

# SAFETY DATA SHEET

**Preparation Date:** 02/03/2015

**Revision Date:** Not Applicable

**Revision Number:** Not Applicable

**Product identifier**

**Product code:** B1492  
**Product Name:** beta-Butyrolactone

**Other means of identification**

**Synonyms:** 4-Methyl-2-oxetanone;  $\beta$ -Methylpropiolactone  
**CAS #:** 3068-88-0  
**RTECS #** RQ8050000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Flammable liquids	Category 3

**Label elements**

## Warning

### Hazard statements

Causes skin irritation  
Suspected of causing genetic defects  
Suspected of causing cancer  
Flammable liquid and vapor



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/ .? /equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Wear protective gloves/protective clothing/eye protection/face protection

### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
Specific treatment (see .? on this label)  
In case of fire: Use CO2, dry chemical, or foam to extinguish.  
If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

### Precautionary Statements - Storage

Store locked up  
Store in a well-ventilated place. Keep cool

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

beta-Butyrolactone 3068-88-0	3068-88-0	100	*
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### 4. FIRST AID MEASURES

#### First aid measures

##### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

##### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

##### **Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention.

##### **Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

##### **Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

#### **Most important symptoms and effects, both acute and delayed**

##### **Symptoms**

Causes skin irritation. Skin contact may result in redness, pain, inflammation, itching, scaling. May cause heritable genetic damage in humans. May cause cancer.

#### **Indication of any immediate medical attention and special treatment needed**

##### **Notes to Physician:**

Treat symptomatically

#### **Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

### 5. FIRE-FIGHTING MEASURES

#### **Extinguishing Media**

##### **Suitable Extinguishing Media:**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray. Alcohol-resistant foam.

##### **Unsuitable Extinguishing Media:**

Do not use a solid (straight) water stream as it may scatter and spread fire.

#### **Specific hazards arising from the chemical**

##### **Hazardous Combustion Products:**

Carbon oxides

##### **Specific hazards:**

Flammable  
May be ignited by heat, sparks or flames  
Container explosion may occur under fire conditions or when heated  
Vapor may travel considerable distance to source of ignition and flash back  
Vapors may form explosive mixtures with air  
Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks)

#### **Special Protective Actions for Firefighters**

<b>Specific Methods:</b>	Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.
<b>Special Protective Equipment for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal Precautions:</b>	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.
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<b><u>Environmental precautions</u></b>	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.
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<b>Methods for cleaning up</b>	Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.
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## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

**Safe Handling Advice:**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area. Keep away from heat and sources of ignition.

**Incompatible Materials:**

Oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

## National occupational exposure limits

### United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
beta-Butyrolactone - 3068-88-0	None	None	None	None

### Canada

Components	Alberta	British Columbia	Ontario	Quebec
beta-Butyrolactone - 3068-88-0	None	None	None	None

### Australia and Mexico

Components	Australia	Mexico
beta-Butyrolactone 3068-88-0	None	None

## Appropriate engineering controls

### Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

## Individual protection measures, such as personal protective equipment

### Personal Protective Equipment

- Eye protection:** Goggles Safety glasses with side-shields
- Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available	<b>Color:</b> Colorless. Pale Yellow.
<b>Odor:</b> Mint-like.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 86.09
<b>Formula:</b> C4H6O2	<b>Flammability (solid, gas):</b> No information available	<b>Flash point (°C):</b> No data available
<b>Flashpoint (°C/°F):</b> 60°C/140°F	<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available
<b>Melting point/range(°C/°F):</b> -44°C/-47°F	<b>Boiling point/range(°C/°F):</b> 87°C/189°F @ 6.7 kPa	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Bulk density:</b> No information available	<b>Specific gravity:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> 220 Pa @ 25°C
<b>Density (g/cm3):</b> 1.05	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> -0.38
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> Soluble in organic solvents Solubility in Water: 43g/100mL @ 16°C/61°F

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### Chemical stability

**Stability:** Stable under recommended storage conditions

**Possibility of Hazardous Reactions:** In use, may form flammable/explosive vapor-air mixture

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Oxidizing agents.

**Hazardous decomposition products:** Carbon oxides.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Eyes. Ingestion. Inhalation. Skin.

### Acute Toxicity

#### Component Information

*beta-Butyrolactone - 3068-88-0*

**LD50/oral/rat** = = 17200 µL/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rat** = No information available  
**LD50/dermal/rabbit** = >20 mL/kg  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

#### Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = 17200µL/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = >20mL/kg

**LD50/dermal/rat**  
**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

### Symptoms

<b>Skin Contact:</b>	Causes skin irritation.
<b>Eye Contact:</b>	May cause eye irritation.
<b>Inhalation</b>	May cause irritation of respiratory tract.
<b>Ingestion</b>	Health injuries are not known or expected under normal use.
<b>Aspiration hazard</b>	No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** No information available

**Sensitization:** No information available

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Possibly carcinogenic to humans. May cause cancer.

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
beta-Butyrolactone	Not listed	Monograph 71 [1999] Supplement 7 [1987] Monograph 11 [1976]	Not listed	Present	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target Organs:** No information available

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.  
**Persistence and degradability:** No information available  
**Bioaccumulative potential:** No information available  
**Mobility:** No information available

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**  
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**  
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
beta-Butyrolactone	None	None	None	None



## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquids, n.o.s. (beta-Butyrolactone)  
**Hazard Class:** 3  
**Subsidiary Risk:**  
**Packing Group:** III  
**ERG No:** 128  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Symbol(s):** G

### TDG (Canada)

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquid, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### ADR

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquid, n.o.s.  
**Hazard Class:** 3  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquid, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-E  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquid, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquid, n.o.s.

**14. TRANSPORT INFORMATION**

**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

**IATA**

**UN-No:** UN1993  
**Proper Shipping Name:** Flammable liquid, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 3L  
**Description:** No information available

**15. REGULATORY INFORMATION****International Inventories**

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>beta-Butyrolactone</i>	Present	Not present	Not present	Present (5)-12	Present	Present	Present 221-330-3

**U.S. Regulations***beta-Butyrolactone*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 3220  
**Pennsylvania RTK:** Special hazardous substance  
**Pennsylvania RTK - Special Hazardous Substances:** Present  
**Minnesota - Hazardous Substance List:** Present  
**California Directors List of Hazardous Substances:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.****Chemicals Known to the State of California to Cause Cancer:**

WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>beta-Butyrolactone</i>	carcinogen	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>beta-Butyrolactone</i>	None	None	None	None	None

**U.S. TSCA**

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>beta-Butyrolactone</i>	Not Applicable	Not Applicable

**Canada**

**WHMIS hazard class:**

B2 Flammable liquid  
 D2B Toxic materials

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
beta-Butyrolactone	1 %

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
beta-Butyrolactone	Not Listed	Present

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
beta-Butyrolactone	Not listed	Not listed

**EU Classification****R-phrase(s)**

not determined (not applicable)

**S -phrase(s)**

none

Components	Classification	Concentration Limits:	Safety Phrases
beta-Butyrolactone		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

None.

**16. OTHER INFORMATION**

## 16. OTHER INFORMATION

**Preparation Date:** 02/03/2015  
**Revision Date:** Not Applicable  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**