Material Safety Data Sheet
1,4-Cyclohexanedicarboxylic Acid, 96% (Titr.)

MSDS# 47678

Section 1 - Chemical Product and Company Identification
MSDS Name: 1,4-Cyclohexanedicarboxylic Acid, 96% (Titr.)
Catalog Numbers: AC406040000, AC406040050, AC406041000
Synonyms: Hexahydroterephthalic Acid

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticalaan 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
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>1076-97-7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name:</td>
<td>1,4-Cyclohexanedicarboxylic Acid</td>
</tr>
<tr>
<td>%:</td>
<td>96</td>
</tr>
<tr>
<td>EINECS#:</td>
<td>214-068-6</td>
</tr>
</tbody>
</table>

Hazard Symbols: None listed
Risk Phrases: None listed

Section 3 - Hazards Identification
EMERGENCY OVERVIEW
Caution! The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Target Organs: None known.

Potential Health Effects
Eye: May cause eye irritation. The toxicological properties of this material have not been fully investigated.
Skin: May cause skin irritation. The toxicological properties of this material have not been fully investigated.
Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.
Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

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. Wash clothing before reuse.
Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If
Ingestion: 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:

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: Not available

Flash Point: Not available

Explosion Limits: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 1; flammability: 0; instability: 0;

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. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4-Cyclohexanedicarboxylic Acid</td>
<td>none listed</td>
<td>none listed</td>
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</tbody>
</table>

OSHA Vacated PELs: 1,4-Cyclohexanedicarboxylic Acid: None listed

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

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.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a Respirators: 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: Powder

Color: white
**Odor:** Not available

**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:** > 300 deg C (> 572.00°F)

**Decomposition Temperature:** Not available

**Solubility in water:** soluble

**Specific Gravity/Density:**

**Molecular Formula:** C₈H₁₂O₄

**Molecular Weight:** 172.18

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**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, strong oxidants.

**Incompatibilities with Other Materials:** Not available

**Hazardous Decomposition Products:** Carbon monoxide, carbon monoxide, carbon dioxide.

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

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**Section 11 - Toxicological Information**

**RTECS#:** CAS# 1076-97-7: GU9060000

**LD₅₀/LC₅₀:** RTECS: Not available.

**Carcinogenicity:** 1,4-Cyclohexanedicarboxylic Acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Other:** See actual entry in RTECS for complete information.

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**Section 12 - Ecological Information**

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**Section 13 - Disposal Considerations**

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

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**Section 14 - Transport Information**

**US DOT**

**Shipping Name:** Not regulated as a hazardous material

**Hazard Class:**

**UN Number:**

**Packing Group:**

**Canada TDG**

**Shipping Name:** Not available

**Hazard Class:**

**UN Number:**

**Packing Group:**

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**Section 15 - Regulatory Information**

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:** Not available

**Risk Phrases:**

**Safety Phrases:**

S 24/25 Avoid contact with skin and eyes.

S 28A After contact with skin, wash immediately with plenty of water.

S 37 Wear suitable gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)
CAS# 1076-97-7: Not available

Canada
CAS# 1076-97-7 is listed on Canada's DSL List
Canadian WHMIS Classifications: Not available
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
CAS# 1076-97-7 is not listed on Canada's Ingredient Disclosure List.

US Federal
TSCA
CAS# 1076-97-7 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 1/13/1999
Revision #5 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 the company 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 the company has been advised of the possibility of such damages.

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