

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 12.12.2012

Printing date 01.07.2013

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name

tert-Butyl hydroperoxide, 70% aqueoussolution

Stock number:

A13926, L02929

CAS Number:

75-91-2

EC number:

200-915-7

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

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
 A Johnson Matthey Company
 Zeppelinstr. 7b
 76185 Karlsruhe / Germany
 Tel: +49 (0) 721 84007 280
 Fax: +49 (0) 721 84007 300
 Email: tech@alfa.com
 www.alfa.com
 Product safety Tel + +049 (0) 7275 988687-0
 Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
 Poison Information Center Mainz
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

Informing department:

1.4 Emergency telephone number:**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3

H226 Flammable liquid and vapour.

Org. Perox. EF

H242 Heating may cause a fire.



GHS06 skull and crossbones

Acute Tox. 3

H311 Toxic in contact with skin.

Acute Tox. 3

H331 Toxic if inhaled.



GHS05 corrosion

Skin Corr. 1C

H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4

H302 Harmful if swallowed.

Aquatic Chronic 3

H412 Harmful to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.

Xn; Harmful

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

O; Oxidising

R7: May cause fire.

R10-52/53: Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards

for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS02, GHS05, GHS06

Danger

H226 Flammable liquid and vapour.

H242 Heating may cause a fire.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P235

Keep cool.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309

IF exposed or if you feel unwell:

P310

Immediately call a POISON CENTER or doctor/physician.

P420

Store away from flammable substances.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation:

75-91-2 tert-Butyl hydroperoxide, 70% aqueoussolution

Identification number(s):

200-915-7

EC number:

SECTION 4: First aid measures**4.1 Description of first aid measures**

General information

Instantly remove any clothing soiled by the product.

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After inhalation	Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.	(Contd. of page 1)
After skin contact	Seek immediate medical advice. Instantly wash with water and soap and rinse thoroughly.	
After eye contact	Seek immediate medical advice.	
After swallowing	Rinse opened eye for several minutes under running water. Then consult doctor.	
4.2 Most important symptoms and effects, both acute and delayed	Seek medical treatment.	
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	Carbon dioxide Fire-extinguishing powder Alcohol-resistant foam
5.2 Special hazards arising from the substance or mixture	Promotes fire. If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide
5.3 Advice for firefighters Protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources
6.2 Environmental precautions:	Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up:	Keep away from ignition sources. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent. Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.
Prevention of secondary hazards: 6.4 Reference to other sections	Keep away from ignition sources. See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling	Keep containers tightly sealed. Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires:	Gases can be produced if heated in sealed containers, causing possible rupture or explosion. Potentially explosive when mixed with organic substances. Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture.
7.2 Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and containers: Information about storage in one common storage facility:	Refrigerate Water reacts with many metals to give hydrogen, often violently. Water also reacts violently with many reactive organic and inorganic chemicals. Protect from heat. Do not store with organic materials. Store away from metal powders.
Further information about storage conditions:	Keep container tightly sealed. Store in a locked cabinet or with access restricted to technical experts or their assistants. Refrigerate
7.3 Specific end use(s)	No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
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8.1 Control parameters**Components with critical values that require monitoring at the workplace:****75-91-2 tert-Butyl hydroperoxide, 70% aqueoussolution (100,0%)**

MAK (Germany) | vgl. Abschn. Xa

Additional information: No data**8.2 Exposure controls**
Personal protective equipment
General protective and hygienic measures**Breathing equipment:**
Protection of hands:**Material of gloves**
Penetration time of glove material
Eye protection:

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.
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.
Impervious gloves
Not determined
Tightly sealed safety glasses.
Full face protection

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Body protection: Protective work clothing.

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

Form: Liquid
 Colour: Colourless
 Smell: Pungent
 Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: -3 °C
 Boiling point/Boiling range: ca 96 °C (dec)
 Sublimation temperature / start: Not determined

Flash point: 43 °C
 Inflammability (solid, gaseous): Not applicable.
 Ignition temperature: Not determined
 Decomposition temperature: >80 °C
 Self-inflammability: Not determined.

Critical values for explosion:

Lower: Not determined
 Upper: Not determined

Steam pressure at 45 °C: 82,46 hPa

Density at 20 °C: 0,937 g/cm³

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with

Water at 20 °C: 130-150 g/l

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic at 4 °C: 20 mPas

kinematic: Not determined.

9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

May cause fire.

10.2 Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Exothermic thermal decomposition
 Do not heat above 80°C.
 Water reacts violently with alkali metals.
 Reacts with alkaline earth metals

10.3 Possibility of hazardous reactions**10.5 Incompatible materials:**

Bases
 Heat
 Organic materials
 Metal powders
 Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.

10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:**

Harmful if inhaled.
 Harmful in contact with skin.
 Harmful if swallowed.
 Danger by skin resorption.
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

LD/LC50 values that are relevant for classification:

No data

Skin irritation or corrosion:

Causes severe skin burns.

Eye irritation or corrosion:

Causes serious eye damage.

Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
 No effects known.

Reproductive toxicity:

No effects known.

Specific target organ system toxicity - repeated exposure:

No effects known.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Other information (about experimental toxicology):

Mutagenic effects have been observed on tests with laboratory animals.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information**12.1 Toxicity**

No further relevant information available.

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

Harmful to aquatic organisms

Ecotoxicological effects:

Harmful to aquatic organisms

Remark:

Additional ecological information:
 General notes:
 Do not allow product to reach ground water, water bodies or sewage system.
 Do not allow material to be released to the environment without proper governmental permits.
 Water hazard class 2 (Self-assessment): hazardous for water.
 Danger to drinking water if even small quantities leak into soil.
 May cause long lasting harmful effects to aquatic life.
 Avoid transfer into the environment.

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12.5 Results of PBT and vPvB assessmentPBT:
vPvB:**12.6 Other adverse effects**

Harmful to aquatic organisms

Not applicable.

Not applicable.

No further relevant information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Recommendation**

Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:**Recommendation:**

Disposal must be made according to official regulations.

SECTION 14: Transport informationUN-Number
ADR, IMDG, IATA

UN3109

14.2 UN proper shipping name
ADR

3109 ORGANIC PEROXIDE TYPE F, LIQUID (tert-Butyl hydroperoxide solution in water)
ORGANIC PEROXIDE TYPE F, LIQUID (tert-Butyl hydroperoxide solution in water)

IMDG, IATA

14.3 Transport hazard class(es)

ADR

Class
Label
IMDG, IATA

5.2 (P1) Organic peroxides.
5.2

Class
Label

5.2 Organic peroxides.
5.2

Packing group
ADR, IMDG, IATA

Not applicable

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Kemler Number:

Warning: Organic peroxides.
539

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Excepted quantities (EQ):

Limited quantities (LQ)

Transport category

Tunnel restriction code

E0
125 ml
2
D

UN "Model Regulation":

UN3109, ORGANIC PEROXIDE TYPE F, LIQUID (tert-Butyl hydroperoxide solution in water), 5.2

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

Australian Inventory of Chemical

Substances

Substance is listed.

Standard for the Uniform Scheduling of

Drugs and Poisons

Substance is not listed.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

Other regulations, limitations and prohibitive
regulations
ELINCS (European List of Notified Chemical
Substances)

Substance is not listed.

Substances of very high concern (SVHC)

according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

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 Organization
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 Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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