



## Material Safety Data Sheet

### *Section 1 - Chemical Product and Company Identification*

MSDS Name: (S)-2-Hydroxybutanoic acid  
Synonyms:  
Company Identification: MICScientific Ltd.  
Room 4-903, SBI Building 12A  
Dongxin Road, East Lake Hi-tech Development Zone  
Wuhan430074, China  
Telephone Number: +86-27-87861439  
Fax Number: +86-27-87861443  
Emergency Number: +86-27-63836393

### *Section 2 - Product Information*

Catalog Number: MS100570  
CAS Number: 3347-90-8  
MDL Number: MFCD01318568  
EC Number: Unlisted  
Molecular Formula:  $C_4H_8O_3$   
Molecular Weight: 104.10  
Purity: 97.0%

### *Section 3 - Physical and Chemical Properties*

Physical state: Crystals  
Color: White  
Odor: Not available  
Freezing/Melting Point: 50-54 deg C  
Boiling Point: Not available  
Flash Point: Not available  
Autoignition Temperature: Not available  
Refractive Index ( $n_D^{20}$ ): Not available  
Density: Not available  
Decomposition Temperature: Not available  
Solubility: Not available

### *Section 4 - Hazards Identification*

Eye: Causes eye irritation.  
Skin: Causes skin irritation. Harmful if absorbed through the skin.  
Ingestion: May cause irritation of the digestive tract. Toxic if swallowed.



*Inhalation:* May be harmful if inhaled. Causes respiratory tract irritation.

### ***Section 5 - First Aid Measures***

*Eye:* 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 and soap for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.

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

### ***Section 6 - Stability and Reactivity***

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

*Materials to avoid:* Strong oxidizing agents.

*Conditions to Avoid:* Incompatible materials.

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

*Hazardous Polymerization:* Will not occur.

### ***Section 7 - Handling and Storage***

*Handling:* Avoid breathing dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required.

*Storage:* Store in a cool, dry well ventilated place away from sources of heat and incompatible substances. Keep container tightly closed when not in use.

### ***Section 8 - Personal Protection***

*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 - Fire and Explosion Hazard Data***

*General Information:* As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.

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

### ***Section 10 - 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.

### ***Section 11 - Toxicological Information***

RTECS#: CAS#3347-90-8: Not available

LD50/LC50: RTECS: Not available.

Carcinogenicity: (S)-2-Hydroxybutanoic acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

### ***Section 12 - Environmental information***

Not available

### ***Section 13 - Disposal Consideration***

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

### ***Section 14 - Transport Information***

	<b>IATA</b>	<b>IMO</b>	<b>RID/ADR</b>
<b>Shipping Name:</b>	Not available	Not available	Not available
<b>Hazard Class:</b>	/	/	/
<b>UN Number:</b>	/	/	/
<b>Packing Group:</b>	/	/	/

### ***Section 15 - Regulatory Information***

#### *European/International Regulations*

European Labeling in Accordance with EC Directives

Hazard Symbols: Xi

Indication of Danger: Irritant

Risk Phrases:

R 22: Harmful if swallowed.

R 37/38: Irritating to respiratory system and skin.

R 41: Risk of serious damage to eyes

Safety Phrases:

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.

WGK (Water Danger/Protection)

CAS#3347-90-8:3

Canada

CAS#3347-90-8: Not available

*US Federal*

TSCA



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CAS# 3347-90-8 is not listed on the TSCA Inventory. It is for research and development use only.

### ***Section 16 - Additional Information***

MSDS Creation Date: February 18, 2009  
Update: September 21, 2009

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