self-protection first!

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

Keep away from ignition sources.
In case of further temperature should be cooled with waterspray from a safe distance.
Wear breathing apparatus with filter A during decomposition of materials.
Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Large quantities should be diluted with suitable desensitization agent to a concentration below 10 % before disposal.
Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government regulations.

· **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.
In case of large spillage the environmental authority should be informed.

SECTION 7: Handling and storage· **7.1 Precautions for safe handling**

Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Do not refill residue into storage receptacles.
Restrict the quantity stored at the work place.
Use only in well ventilated areas.
Before break and at the end of work hands should be thoroughly washed.
Only use tools made of suitable materials (e. g. polyethylene or stainless steel).
Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
While using do not eat, drink or smoke.
Do not generate flames or sparks.
Keep product and emptied container away from heat and sources of ignition.
Avoid shock and friction.
Take precautionary measures against static discharges.



Do not smoke.

· **Information about fire - and explosion protection:**

Protect from heat.
Protect against electrostatic charges.
Prevent impact and friction.
Use explosion-proof apparatus / fittings and spark-proof tools.
Fumes can combine with air to form an explosive mixture.



Wear shoes with conductive soles.

Formation of flammable or explosive gas/air-mixtures is possible.



Avoid open flames, sparks, direct sunlight and other sources of ignition.

Keep ignition sources away - Do not smoke.

· **7.2 Conditions for safe storage, including any incompatibilities**· **Storage:**

Pay attention to the special requirements of your local authorities for storing dangerous goods.

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.
Prevent any seepage into the ground.
Use only receptacles specifically permitted for this substance/product.

(Contd. on page 4)

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Trade name: **PEROXAN AHP**

(Contd. of page 3)

- **Information about storage in one common storage facility:** Do not store or park organic peroxide together with heavy metal compounds and amines. Store away from foodstuffs, drinks and feeding stuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
Protect from heat and direct sunlight.
Protect from contamination.
Store under lock and key and out of the reach of children.
- **Recommended storage temperature (To maintain quality):** +5 +30 °C
- **Storage class:** 5.2
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

7722-84-1 hydrogen peroxide solution

| | |
|---------------------|---|
| WEL (Great Britain) | Short-term value: 2,8 mg/m ³ , 2 ppm Long-term value: 1,4 mg/m ³ , 1 ppm |
|---------------------|---|

· **DNELs**

7722-84-1 hydrogen peroxide solution

| | | |
|------------|---------------------|--------------------------------|
| Inhalative | DNEL Longterm Local | 1,4 mg/m ³ (Worker) |
|------------|---------------------|--------------------------------|

· **PNECs**

7722-84-1 hydrogen peroxide solution

| | |
|----------------------|---------------------|
| PNEC Marinewater sed | 0,047 mg/kg sed dw |
| PNEC Freshwater | 0,013 mg/l (AF 50) |
| PNEC Freshwater sed | 0,047 mg/kg sed dw |
| PNEC Soil | 0,002 mg/kg soil dw |
| PNEC STP | mg/l (AF 100) |
| PNEC Marinewater | 0,013 mg/l (AF 50) |

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

· **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Be sure to clean skin thoroughly after work and before breaks.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated.



Filter A2

- **Protection of hands:**



Only use chemical-protective gloves with CE-labelling of category III.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Protective gloves

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.

Butyl rubber, BR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Neoprene

(Contd. on page 5)

MT

Trade name: **PEROXAN AHP**

(Contd. of page 4)

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**



Protective work clothing

SECTION 9: Physical and chemical properties

| | |
|--|---|
| · 9.1 Information on basic physical and chemical properties | |
| · General Information | |
| · Appearance: | |
| · Form: | Fluid |
| · Colour: | Colourless |
| · Odour: | Characteristic |
| · Odour threshold: | Not determined. |
| · pH-value: | Not determined. |
| · Change in condition | |
| · Melting point/freezing point: | Not applicable. |
| · Initial boiling point and boiling range: | Not applicable. |
| · Flash point: | 41 °C |
| · Flammability (solid, gas): | Not applicable. |
| · Decomposition temperature: | +80 °C (SADT) |
| · Auto-ignition temperature: | Product is not selfigniting. |
| · Explosive properties: | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · Explosion limits: | |
| · Lower: | Not determined. |
| · Upper: | Not determined. |
| · Vapour pressure: | Not determined. |
| · Density at 20 °C: | 0,91 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with | |
| · water: | Undetermined. |
| · Partition coefficient: n-octanol/water: | not determined |
| · Viscosity: | |
| · Dynamic at 20 °C: | 6 mPas |
| · Kinematic: | Not determined. |
| · 9.2 Other information | No further relevant information available. |
| · Active oxygen | 12,0 - 13,5 % |

