

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.07.2022

Version number 11 (replaces version 10)

Revision: 26.07.2022

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

1.1 Product identifier

Trade name: **Hardener, liquid**

Article number: 30446, 30441, 30467

UFI: 6W54-Y02P-R003-N54R

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

Hardening agent/ Curing agent

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Org. Perox. E H242 Heating may cause a fire.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

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



GHS02 GHS07 GHS09

Signal word

Warning

Hazard-determining components of labelling:

Hazard statements

dibenzoyl peroxide

H242 Heating may cause a fire.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 Keep away from reducing agents, heavy metal compounds, acids and alkalis.

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P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P410	Protect from sunlight.
P411+P235	Store at temperatures not exceeding 35°C. Keep cool.
P420	Store separately.
P501	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 Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

94-36-0	dibenzoyl peroxide	Org. Perox. B, H241 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Eye Irrit. 2, H319; Skin Sens. 1, H317	25-50%
5444-75-7	2-Ethylhexylbenzoat	Aquatic Chronic 4, H413	25-50%

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**

- 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.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Rinse out mouth and then drink plenty of water.
Seek immediate medical advice.

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.**5.2 Special hazards arising from the substance or mixture**Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:

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· 5.3 Advice for firefighters

Carbon monoxide (CO)

· Protective equipment:

Wear self-contained respiratory protective device.

· Additional information

Cool endangered receptacles with water spray.

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

Not required.

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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

· 6.3 Methods and material for containment and cleaning up:

Send for recovery or disposal in suitable receptacles.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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

Keep away from heat and direct sunlight.

Do not refill residue into storage receptacles.

Ensure good ventilation/exhaustion at the workplace.

· Information about fire - and explosion protection:

No special measures required.

· 7.2 Conditions for safe storage, including any incompatibilities**· Storage:****· Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

· Information about storage in one common storage facility:

Store away from reducing agents.

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.

· Further information about storage conditions:

Keep container tightly sealed.

· Storage class:

5.2

· 7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection**· 8.1 Control parameters****· 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.

· DNELs**94-36-0 dibenzoyl peroxide**

Oral	DNEL (Langzeit-wiederholt)	1.65 mg/kg bw/day (BEV)
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Dermal	DNEL (Langzeit-wiederholt)	13.3 mg/kg bw/day (ARB)
Inhalative	DNEL (Langzeit-wiederholt)	39 mg/m ³ Air (ARB)
		3.84 mg/m ³ Air (BEV)

· PNECs

94-36-0 dibenzoyl peroxide

PNEC (wässrig)	0.35 mg/l (KA) 0.000002 mg/l (MW) 0.00002 mg/l (SW) 0.000602 mg/l (WAS)
PNEC (fest)	0.0025 mg/kg Trockengew (BO) 0.00127 mg/kg Trockengew (MWS) 0.0127 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.· **8.2 Exposure controls**

- Appropriate engineering controls No further data; see item 7.
- Individual protection measures, such as personal protective equipment
- General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
 Use skin protection cream for skin protection.
 Clean skin thoroughly immediately after handling the product.
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Do not inhale gases / fumes / aerosols.
 Avoid contact with the eyes.
 Avoid contact with the eyes and skin.

· Respiratory protection: Filter A/P2
 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.

· Hand protection Preventive skin protection by use of skin-protecting agents is recommended.
 After use of gloves apply skin-cleaning agents and skin cosmetics.

**Protective gloves**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Butyl rubber, BR
 Fluorocarbon rubber (Viton)
 Nitrile rubber, NBR
 Neoprene 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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.

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· Eye/face 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

· <u>Colour:</u>	White
· <u>Odour:</u>	Characteristic
· <u>Melting point/freezing point:</u>	Undetermined.
· <u>Boiling point or initial boiling point and boiling range</u>	Undetermined.
· <u>Lower and upper explosion limit</u>	
· <u>Lower:</u>	3.2 Vol %
· <u>Upper:</u>	53 Vol %
· <u>Flash point:</u>	Not applicable.
· <u>Ignition temperature:</u>	410 °C
· <u>Decomposition temperature:</u>	> + 60 °C
· <u>pH</u>	Not determined.
· <u>Viscosity:</u>	
· <u>Kinematic viscosity</u>	Not determined.
· <u>Dynamic at 20 °C:</u>	800 mPas
· <u>Solubility</u>	
· <u>water:</u>	Not miscible or difficult to mix.
· <u>Vapour pressure at 20 °C:</u>	<1 hPa
· <u>Density and/or relative density</u>	
· <u>Density at 20 °C:</u>	1.14 g/cm ³

9.2 Other information

· <u>Appearance:</u>	
· <u>Form:</u>	Viscous
· <u>Important information on protection of health and environment, and on safety.</u>	
· <u>Auto-ignition temperature:</u>	Product is not selfigniting.
· <u>Explosive properties:</u>	Product does not present an explosion hazard.
· <u>Solvent content:</u>	
· <u>Solids content:</u>	47.5 %

