

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

· Trade name: **BPO-Paste (weiss)**

· 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:**

A.Förster & Co.KG

Esinger Steinweg 50

25436 Uetersen

Phone: +49 (0) 4122-3682; e-mail: info@foerster-co.de

· Further information obtainable from: Phone: +49 (0) 4122-3682; e-mail: info@foerster-co.de

1.4 Emergency telephone number:

Giftinformationszentrum (GIZ)-Nord, Goettingen, Deutschland

Phone: +49 (0)551 19240

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

· Classification according to Regulation (EC) No 1272/2008



GHS02 flame

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



GHS08 health hazard

STOT RE 2 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

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

(Contd. on page 2)

Trade name: **BPO-Paste (weiss)**

(Contd. of page 1)



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **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** Warning

· **Hazard-determining components of labelling:**

dibenzoyl peroxide
dibutyl maleate

· **Hazard statements**

H242 Heating may cause a fire.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
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.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P220 Keep apart from dirt, rust, chemicals, especially reducing substances, acids, alkaline solutions, amines and heavy metal compounds (such as accelerator, dessicative, metal soaps).
P273 Avoid release to the environment.
P234 Keep only in original container.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P410 Protect from sunlight.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

Flammable.
Risk of fire on contact with combustible substances or other substances effective in promoting the decomposition reaction.
Fire propagating effect due to oxygen release.
Thermal decomposition with temperatures above 50 °C (SADT)
Pls. refer to section 10

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

(Contd. on page 3)

Trade name: **BPO-Paste (weiss)**

(Contd. of page 2)

· **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 Reg.nr.: 01-2119511472-50	dibenzoyl peroxide ----- ⚠️ ⚠️ Org. Perox. B, H241; ⚠️ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); ⚠️ Eye Irrit. 2, H319; Skin Sens. 1, H317	50-75%
CAS: 105-76-0 EINECS: 203-328-4	dibutyl maleate ----- ⚠️ STOT RE 2, H373; ⚠️ Skin Sens. 1, H317	20-<25%

· **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**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Immediately remove any clothing soiled by the product.

· **After inhalation:**

Supply fresh air or oxygen; call for 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.

If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **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.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **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 product promotes combustion.

May decompose explosively in absence of fire due to formation of vapour-air-mixture.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

· **Additional information**

Remove undamaged containers from the danger zone.

(Contd. on page 4)

Trade name: BPO-Paste (weiss)

(Contd. of page 3)

Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Use suitable respiratory protective device in case of insufficient ventilation.
Avoid contact with the eyes and skin.
Keep away from ignition sources.
Pls. refer to section 10

· 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:

Collect with an inert, non-combustible, absorbent material (i.e. sand, diatomaceous earth, acid binder, universal binder).
Do not seal receptacle gas tight.
Dispose contaminated material as waste according to item 13.
Pls. refer to section 10

· 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.
Keep receptacles tightly sealed.
Open and handle receptacle with care.
Do not return unused material to original containers – decomposition hazard!
Restrict the quantity stored at the work place.
Resistant to inert materials only.
Suitable materials: Stainless steel (DIN 1.4571), PVC, polyethylene, glass-lined apparatus.
Keep apart from dirt, rust, chemicals, especially reducing substances, acids, alkaline solutions, amines and heavy metal compounds (such as accelerator, dessicative, metal soaps). Avoid naked flames, sparks, other ignition sources and sunlight.
Do not mix with accelerators or reducing agents.
Weigh out and mix separately when processing polyester resins.
Avoid storage in containers with an airtight closure to prevent hazardous pressure build-up due to an eventual decomposition.
Avoid contact with the eyes and skin.
Ensure good ventilation/exhaustion at the workplace.
Do not inhale gases / fumes / aerosols.
Adhere to the workplace limit values and / or other threshold values.
Avoid release to the environment.

· Information about fire - and explosion protection:

Protect from heat.
Keep ignition sources away - Do not smoke.
Prevent impact and friction.
Thermal decomposition with temperatures above 50 °C under formation of explosive vapours/gases
Avoid naked flames, sparks, other ignition sources and sunlight.
Protect against electrostatic charges.
Anti-explosion protection required

(Contd. on page 5)

Trade name: BPO-Paste (weiss)

(Contd. of page 4)

Fumes can combine with air to form an explosive mixture.
Fire propagating effect due to oxygen release.
Keep apart from incompatible substances, dirt and high temperatures.
Pls. refer to section 10

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· 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.
Adhere to the provisions of the Law on Water Protection.
Use only receptacles specifically permitted for this substance/product.