SECTION 10: Stability and reactivity

| | |
|--|---|
| · 10.1 Reactivity | No further relevant information available. |
| · 10.2 Chemical stability | |
| · Thermal decomposition / conditions to be avoided: | SADT (Self Accelerating Decomposition Temperature) is the lowest temperature at which self accelerating decomposition may occur with substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be cause decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT. No decomposition if used and stored according to specifications. To avoid thermal decomposition do not overheat. |
| · 10.3 Possibility of hazardous reactions | Self-accelerating decomposition at SADT. |
| · 10.4 Conditions to avoid | No further relevant information available. |

(Contd. on page 6)

Trade name: **PEROXAN AHP**

(Contd. of page 5)

- **10.5 Incompatible materials:** Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
- **10.6 Hazardous decomposition products:** Hydrocarbons, carbon dioxide and -monoxid.
No hazardous decomposition products if used and stored according to specifications.
- **Additional information:** Emergency procedures will vary depending on conditions. The customer should have an emergency response plan in place.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Harmful if swallowed, in contact with skin or if inhaled.

· **LD/LC50 values relevant for classification:**

75-85-4 2-methylbutan-2-ol


| | | |
|------|------|----------------------|
| Oral | LD50 | 1.000 mg/kg (rattus) |
|------|------|----------------------|

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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** Based on available data, the classification criteria are not met.
- **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** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Must not reach sewage water or drainage ditch undiluted or unneutralised.
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**  After diluting with a suitable desensitisation agent to 10 %, the solution must be supplied to a special treatment (e. g. thermal utilization) under observance of all official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste disposal key:** Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number.
- **Uncleaned packaging:**
- **Recommendation:** This material and its container must be disposed of as hazardous waste.



SECTION 14: Transport information

- | | |
|--------------------------|--------|
| · 14.1 UN-Number | UN3107 |
| · ADR, IMDG, IATA | |

(Contd. on page 7)
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Trade name: **PEROXAN AHP**

(Contd. of page 6)

| | |
|--|---|
| · 14.2 UN proper shipping name · ADR | UN3107 ORGANIC PEROXIDE TYPE E, LIQUID (tert-AMYL HYDROPEROXIDE) |
| · IMDG, IATA | ORGANIC PEROXIDE TYPE E, LIQUID (tert-AMYL HYDROPEROXIDE) |
| · 14.3 Transport hazard class(es) · ADR | |
|  | |
| · Class · Label | 5.2 (P1) Organic peroxides. 5.2 |
| · IMDG, IATA | |
|  | |
| · Class · Label | 5.2 Organic peroxides. 5.2 |
| · 14.4 Packing group · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: · Marine pollutant: | No |
| · 14.6 Special precautions for user · Hazard identification number (Kemler code): · Stowage Category · Stowage Code · Segregation Code | Warning: Organic peroxides. - D SW1 Protected from sources of heat. SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis. SG72 See 7.2.6.3.2. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR · Limited quantities (LQ) · Excepted quantities (EQ) | 125 ml Code: E0 Not permitted as Excepted Quantity |
| · Transport category · Tunnel restriction code | 2 D |
| · RID / GGVSEB: | like ADR |
| · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | 125 ml Code: E0 Not permitted as Excepted Quantity |
| · Additional provisions for organic peroxides of Class 5.2 | "Carriage in accordance with ADR 2.2.52.1.8." |

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances
 - ANNEX I None of the ingredients is listed.
 - Seveso category P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES
- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

(Contd. on page 8)

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Trade name: **PEROXAN AHP**

(Contd. of page 7)

· **REGULATION (EC) No**
1907/2006 ANNEX XVII

Conditions of restriction: 3

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.

- **Department issuing SDS:** Environment protection / Security of labour
- **Contact:** Tel: +49 2871 9902-0
E-mail: mail@pergan.com
- **Abbreviations and acronyms:** RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport 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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Ox. Liq. 1: Oxidizing liquids – Category 1
Org. Perox. C: Organic peroxides – Type C/D
Org. Perox. E: Organic peroxides – Type E/F
Acute Tox. 4: Acute toxicity - oral – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
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.**