· Information with regard to physical hazard classes

· <u>Explosives</u>	Void
· <u>Flammable gases</u>	
	Void
· <u>Aerosols</u>	
	Void
· <u>Oxidising gases</u>	
	Void
· <u>Gases under pressure</u>	
	Void
· <u>Flammable liquids</u>	
	Void

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- Flammable solids Void
- Self-reactive substances and mixtures Void
- Pyrophoric liquids Void
- Pyrophoric solids Void
- Self-heating substances and mixtures Void
- Substances and mixtures, which emit flammable gases in contact with water Void
- Oxidising liquids Void
- Oxidising solids Void
- Organic peroxides Void
- Corrosive to metals Heating may cause a fire.
- Desensitised explosives Void
- Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided: Rapid decomposition by heating (e. g. direct sunlight or heater).
- **10.3 Possibility of hazardous reactions** Self accelerating decomposition at 50°C (SADT)
Reacts with reducing agents.
Reacts with heavy metals.
Reacts with amines.
Reacts with acids, alkalis and oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).

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· **10.6 Hazardous decomposition products:**

No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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

· LD/LC50 values relevant for classification:

94-36-0 dibenzoyl peroxide

Oral	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	>24.3 mg/l (rat)

5444-75-7 2-Ethylhexylbenzoat

Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

· Skin corrosion/irritation Based on available data, the classification criteria are not met.

· Serious eye damage/irritation Causes serious eye irritation.

· Respiratory or skin sensitisation May cause an allergic skin reaction.

· 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.

· **11.2 Information on other hazards**

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:

94-36-0 dibenzoyl peroxide

EC50	35 mg/l (bacteria)
LC50	>1,000 mg/l (Eisenia fetida (Regenwürmer))
EC50/48h	0.11 mg/l (daphnia magna)
ErC50/72h	0.0711 mg/l (Pseudokirchneriella subcapitata)
EC10	0.001 mg/l (daphnia magna)
EC50/48h	0.11 mg/l (daphnia magna)
EC50/72h	0.0711 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	0.0602 mg/l (Oncorhynchus mykiss)
	2 mg/l (poecilia reticulata)

· **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.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

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· **12.7 Other adverse effects**· Additional ecological information:· General notes:

Do not allow product to reach ground water, water course or sewage system.
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

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

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

16 00 00 WASTES NOT OTHERWISE SPECIFIED IN THE LIST

16 09 00 oxidising substances

16 09 03* peroxides, for example hydrogen peroxide

· Uncleaned packaging:· Recommendation:

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

SECTION 14: Transport information· **14.1 UN number or ID number**· ADR, IMDG, IATA

UN3107

· **14.2 UN proper shipping name**· ADR

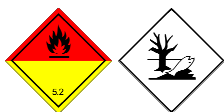
3107 ORGANIC PEROXIDE TYPE E, LIQUID (dibenzoyl peroxide), ENVIRONMENTALLY HAZARDOUS

· IMDG

ORGANIC PEROXIDE TYPE E, LIQUID (dibenzoyl peroxide), MARINE POLLUTANT

· IATA

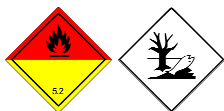
ORGANIC PEROXIDE TYPE E, LIQUID (dibenzoyl peroxide)

· **14.3 Transport hazard class(es)**· ADR· Class

5.2 (P1) Organic peroxides.

· Label

5.2

· IMDG· Class

5.2 Organic peroxides.

· Label

5.2

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· IATA· Class

5.2 Organic peroxides.

· Label

5.2

· **14.4 Packing group**· ADR, IMDG, IATA

Void

· **14.5 Environmental hazards:**· Marine pollutant:

Symbol (fish and tree)

· Special marking (ADR):

Symbol (fish and tree)

· **14.6 Special precautions for user**· Hazard identification number (Kemler code):

-

· EMS Number:

F-J,S-R

· Stowage Category

D

· Stowage Code

SW1 Protected from sources of heat.

· Segregation Code

SG35 Stow "separated from" SGG1-acids

SG36 Stow "separated from" SGG18-alkalis.

SG72 See 7.2.6.3.2.

· **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

· Transport/Additional information:· ADR· Limited quantities (LQ)

125 ml

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

· Transport category

2

· Tunnel restriction code

D

· IMDG· Limited quantities (LQ)

125 ml

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

· UN "Model Regulation":

UN 3107 ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE), 5.2, ENVIRONMENTALLY HAZARDOUS

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

E1 Hazardous to the Aquatic Environment

· Qualifying quantity (tonnes) for the application of lower-tier requirements

50 t

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· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· National regulations:

· Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

· Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed.

· VOC EU 0.0 g/l

· **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

· Department issuing SDS: Laboratory

· Date of previous version: 26.07.2022

· Version number of previous version: 10

· 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)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Org. Perox. B: Organic peroxides – Type B

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Org. Perox. E: Organic peroxides – Type E/F

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

EU