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

1.1. Product identifier

Product form : Mixture
Product name : BPOBFC-R
Product group : BPO Hardener

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

1.2.1. Relevant identified uses

Intended for general public
Industrial/Professional use spec : Intended for general public

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

U-POL LIMITED
Denington Road, Wellingborough
NN8 2QH - UK
T +44 (0) 1933 230310 - F +44 (0) 1933 425797
technical.department@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : +44 (0) 870 8200418

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sensitisation — Skin, Category 1 : H317
Hazardous to the aquatic environment — Acute Hazard, Category 1 : H400
Hazardous to the aquatic environment — Chronic Hazard, Category 3 : H412

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS07
GHS09

Signal word (CLP) : Warning
Hazardous ingredients : dibenzoyl peroxide, benzoyl peroxide
Hazard statements (CLP) : H317 - May cause an allergic skin reaction
 : H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (CLP) : P102 - Keep out of reach of children
 : P261 - Avoid breathing fume, vapours
 : P273 - Avoid release to the environment
 : P280 - Wear eye protection, protective clothing, protective gloves
 : P302+P352 - IF ON SKIN: Wash with plenty of soap and water
 : P312 - Call a doctor if you feel unwell
 : P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards
No additional information available
SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>dibenzoyl peroxide, benzoyl peroxide</td>
<td>(CAS No) 94-36-0 (EC no) 202-327-6 (EC index no) 617-008-00-0</td>
<td>5 - 23</td>
<td>Org. Perox. B, H241 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400</td>
</tr>
<tr>
<td>Benzoic Acid, Nonyl Ester, Branched and Linear</td>
<td>(CAS No) 670241-72-2</td>
<td>&lt; 5</td>
<td>Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation: Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. If skin irritation or rash occurs: Wash with plenty of soap and water. Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries after inhalation: May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture
No additional information available

5.3. Advice for firefighters
Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Remove ignition sources.

6.1.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Collect spillage.
6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing fume, vapours.

Hygiene measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep only in the original container in a cool, well ventilated place away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking, Keep cool. Keep container closed when not in use.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Sources of ignition. Direct sunlight.

Storage temperature: < 25 °C

Storage area: Store in a well-ventilated place.

Special rules on packaging: Keep only in original container.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
dibenzoyl peroxide, benzoyl peroxide (94-36-0)

<table>
<thead>
<tr>
<th>United Kingdom</th>
<th>Local name</th>
<th>Diobenzoyl peroxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>WEL TWA (mg/m³)</td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Materials for protective clothing:
Impermeable clothing

Hand protection:
Wear protective gloves

Eye protection:
Chemical goggles or safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Wear appropriate mask

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Colour: Beige.
Odour: characteristic.
Odour threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Non flammable
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Density : 1.6 - 1.7 g/cm³
Solubility : No data available
Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Explosive limits : No data available

9.2. Other information
SADT : 50 °C

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Not established.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
Strong acids. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified
Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
SECTION 12: Ecological information

12.1. Toxicity
Ecology - water: Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

| BPOBFC-R | Persistence and degradability | May cause long-term adverse effects in the environment. |

12.3. Bioaccumulative potential

| BPOBFC-R | Bioaccumulative potential | Not established. |

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
Additional information: Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to Dispose of at authorized waste collection point.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): 3082
UN-No. (IMDG): 3082
UN-No. (IATA): 3082
UN-No. (ADN): 3082
UN-No. (RID): 3082

14.2. UN proper shipping name
Proper Shipping Name (ADR): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IMDG): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IATA): Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name (ADN): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (RID): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport document description (ADR): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Benzoic Acid, Nonyl Ester, Branched and Linear ; dibenzoyl peroxide, benzoyl peroxide), 9, III, (E)

Transport document description (IMDG): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

Transport document description (IATA): UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III, ENVIRONMENTALLY HAZARDOUS

Transport document description (ADN): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, ENVIRONMENTALLY HAZARDOUS

Transport document description (RID): UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR): 9
Danger labels (ADR): 9
IMDG
Transport hazard class(es) (IMDG) : 9
Danger labels (IMDG) : 9

IATA
Transport hazard class(es) (IATA) : 9
Hazard labels (IATA) : 9

ADN
Transport hazard class(es) (ADN) : 9
Danger labels (ADN) : 9

RID
Transport hazard class(es) (RID) : 9
Danger labels (RID) : 9

14.4. Packing group
Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards
Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
Classification code (ADR) : M6
Special provisions (ADR) : 274, 335, 601, 375
Limited quantities (ADR) : 5l
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P001, IBC03, LP01, R001
Special packing provisions (ADR) : PP1
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Mixed packing provisions (ADR): MP19
Portable tank and bulk container instructions (ADR): T4
Portable tank and bulk container special provisions (ADR): TP1, TP29
Tank code (ADR): LGBV
Vehicle for tank carriage: AT
Transport category (ADR): 3
Special provisions for carriage - Packages (ADR): V12
Special provisions for carriage - Loading, unloading and handling (ADR): CV13
Hazard identification number (Kemler No.): 90
Orange plates

Tunnel restriction code (ADR): E
EAC code: •3Z

- Transport by sea
Special provisions (IMDG): 274, 335, 969
Limited quantities (IMDG): 5 L
Excepted quantities (IMDG): E1
Packing instructions (IMDG): P001, LP01
Special packing provisions (IMDG): PP1
IBC packing instructions (IMDG): IBC03
Tank instructions (IMDG): T4
Tank special provisions (IMDG): TP2, TP29
EmS-No. (Fire): F-A
EmS-No. (Spillage): S-F
Stowage category (IMDG): A

- Air transport
PCA Excepted quantities (IATA): E1
PCA Limited quantities (IATA): Y964
PCA limited quantity max net quantity (IATA): 30kgG
PCA packing instructions (IATA): 964
PCA max net quantity (IATA): 450L
CAO packing instructions (IATA): 964
CAO max net quantity (IATA): 450L
Special provisions (IATA): A97, A158, A197
ERG code (IATA): 9L

- Inland waterway transport
Classification code (ADN): M6
Special provisions (ADN): 274, 335, 375, 601
Limited quantities (ADN): 5 L
Excepted quantities (ADN): E1
Carriage permitted (ADN): T
Equipment required (ADN): PP
Number of blue cones/lights (ADN): 0

- Rail transport
Classification code (RID): M6
Special provisions (RID): 274, 335, 375, 601
Limited quantities (RID): 5L
Excepted quantities (RID): E1
Packing instructions (RID): P001, IBC03, LP01, R001
Special packing provisions (RID): PP1
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Other information : None.

Full text of H- and EUH-statements:

| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment — Chronic Hazard, Category 3 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Org. Perox. B | Organic Peroxides, Type B |
| Skin Sens. 1 | Sensitisation — Skin, Category 1 |
| 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 |
| H411 | Toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |

Skin Sens. 1

H317 Calculation method

Aquatic Acute 1

H400 Expert judgment

Aquatic Chronic 3

H412 Calculation method

UPOL SDS EU (no product code)

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