Safety data sheet

1. Substance / preparation and company identification

Trade name:
Härterpulver 50
Application of the substance / the preparation:
Reaction initiator for industrial use

BEIL
Kunststoffproduktions- und Handelsgesellschaft mbH
Lehmkuhlenweg 25
D- 31224 Peine
Telefon: +49 (0)5171/70 99-0
Telefax: +49 (0)5171/7099-29
E-Mail: service@beil-peine.de

Information in case of emergency:
Giftzentrale Göttingen
Tel.: +49 (0)551/19240

2. Hazard identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Org. Perox. D	H242	Heating may cause a fire.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Repr. 1B	H360D	May damage the unborn child.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Toxic to aquatic life with long lasting effects.

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


GHS07


GHS08


GHS09

Signal word	Danger	
Hazard-determining components of labelling:	dicyclohexyl phthalate, dibenzoyl peroxide	
Hazard statements	H242	Heating may cause a fire.
	H319	Causes serious eye irritation.
	H317	May cause an allergic skin reaction.
	H360D	Damage the unborn child.
	H400	Very toxic to aquatic life.
	H410	Toxic to aquatic life with long lasting effects.
Precautionary statements	P210	Keep away from heat/sparks/open flames/hot surfaces. -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 container.
P264	Wash thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face 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.
P410	Protect from sunlight.
P411+P235	Store at temperatures not exceeding +30°C. Keep cool.
P420	Do not mix with peroxide-accelerators or reducing agents.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information: Restricted for professional users.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3. Composition / information on ingredients

3.2 Chemical characterization: Mixtures

Dangerous components:

CAS: 94-36-0	dibenzoyl peroxide	40-50%
EINECS: 202-327-6	Org. Perox. B, H241; Aquatic Acute 1, H400 (M=10);	
Index number: 617-008-00-0	Aquatic Chronic 1, H410 (M=10); Eye Irrit. 2,	
Reg-No.:01-2119511472-50	H319; Skin Sens. 1, H317	
CAS: 84-61-7	dicyclohexyl phthllate	40-50%
EINECS: 201-545-9	Repr. 1B, H360D; Skin Sens. 1, H317;	
Index number: 607-719-00-4	Aquatic Chronic 3, H412	
Reg-No.:01-2119978223-34		

SVHC

84-61-7 dicyclohexyl phthalate

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

4. First-aid measures

4.1 Description of first aid measures

General information: 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. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult doctor.

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.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture Under certain fire conditions, traces of other toxic gases cannot be excluded.
Hydrocarbons, carbondioxide and -monoxid.

5.3 Advice for firefighters

Protective equipment: Do not inhale explosion gases or combustion gases.

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

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: 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:

Ensure adequate ventilation.
Large quantities should be diluted with suitable desensitation 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.

7. Handling and storage

7.1 Precautions for safe handling

Keep away from heat and direct sunlight.
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.
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. heavymetal compounds and amines).
Oxidizing because of releasing oxygene.
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 autorithies 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.

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.

Recommended storage temperature (To maintain quality):

max. +30 °C

7.3 Specific end use(s)

No further relevant information available.

8. Exposure controls and 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:

94-36-0 dibenzoyl peroxide

WEL (Great Britain) Long-term value: 5 mg/m³

84-61-7 dicyclohexyl phthalate

WEL (Great Britain) Long-term value: 5 mg/m³

DNELs

94-36-0 dibenzoyl peroxide

Oral	DNEL Longterm System	2 mg/kg bw/day (General population)
Dermal	DNEL Longterm System	13,3 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	39 mg/m³ (Worker)

84-61-7 dicyclohexyl phthalate

Dermal	DNEL Longterm System	0.5 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	35.2 mg/m³ (Worker)

PNECs

94-36-0 dibenzoyl peroxide

PNEC Marinewater sed	0.001 mg/kg sed dw
PNEC Freshwater	0.000002 mg/l (AF50)
PNEC Freshwater sed	0.013 mg/kg sed dw
PNEC STP	0.35 mg/l
PNEC Marinewater	0.000002 mg/l(AF500)

84-61-7 dicyclohexyl phthalate

PNEC Marinewater sed	0.106 mg/kg sed dw
PNEC Freshwater	0.004 mg/l (AF50)
PNEC Freshwater sed	1.06 mg/kg sed dw
PNEC Soil	0.21 mg/kg soil dw
PNEC STP	10 mg/l (AF10)
PNEC Marinewater	0 mg/l (AF500)

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 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:
Not necessary if room is well-ventilated.
Use suitable respiratory device when it exceeds exposure limit and when insufficiently ventilated. Filter P2

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
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

9.1 Information on basic physical and chemical properties

General Information

Appearance:

General Information

Colour:	Whitish
Odour:	Characteristic
Odour threshold:	Not determined.
Melting point/freezing point:	Not applicable.
Boiling point or initial boiling point and boiling range	Not applicable.
Flammability	May cause fire.
Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.
Decomposition temperature:	+60 °C (SADT)
pH	Not applicable.
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic:	Not applicable.
Solubility	
water:	Undetermined.
Partition coefficient n-octanol/ water (log value)	not determined
Vapour pressure:	Not applicable.
Density and/or relative density	
Density:	Not determined.
Relative density	Not determined.
Bulk density at 20 °C:	610 kg/m³
Vapour density	Not applicable.