· Information about storage in one common storage facility:

Keep apart from other chemicals, in particular from accelerators.
Store away from foodstuffs.

· Further information about storage conditions:

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.

· Maximum storage temperature: +25 °C

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/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:

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	Long-term exposure - systemic effects	1.65 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	3.3 mg/kg bw/day (general population) 6.6 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	2.9 mg/m ³ (general population) 11.75 mg/m ³ (worker)

· PNECs

94-36-0 dibenzoyl peroxide

PNEC aqua	0.000602 mg/l (freshwater) 0.000602 mg/l (marine water) 0.000602 mg/l (intermittent releases)
PNEC sediment	0.338 mg/kg (freshwater) 0.0338 mg/kg (marine water)
PNEC STP	0.35 mg/l
PNEC soil	0.0758 mg/kg (soil dw)

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

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Do not eat, drink, smoke or sniff while working.

(Contd. on page 6)

Trade name: BPO-Paste (weiss)

(Contd. of page 5)

Avoid contact with the eyes and skin.
After contact with skin, wash immediately with plenty of soap and water.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing.
Use skin protection cream for skin protection.
If skin irritation occurs: Get medical advice/attention.

· **Respiratory protection:**

Adhere to the workplace limit values and / or other threshold values.
Use suitable respiratory protective device in case of insufficient ventilation.
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.
Filter A/P2

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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. 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.

Butyl rubber, BR

Neoprene gloves

· **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:	Pasty
Colour:	White
Odour:	Characteristic

· **Change in condition**

Initial boiling point and boiling range: Not applicable

· **Flash point:** Not applicable.

· **Ignition temperature:** Not applicable

· **Decomposition temperature:** 50 °C (SADT)

(Contd. on page 7)

Trade name: BPO-Paste (weiss)

(Contd. of page 6)

- | | |
|--|--|
| · Auto-ignition temperature: | Pls. refer to section 10 |
| · Explosive properties: | Pls. refer to section 10 |
| · Density: | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No decomposition if used and stored according to specifications.
- **10.2 Chemical stability**
Resistant to inert materials only.
Suitable materials: Stainless steel (DIN 1.4571), PVC, polyethylene, glass-lined apparatus.
Thermal decomposition with temperatures above 50 °C (SADT)
- **10.3 Possibility of hazardous reactions**
Thermal decomposition or direct contact with numerous additives, such as reducing agents (i.e. amine accelerator), heavy metal compounds (in particular cobalt accelerators), acids and alkaline solutions, may lead to hazardous, autoaccelerating decomposition reactions, and possibly, to explosion or fire.
- **10.4 Conditions to avoid**
Avoid naked flames, sparks, other ignition sources and sunlight.
Protect from heat.
>25 °C
To avoid thermal decomposition do not overheat.
- **10.5 Incompatible materials:**
Keep apart from dirt, rust, chemicals, especially reducing substances, acids, alkaline solutions, amines and heavy metal compounds (such as accelerator, desiccative, metal soaps)
Avoid any direct contact with accelerators.
- **10.6 Hazardous decomposition products:**
Formation of various organic degradation products and inflammable and explosive vapours/gases upon decomposition.
Danger of forming toxic pyrolysis products.

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	> 5000 mg/kg (rat)
Inhalative	LC50 /4h	> 24.3 mg/l (rat) (vapour)

105-76-0 dibutyl maleate

Oral	LD50	3730 mg/kg (rat)
Dermal	LD50	10000 mg/kg (rabbit)
Inhalative	LC 50 / 4h	> 5 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Repeated exposure may cause skin dryness or cracking.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Additional toxicological information:** No further relevant information available.
- **Sensitisation**
Sensitisation possible through skin contact.

