MATERIAL SAFETY DATA SHEET
Phthalic anhydride

Section 1 - Chemical Product and Company Identification

MSDS Name: Phthalic anhydride
Catalog Numbers: 15496-0000, 15496-0010, 15496-0025, 15496-0050, 15496-2500, 22088-1000, 42332-0000, 42332-0200, 42332-0250, 42332-5000
Synonyms: 1,3-Isobenzofurandione

Company Identification:
Acros Organics BVBA
Janssen Pharmaceuticaan 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS#</th>
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<tr>
<td>85-44-9</td>
<td>Phthalic anhydride</td>
<td>99%</td>
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Hazard Symbols: XN

Risk Phrases: 22 37/38 41 42/43

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. May cause sensitization by inhalation and skin contact.

Potential Health Effects
Eye: Risk of serious damage to eyes.
Skin: Causes skin irritation. May cause sensitization by skin contact.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: Causes respiratory tract irritation. May cause respiratory sensitization.
Chronic: May cause liver and kidney damage. Repeated exposure may cause sensitization dermatitis. Repeated exposure may cause allergic respiratory reaction (asthma).
Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid. Wash mouth out with water.

**Inhalation:** Get medical aid immediately. 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. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

**Handling:** Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

**Storage:** Store in a cool, dry place. Store in a tightly closed container.

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 ventilation to keep airborne concentrations low.

**Exposure Limits**

- **CAS# 85-44-9:**
  - United Kingdom, WEL - TWA: 4 mg/m³ TWA United Kingdom, WEL - STEL: 12 mg/m³ STEL
  - United States OSHA: 2 ppm TWA; 12 mg/m³ TWA
  - Belgium - TWA: 1 ppm VLE; 6.2 mg/m³ VLE
  - France - VLE: 6 mg/m³ VLE
  - Germany: 1 mg/m³ TWA (inhalable fraction)
  - Japan: 0.33 ppm Ceiling; 0.2 mg/m³ Ceiling
  - Malaysia: 1 ppm TWA; 6.1 mg/m³ TWA
  - Netherlands: 2 mg/m³ STEL Netherlands: 1 mg/m³ MAC
  - Spain: 1 ppm VLA-ED; 6 mg/m³ VLA-ED

**Personal Protective Equipment**

**Eyes:** Wear chemical splash goggles.

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

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

**Physical State:** Flakes  
**Color:** white  
**Odor:** Not available  
**pH:** 2 (6 g/l aq.sol.)  
**Vapor Pressure:** 0.01 mbar @20 deg C  
**Viscosity:** 6.4 mP @197 deg C  
**Boiling Point:** 284 deg C @760mmHg (543.20°F)  
**Autoignition Temperature:** 580 deg C (1,076.00 deg F)  
**Flash Point:** 152 deg C (305.60 deg F)  
**Explosion Limits: Lower:** 1.7 Vol %  
**Explosion Limits: Upper:** 10.5 Vol %  
**Decomposition Temperature:** Not available  
**Solubility in water:** 6 g/l (20°C)  
**Specific Gravity/Density:**  
  **Molecular Formula:** C8H4O3  
  **Molecular Weight:** 148.12

Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials, exposure to moist air or water.  
**Incompatibilities with Other Materials**  
  Strong oxidizing agents, strong reducing agents, strong acids, strong bases, nitric acid, sodium nitrate.  
**Hazardous Decomposition Products**  
  Carbon monoxide, carbon dioxide.  
**Hazardous Polymerization**  
  Will not occur.

Section 11 - Toxicological Information

**RTECS#:** CAS# 85-44-9: TI3150000  
**LD50/LC50:**  
  **RTECS:**  
  **CAS# 85-44-9:** Draize test, rabbit, eye: 50 mg/24H Moderate;  
  Inhalation, rat: LC50 = >210 mg/m3/1H;  
  Oral, mouse: LD50 = 1500 mg/kg;  
  Oral, rat: LD50 = 1530 mg/kg;  
  Skin, rabbit: LD50 = >10 gm/kg;  
  Other:  
**Carcinogenicity:** Phthalic anhydride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
**Other:** See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

**Ecotoxicity:**  
  Fish: Leuciscus idus: LC50 313mg/l; 48h; .  
**Other:** Do not empty into drains.
biodegradability: 99%/14d

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

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<th>IATA</th>
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<td>Not regulated as a hazardous material</td>
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<td><strong>Packing Group:</strong></td>
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</tbody>
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USA RQ: CAS# 85-44-9: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

**European/International Regulations**

European Labeling in Accordance with EC Directives

- **Hazard Symbols:** XN
- **Risk Phrases:**
  - R 22 Harmful if swallowed.
  - R 37/38 Irritating to respiratory system and skin.
  - R 41 Risk of serious damage to eyes.
  - R 42/43 May cause sensitization by inhalation and skin contact.

- **Safety Phrases:**
  - S 22 Do not breathe dust.
  - S 24/25 Avoid contact with skin and eyes.
  - S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - S 37/39 Wear suitable gloves and eye/face protection.
  - S 46 If swallowed, seek medical advice immediately and show this container or label.

**WGK (Water Danger/Protection)**

- CAS# 85-44-9: 0

**Canada**

- CAS# 85-44-9 is listed on Canada's DSL List

**US Federal**

- **TSCA**
  - CAS# 85-44-9 is listed on the TSCA Inventory.

Section 16 - Other Information

**MSDS Creation Date:** 7/16/1996

**Revision #2 Date** 6/17/2008

Revisions were made in Sections: 1, 2, 3, 4, 6, 8, 9, 12, 14

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