Material Safety Data Sheet
beta-Butyrolactone, 98+% 

ACC# 30174

Section 1 - Chemical Product and Company Identification

**MSDS Name:** beta-Butyrolactone, 98+%  
**Catalog Numbers:** AC204280000, AC204282500  
**Synonyms:** 3-Hydroxybutyric acid beta-lactone

**Company Identification:**  
Acros Organics N.V.  
One Reagent Lane  
Fair Lawn, NJ 07410  
For information in North America, call: 800-ACROS-01  
For emergencies in the US, call CHEMTREC: 800-424-9300

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>3068-88-0</td>
<td>beta-Butyrolactone, 98+%</td>
<td>98+%</td>
<td>221-330-3</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: clear, colorless liquid. Flash Point: 60 deg C.  
**Warning!** Combustible liquid. **Flammable liquid and vapor.** Causes eye and skin irritation. Causes digestive and respiratory tract irritation. Cancer suspect agent.  
**Target Organs:** None.

**Potential Health Effects**  
**Eye:** Causes eye irritation.  
**Skin:** Causes skin irritation.  
**Ingestion:** Causes gastrointestinal irritation with nausea, vomiting and diarrhea.  
**Inhalation:** Causes respiratory tract irritation.  
**Chronic:** May cause cancer according to animal studies.

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.  
**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.  
**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk.
or water. Never give anything by mouth to an unconscious person. Get medical aid.

**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.

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### 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.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use agent most appropriate to extinguish fire.

**Flash Point:** 60 deg C (140.00 deg F)

**Autoignition Temperature:** Not available.

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

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 0

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### Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal.

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### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

**Storage:** Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container.

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### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

**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>beta-Butyrolactone, 98+%</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** beta-Butyrolactone, 98+%; No OSHA Vacated PELs are listed for this chemical.

**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.

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: Liquid
Appearance: clear, colorless
Odor: Not available.
PpH: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 71 - 73 deg C @ 29.00mm Hg
Freezing/Melting Point: -43.5 deg C
Decomposition Temperature: Not available.
Solubility: Not available.
Specific Gravity/Density: 1.0560g/cm3
Molecular Formula: C4H6O2
Molecular Weight: 86.09

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Mechanical shock, incompatible materials, ignition sources, temperatures above 65°C.
Incompatibilities with Other Materials: Strong oxidizing agents and strong bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: 
CAS# 3068-88-0: RQ8050000
LD50/LC50:
CAS# 3068-88-0:
  Oral, rat: LD50 = 17200 uL/kg;
  Skin, rabbit: LD50 = >20 mL/kg;

Carcinogenicity:
CAS# 3068-88-0:

- **ACGIH**: Not listed.
- **California**: carcinogen, initial date 7/1/87
- **NTP**: Not listed.
- **IARC**: Group 2B carcinogen

**Epidemiology**: No information available.
**Teratogenicity**: No information available.
**Reproductive Effects**: No information available.
**Mutagenicity**: om-sat 130 æg/l dnd-mam:lym 10 mmol/l
**Neurotoxicity**: No information available.
**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**

<table>
<thead>
<tr>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name</strong></td>
<td><strong>FLAMMABLE LIQUIDS, N.O.S.</strong></td>
</tr>
<tr>
<td><strong>Hazard Class</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>UN Number</strong></td>
<td>UN1993</td>
</tr>
<tr>
<td><strong>Packing Group</strong></td>
<td>III</td>
</tr>
</tbody>
</table>

**Section 15 - Regulatory Information**

**US FEDERAL**

**TSCA**

CAS# 3068-88-0 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**
None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**
None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**
None of the chemicals in this product have a TPQ.

**Section 313**
No chemicals are reportable under Section 313.

**Clean Air Act:**
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**
CAS# 3068-88-0 can be found on the following state right to know lists: California, Pennsylvania, Minnesota, Massachusetts.

**California Prop 65**
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

**WARNING:** This product contains beta-Butyrolactone, 98+%, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: CAS# 3068-88-0: 0.7 ð/ day NSRL

**European/International Regulations**
**European Labeling in Accordance with EC Directives**
**Hazard Symbols:**
XN

**Risk Phrases:**
R 40 Limited evidence of a carcinogenic effect.

**Safety Phrases:**
S 36/37 Wear suitable protective clothing and 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# 3068-88-0: No information available.

**Canada - DSL/NDSL**
CAS# 3068-88-0 Is listed on Canada's NDSL List.

**Canada - WHMIS**
This product has a WHMIS classification of B3, D2A.
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.

**Canadian Ingredient Disclosure List**
CAS# 3068-88-0 Is listed on the Canadian Ingredient Disclosure List.
Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #4 Date: 10/03/2005

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 Fisher 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 Fisher has been advised of the possibility of such damages.