

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.12.2020

Version number 9

Revision: 04.12.2020

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.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

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.

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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.
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 Chemical characterisation: Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 94-36-0 EINECS: 202-327-6 Index number: 617-008-00-0 Reg.nr.: 01-2119511472-50	dibenzoyl peroxide	Org. Perox. B, H241 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Eye Irrit. 2, H319; Skin Sens. 1, H317	25-50%
CAS: 5444-75-7 EINECS: 226-641-8	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.

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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:
Carbon monoxide (CO)

· **5.3 Advice for firefighters**

· 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.

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

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.

DNELs**94-36-0 dibenzoyl peroxide**

Oral	DNEL (Langzeit-wiederholt)	2 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	13.3 mg/kg bw/day (ARB)
Inhalative	DNEL (Langzeit-wiederholt)	39 mg/m ³ Air (ARB)

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

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.

Protection of hands:

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

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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.

· 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:

Viscous

Colour:

White

· Odour:

Characteristic

· Change in condition

Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range: Undetermined.

· Flash point:

Not applicable.

· Ignition temperature:

410 °C

· Decomposition temperature:

> + 60 °C

· Auto-ignition temperature:

Product is not selfigniting.

· Explosive properties:

Product does not present an explosion hazard.

· Explosion limits:

Lower:

3.2 Vol %

Upper:

53 Vol %

· Vapour pressure at 20 °C:

<1 hPa

· Density at 20 °C:

1.14 g/cm³

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Viscosity:

Dynamic at 20 °C:

800 mPas

Kinematic:

Not determined.

· Solvent content:

Solids content:

47.5 %

· 9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

No further relevant information available.

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· **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 above > + 60 °C.

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).

· **10.6 Hazardous decomposition products:**

No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

· 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)

· Primary irritant effect:

· 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.

· Additional toxicological information:

· 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:

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)

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LC50/96h	0.0602 mg/l (Oncorhynchus mykiss) 2 mg/l (poecilia reticulata)
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· **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:**

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

· **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**

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
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16 09 00	oxidising substances
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16 09 03*	peroxides, for example hydrogen peroxide
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· **Uncleaned packaging:**

· **Recommendation:**

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

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3107

· **14.2 UN proper shipping name**

· **ADR**

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

· **IMDG**

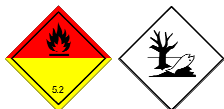
ORGANIC PEROXIDE TYPE E, LIQUID (dibenzoyl peroxide), MARINE POLLUTANT

· **IATA**

ORGANIC PEROXIDE TYPE E, LIQUID (dibenzoyl peroxide)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

5.2 (P1) Organic peroxides.

· **Label**

5.2

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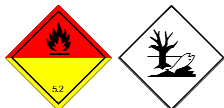
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· IMDG
 · Class
 · Label

 5.2 Organic peroxides.
 5.2
· IATA
 · Class
 · Label

 5.2 Organic peroxides.
 5.2
· **14.4 Packing group**· ADR, IMDG, IATA

Void

· **14.5 Environmental hazards:**
 · Marine pollutant:
 · Special marking (ADR):

 Symbol (fish and tree)
 Symbol (fish and tree)
· **14.6 Special precautions for user**
 · Hazard identification number (Kemler code):
 · EMS Number:
 · Stowage Category
 · Stowage Code
 · Segregation Code

 Warning: Organic peroxides.
 -
 F-J,S-R
 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

 · IMDG
 · Limited quantities (LQ)
 · Excepted quantities (EQ)

 125 ml
 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.

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- 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
- 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.

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

- Reasons for alterations
- Relevant phrases H241 Heating may cause a fire or explosion.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.
- Recommended restriction of use refer to Technical Data Sheet (TDS)
- Department issuing SDS: Laboratory
- Contact: Dieter Zimmermann
- 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 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
Org. Perox. B: Organic peroxides – Type B
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
- * Data compared to the previous version altered. Adaptation in accordance with REACH directive 1907/2006/EC