

MATERIAL SAFETY DATA SHEET

According to 91/155/EEC (Rev.: 2001/58/EC)

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Version: 1

Reviewed on 01.04.2005

1) Identification of the substance/preparation and of the company/undertaking:

Product details

Trade name: **PEROXAN BHP-70**

Application of the substance /
the preparation

Reaction initiator
For industrial use

Manufacturer/Supplier :

ADAKEM KIMYA SAN VE TIC LTD
Sahap Gurler Cad. Cakiroglu Is Merkezi No.22/5
Kadikoy / Istanbul – TURKEY
Phone # +90 216 330 92 00
Fax # +90 216 330 91 81

Further information obtainable from :Environment protection / Security of labour

Information in case of emergency :Phone-number: +90 216 330 92 02

2) Composition/information on ingredients:

Chemical characterization-

Dangerous components:

CAS: 75-91-2 tert-butyl hydroperoxide - C, E, N; R 2-7-10-20/21/22-34-41-43-51/5360-70%

EINECS: 200-915-7

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

3) Hazards identification:

Hazard description: (C) Corrosive, (O) Oxidising, (N) Dangerous for the environment

Information concerning
particular hazards for human
and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 7May cause fire.

R 10Flammable.

R 20/21/22Harmful by inhalation, in contact with skin and if swallowed

R 34Causes burns

R 41Risk of serious damage to eyes.

R 43May cause sensitisation by skin contact.

R 51/53Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Classification system :The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

4) 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 atleast 48 hours after the accident.Take care of personal protection for the first aider.

After inhalation :Supply fresh air and to be sure call for a doctor.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

5) Fire-fighting measures:

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

Special hazards caused by the substance, its products of combustion or resulting gases: Under certain fire conditions, traces of other toxic gases cannot be excluded.

Hydrocarbons, carbon dioxide and -monoxide.If involved in a fire, it support combustion.

Protective equipment: Mouth respiratory protective device.Do not inhale explosion gases or combustion gases.

Additional information: Cool endangered receptacles with water spray.Self-protection first!

6) Accidental release measures:

Person-related safety precautions : Keep away from ignition sources.In case of further temperature increase the peroxide should be cooled with water spray from a safe distance.Take precautionary measures against static discharges.Wear breathing apparatus with filter A during decomposition of materials.Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection: Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting: Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. Large quantities of peroxides should be diluted with suitable desensitisation agent to a concentration below 10 %. Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government regulations.

Additional information: In case of large spillage the environmental authority should be informed.

7) Handling and storage:

Handling: Pay attention to the special requirements of your local authorities for handling with dangerous goods.

Information for safe handling: Keep receptacles tightly sealed. Store in cool, dry place in tightly closed receptacles. 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). Oxidizing because of releasing oxygen. Avoid contact with skin and eyes. 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. Avoid open flames, sparks, direct sunlight and other sources of ignition. Formation of flammable or explosive gas/air-mixtures is possible. Keep ignition sources away - Do not smoke.

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

Requirements to be met by storerooms and receptacles: Store in a cool location. Store only in the original receptacle. Prevent any seepage into the ground. Use only receptacles specifically permitted for this substance/product.

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. Store in cool, dry conditions in well sealed receptacles. Protect from heat and direct sunlight. Protect from contamination. Store under lock and key and out of the reach of children. Store in a cool place.

Recommended storage temperature: +5 +30°C

Storage class: 5.2 "Organische Peroxide" (VCI-Konzept)

8) Exposure controls/personal protection:

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

Ingredients with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

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 close or long term contact with the skin. 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 protective device in case of insufficient ventilation. 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. Protective gloves.

Material of 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.

Penetration time of glove material. 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.

Body protection: Protective work clothing.

9) Physical and chemical properties:

General Information

Form	: Fluid
Colour	: Colourless
Odour	: Pungent

Change in condition

Melting point/Melting range	: Undetermined.
Boiling point/Boiling range	: Undetermined.