9.2 Other information No further relevant information available.

Appearance:

Form: Solid Powder

Important information on protection of health and environment, and on safety.

Ignition temperature: Product is not selfigniting.

Explosive properties:	Product is not explosive. However, formation of explosive air/dust mixtures are possible.

Change in condition

Evaporation rate	Not applicable.

Information with regard to physical hazard classes

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
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	Heating may cause a fire.
Corrosive to metals	Void
Desensitised explosives	Void
Other safety characteristics	
Active oxygen	3.2 - 3.5 %

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.

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, carbondioxide 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

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

94-36-0	**dibenzoyl peroxide**	
Oral	LD50	>5000 mg/kg (rattus)
84-61-7 dicyclohexyl phthalate		
Oral	LD50	>2000 mg/kg (rattus)

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.

CMR effects (carcinogenity, 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 May damage the unborn child.

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.

12. Ecological information

12.1 Toxicity

Aquatic toxicity:

94-36-0 dibenzoyl peroxide

EC50 / 48h	0.110 mg/l (daphnia magna)
EC50 / 72h	0.0711 mg/l (pseudokirchneriella subcapitata)
LC50 / 96h	0.0602 mg/l (oncorhynchus mykiss)

12.2 Persistence and degradability

Degree of elimination:

Classification:

84-61-7	dicyclohexyl phthalate
Degradation	(Readily biodegradable)

94-36-0 dibenzoyl peroxide

Degradation (Readily biodegradable) (OECD 301 D) available.

12.3 Bioaccumulative potential

Partition coefficient: n-Octanol/water: [Log Kow]

84-61-7	dicyclohexyl phthalate	4,82 (25 °C)
94-36-0	dibenzoyl peroxide	3,2 (20 °C)

Bioconcentration factor (BCF)

84-61-7 dicyclohexyl phthalate

BCF 85

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.

vPvB: The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH, annex XIII.

12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects No further relevant information available.

Remark: Very toxic for fish

Additional ecological information:

General notes: Very toxic for aquatic organisms
Also poisonous for fish and plankton in water bodies.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.

13. Disposal considerations

13.1 Waste treatment methods

Recommendation After diluting with a suitable inert solid material to 10 %, the product 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.

14. Transport information

14.1 UN-Number	
ADR, IMDG, IATA	UN3106
14.2 UN proper shipping name	
ADR	3106 ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE), ENVIRONMENTALLY HAZARDOUS
IMDG	ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE), MARINE POLLUTANT
IATA	ORGANIC PEROXIDE TYPE D, SOLID (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
IATA	
Class	5.2 Organic peroxides.
Label	5.2
14.4 Packing group	
ADR, IMDG, IATA	Void
14.5 Environmental hazards:	Product contains environmentally hazardous substances: DIBENZOYL PEROXIDE
Marine pollutant:	Yes Symbol (fish and tree)
Special marking (ADR):	Symbol (fish and tree)
14.6 Special precautions for user	Warning: Organic peroxides.
Danger code (Kemler):	-
EMS Number:	F-J,S-R
Stowage Category	SW1 Protected from sources of heat.
Stowage Code	SG35 Stow "separated from" acids.
Segregation Code	SG36 Stow "separated from" alkalis.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	500 g
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
Transport category	2
Tunnel restriction code	D
RID / GGVSEB:	like ADR
IMDG	
Limited quantities (LQ)	500g
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poisons Act

Regulated explosives precursors	None of the ingredients is listed.
Regulated poisons	None of the ingredients is listed.
Reportable explosives precursors	None of the ingredients is listed.
Reportable poisons	None of the ingredients is listed.
Directive 2012/18/EU	
Qualifying quantity (tonnes) for the application of lower-tier requirements	50 t
Qualifying quantity (tonnes) for the application of upper-tier requirements	200 t

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.

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:

Other regulations, limitations and prohibitive regulations

Please note: Take care of the respective local regulations.

Substances of very high concern (SVHC) according to UK REACH

84-61-7 dicyclohexyl phthalate

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

dicyclohexyl phthalate

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 phrases

H241 Heating may cause a fire or explosion.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H360D May damage the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects
H412 Harmful to aquatic life with long lasting effects.

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
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
Org. Perox. B: Organic Peroxides, Type B
Org. Perox. CD: Organic Peroxides, Types C, D
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Repr. 2: Reproductive toxicity, Hazard Category 2
Aquatic Acute 1: Hazardous to the aquatic environment – Acute Hazard, Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3