(Contd. on page 8)

Trade name: BPO-Paste (weiss)

(Contd. of page 7)

- May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
No further relevant information available.
- **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**
May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **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

<i>M Factor</i>	10 (acute) 10 (chronic)
<i>EC10</i>	0.001 mg/l (daphnia magna) (21d)
<i>EC50/48h</i>	0.11 mg/l (daphnia) (OECD TG 202)
<i>EC50/72h</i>	0.0711 mg/l (algae) (OECD TG 201)
<i>LC50/96h</i>	0.0602 mg/l (oncorhynchus mykiss) (OECD TG 203)
<i>NOEC</i>	0.02 mg/l (Pseudokirchneriella subcapitata) (72h) 0.0316 mg/l (fish) (96h)

105-76-0 dibutyl maleate

<i>EC10</i>	1003 mg/l (pseudomonas putida) (6h)
<i>EC50/48h</i>	21.0 mg/l (daphnia magna)
<i>EC50/72h</i>	6.2 mg/l (scenedesmus subspicatus)
<i>LC50</i>	1.2 mg/l (oncorhynchus mykiss) (48h)

· **12.2 Persistence and degradability**

94-36-0 dibenzoyl peroxide

<i>Biodegradation</i>	71 % (28 d, OECD TG 301 D)
-----------------------	----------------------------

105-76-0 dibutyl maleate

<i>Biodegradation</i>	95 % (activated sludge) (19 days)
-----------------------	-----------------------------------

· **12.3 Bioaccumulative potential**

94-36-0 dibenzoyl peroxide

<i>log Kow</i>	3.2 (OECD TG 117)
<i>BCF</i>	66.6

105-76-0 dibutyl maleate

<i>log Pow</i>	3.38
----------------	------

· **Behaviour in environmental systems:**

· **12.4 Mobility in soil**

94-36-0 dibenzoyl peroxide

<i>log Koc</i>	3.8 (OECD TGD 121)
----------------	--------------------

· **Additional ecological information:**

· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

· **PBT:** Not applicable.

(Contd. on page 9)

Trade name: BPO-Paste (weiss)

(Contd. of page 8)

- **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.
Disposal must be made according to official regulations.
Dilute product with suitable inert liquid to a peroxide concentration below 10% and subsequently dispose of according to the refuse disposal act.
- **Waste disposal key:**
The waste codes given above are to be considered recommendations; because of regional and industrial sector specific features, application of different waste codes is possible.

- **European waste catalogue**

16 05 06*	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
-----------	--

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN3108
- **14.2 UN proper shipping name**
- **ADR** 3108 ORGANIC PEROXIDE TYPE E, SOLID (dibenzoyl peroxide), ENVIRONMENTALLY HAZARDOUS
- **IMDG, IATA** ORGANIC PEROXIDE TYPE E, SOLID (dibenzoyl peroxide)
- **14.3 Transport hazard class(es)**
- **ADR**
- 
- **Class** 5.2 Organic peroxides.
- **Label** 5.2
- **IMDG, IATA**
- 
- **Class** 5.2 Organic peroxides.
- **Label** 5.2
- **14.4 Packing group**
- **ADR, IMDG, IATA** Void
- **14.5 Environmental hazards:**
- **Special marking (ADR):** Symbol (fish and tree)
- **14.6 Special precautions for user** Warning: Organic peroxides.
- **EMS Number:** F-J,S-R

(Contd. on page 10)

Trade name: BPO-Paste (weiss)

(Contd. of page 9)

· Stowage Category	D
· Stowage Code	SW1 Protected from sources of heat.
· Segregation Code	SG35 Stow "separated from" acids. SG36 Stow "separated from" alkalis.

· 14.7 Transport in bulk according to Annex II of Marpol 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
· Tunnel restriction code	D

· IMDG	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity

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
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **Other regulations, limitations and prohibitive regulations**
Adhere to the Ordinances on the Prohibition of Certain Chemicals.
- **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.

- **Relevant phrases**
H241 Heating may cause a fire or explosion.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
- **Classification according to Regulation (EC) No 1272/2008**
Org. Perox.,H242
Eye Irrit.2,H319
Skin. Sens.1,H317
STOT RE 2,H373
Aquatic Acute 1, H400
Aquatic Chronic 1,H410
- **Classification procedure**
On basis of test data
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

(Contd. on page 11)

Trade name: BPO-Paste (weiss)

(Contd. of page 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)

ICAO: International Civil Aviation Organisation

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

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

· * Data compared to the previous version altered.