Material Safety Data Sheet
Benzoyl peroxide (wet)

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Benzoyl peroxide (wet)
**Synonyms:** Dibenzoyl peroxide; Benzoic acid peroxide; Benzoyl superoxide.

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>94-36-0</td>
<td>Benzoyl peroxide</td>
<td>67-75</td>
<td>202-327-6</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>25-33</td>
<td>231-791-2</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: white powder.

**Danger!** Risk of explosion by shock, friction, fire or other sources of ignition. Organic peroxide. Heat or contamination may cause hazardous decomposition. Peroxides and decomposition products are flammable and can ignite with explosive force if confined. Strong oxidizer. Contact with other material may cause a fire. Causes eye and skin irritation. May cause allergic skin reaction. May cause respiratory tract irritation.

**Target Organs:** Eyes, skin.

**Potential Health Effects**

**Eye:** Causes eye irritation. Causes redness and pain.

**Skin:** Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May be harmful if absorbed through the skin.

**Ingestion:** May cause irritation of the digestive tract. May be harmful if swallowed. May cause human systemic effects by ingestion: hallucinations, distorted perceptions, nausea or vomiting and kidney, ureter and bladder changes.

**Inhalation:** May cause respiratory tract irritation. May be harmful if inhaled. Decomposition products are toxic, and inhalation of these products can produce life threatening health effects.

**Chronic:** Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

---

**Section 5 - Fire Fighting Measures**

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. This material poses an explosion hazard when dry. This material is an explosion hazard when exposed to heat, mechanical shock, friction or when agitated.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam. Do NOT use halogenated agents.

**Flash Point:** Not applicable.

**Autoignition Temperature:** 380 deg C (716.00 deg F)

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 4; Instability: 4; Special Hazard: OX

---

**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Remove all sources of ignition. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill. Use only non-sparking tools and equipment. In the event of spillage, spilled material should be mixed with water-wetted vermiculite, swept up, and placed in a container for immediate disposal. Spilled material not immediately cleaned up may increase the fire hazard due to evaporation of water away from the Benzoyl peroxide.

---

**Section 7 - Handling and Storage**

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Use caution when opening. Can explode without warning when caps of old containers are unscrewed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat and flame. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep refrigerated. (Store below 4°C/39°F.)

---

**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoyl peroxide</td>
<td>5 mg/m³ TWA</td>
<td>5 mg/m³ TWA 1500 mg/m³ IDLH</td>
<td>5 mg/m³ TWA</td>
</tr>
<tr>
<td>Water</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

---

**Section 9 - Physical and Chemical Properties**

**Physical State:** Powder

**Appearance:** white

**Odor:** weak odor

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 104-106 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble in water.

**Specific Gravity/Density:** Not available.

**Molecular Formula:** (C₆H₅CO)₂O₂

**Molecular Weight:** 242.0676

---

**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures. Do not allow to dry. In its dry form, benzoyl peroxide is highly flammable and explosive, sensitive to friction, shock and heat, and must be handled with extreme caution. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by direct contact with incompatible substances or by thermal decomposition at and above the SADT (Self-Accelerating Decomposition Temp). SADT = 80°C.

**Conditions to Avoid:** Mechanical shock, ignition sources, excess heat, combustible materials, reducing agents, organic matter, temperatures above 38°C/100°F.

**Incompatibilities with Other Materials:** Reducing agents, strong acids, bases, amines, metals, accelerators, methyl methacrylate, carbon tetrachloride and ethylene, organic matter, N,N - dimethylaniline and lithium aluminum hydride. Benzoyl peroxide is self-reactive chemical which can even explode without warning when the caps of old jars are unscrewed. It is extremely important to keep it pure, contaminants can lead to hazardous, unexpected explosions.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, benzene, benzoic acid, Phenyl benzoate, Terphenyls and Biphenyls.

**Hazardous Polymerization:** Has not been reported.

---

**Section 11 - Toxicological Information**
RTECS#:  
CAS# 94-36-0: DM8575000  
CAS# 7732-18-5: ZC0110000  
LD50/LC50:  
CAS# 94-36-0:  
  Draize test, rabbit, eye: 500 mg/24H Mild;  
  Oral, mouse: LD50 = 1200 mg/kg;  
  Oral, rat: LD50 = 7710 mg/kg;  
  Oral, rat: LD50 = 6400 mg/kg;  

CAS# 7732-18-5:  
  Oral, rat: LD50 = >90 mL/kg;  

Carcinogenicity:  
CAS# 94-36-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.  
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.  

Epidemiology: No information found  
Teratogenicity: No information found  
Reproductive Effects: BP caused testicular atrophy in mice and/or rats exposed by the oral route.  
Neurotoxicity: No information found  
Other Studies: 

Section 12 - Ecological Information  
No information available.  

Section 13 - Disposal Considerations  
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
RCRA P-Series: None listed.  
RCRA U-Series: None listed.  

Section 14 - Transport Information  

| IATA |  
| --- | --- |  
| **Shipping Name:** | ORGANIC PEROXIDE TYPE C, SOLID | ORGANIC PEROXIDE TYPE C SOLID (BENZOYL PEROXIDE) |  
| **Hazard Class:** | 5.2 | 5.2 |  
| **UN Number:** | UN3104 | UN3104 |  
| **Packing Group:** | II | II |
Section 15 - Regulatory Information

Hazard Symbols:
XI E

Risk Phrases:
R 2 Risk of explosion by shock, friction, fire or other sources of ignition.
R 36 Irritating to eyes.
R 43 May cause sensitization by skin contact.

Safety Phrases:
S 14 Keep away from ... (incompatible materials to be indicated by the manufacturer).
S 3 Keep in a cool place.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 7 Keep container tightly closed.
S 14A Keep away from acids, reducing agents and polymerisation catalysts.

Section 16 - Additional Information

MSDS Creation Date: 8/03/1998
Revision #6 Date: 8/15/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall INDO GULF GROUP be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if INDO GULF GROUP has been advised of the possibility of such damages.