Flash point	: 43°C
Decomposition temperature	: +80°C (SADT)
Self-igniting	: Product is not self-igniting.
Danger of explosion	: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Vapour pressure at 21°C	: 31 hPa
Density at 25°C	: 0.93 g/cm ³

Solubility in / Miscibility with water	:Not miscible or difficult to mix.
pH-value at 20°C	:4
Segregation coefficient (n-octanol/water)	:not determined
Viscosity Dynamic at 20°C	:4 mPas
Active oxygen	:12,2 - 12,5 %

10) Stability and reactivity:

Thermal decomposition / conditions to be avoided: SADT (Self Accelerating Decomposition Temperatur) is the lowest temperature at which selfaccelerating decomposition may occur with substance in the packaging as used in transport. Adangerous 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.

Materials to be avoided: Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).

Dangerous reactions: Self-accelerating decomposition at SADT.

Dangerous 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 plane in place.

11) Toxicological information:

Acute toxicity:

LD/LC50 values relevant for classification:

75-91-2tert-butyl hydroperoxide

Oral	LD50	560 mg/kg (rattus)
Derma	ILD50	628 mg/kg (cuniculosus)
Inhalative	LC50 / 4h	490 ppm (rattus)

Primary irritant effect:

on the skin : Caustic effect on skin and mucous membranes.

on the eye : Strong caustic effect.

Sensitization : Sensitization possible through skin contact.

Additional toxicological

Information : The product shows the following dangers according to the calculation method of the General EU. Classification Guidelines for Preparations as issued in the latest version:The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.Harmful.Corrosive.Irritant.Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12) Ecological information:

Ecotoxicological effects:

Aquatic toxicity:

75-91-2tert-butyl hydroperoxide

EC50	17 mg/l (activa sludge)
EC50 / 48h	14 mg/l (daphnia magna)
EC50 / 72h	1.5 mg/l (selenastrum capricornutum)
LC50 / 96h	29 mg/l (pimephales promelas)
	57 mg/l (poecilia reticulata)

Remark : Toxic for fish

General notes : Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Must not reach sewage water or drainage ditch undiluted or unneutralized. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms

13) Disposal considerations:

Product 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 wastecatalog)-number.

Uncleaned packaging: Recommendation: This material and its container must be disposed of as hazardous waste.

14) Transport information:

Land transport ADR/RID (cross-border)

ADR/RID class	:5.2 (P1) Organic peroxides.
Danger code (Kemler)	:539
UN-Number	:3109
Hazard label	:5.2+8
Description of goods	:3109 ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl hydroperoxide)
RID / GGVSE	:like ADR

Maritime transport IMDG

IMDG Class	:5.2
UN Number	:3109
Label	:5.2+8
Marine pollutant	:No
Proper shipping name	:ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl hydroperoxide)

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class :5.2

UN/ID Number :3109

Label :5.2+8

Proper shipping name :ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl hydroperoxide)

15) Regulatory information:

Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

Code letter and hazard designation of product: (C)Corrosive,(O)Oxidising,(N)Dangerous for the environment.

Hazard-determining components of labelling: tert-butyl hydroperoxide

Risk phrases:	7	May cause fire
	10	Flammable
	20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	34	Causes burns.
	41	Risk of serious damage to eyes.
	43	May cause sensitisation by skin contact.
	51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases:	3/7	Keep container tightly closed in a cool place.
	14	Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines).
	24/25	Avoid contact with skin and eyes.
	36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	50	Do not mix with peroxide-accelerators or reducing agents.
	60	This material and its container must be disposed of as hazardous waste.
	61	Avoid release to the environment. Refer to special instructions/safety data sheets.

National regulations Please note: Take care of the respective local regulations.

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.

Relevant R-phrases	10 Flammable.
	2 Risk of explosion by shock, friction, fire or other sources of ignition.
	20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
	34 Causes burns.
	41 Risk of serious damage to eyes.
	43 May cause sensitisation by skin contact.
	51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	7 May cause fire.