Material Safety Data Sheet  
Squaric acid di-n-butyl ester MSDS

**Section 1: Chemical Product and Company Identification**

**Product Name:** Squaric acid di-n-butyl ester  
**Catalog Codes:** SLS1507  
**CAS#:** 2892-62-8  
**RTCECS:** Not available.  
**TSCA:** TSCA 8(b) inventory: No products were found.  
**CI#:** Not available.  
**Synonym:** 3,4-Dibutoxy-3-cyclobutene-1,2-dione  
**Chemical Name:** Squaric Acid di-n-butyl ester  
**Chemical Formula:** C12H18O4

**Contact Information:**  
Sciencelab.com, Inc.  
14025 Smith Rd.  
Houston, Texas 77396  
US Sales: 1-800-901-7247  
International Sales: 1-281-441-4400  
Order Online: ScienceLab.com  
CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300  
International CHEMTREC, call: 1-703-527-3887  
For non-emergency assistance, call: 1-281-441-4400

**Section 2: Composition and Information on Ingredients**

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>% by Weight</th>
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<tbody>
<tr>
<td>Squaric acid di-n-butyl ester</td>
<td>2892-62-8</td>
<td>100</td>
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**Toxicological Data on Ingredients:** Squaric acid di-n-butyl ester LD50: Not available. LC50: Not available.

**Section 3: Hazards Identification**

**Potential Acute Health Effects:**  
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

**Potential Chronic Health Effects:**  
Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available.

**Section 4: First Aid Measures**

**Eye Contact:**  
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

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Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: >110°C (230°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

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Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and
show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

### Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:**
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

### Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** 226.27 g/mole

**Color:** Colorless. Colorless to light yellow.

**pH (1% soln/water):** Not applicable.

**Boiling Point:**
121.5°C (250.7°F) @ 0.2 mm Hg 155 - 158 deg. C (311 - 316.4 deg F) @ 3 mm Hg

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** 0.965 - 1.047 (Water = 1)

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Not available.

**Solubility:** Insoluble in cold water, hot water.

### Section 10: Stability and Reactivity Data

**Stability:** The product is stable.
Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:
Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: May cause skin irritation. May be absorbed by skin. Eyes: May cause eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: Effects not known. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause skin sensitization, an allergic skin reaction. The toxicological properties of this substance have not been fully investigated.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.
Section 15: Other Regulatory Information

Federal and State Regulations: No products were found.

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):
R36/38- Irritating to eyes and skin. S24/25- Avoid contact with skin and eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

HMIS (U.S.A.):

- Health Hazard: 2
- Fire Hazard: 1
- Reactivity: 0
- Personal Protection: h

National Fire Protection Association (U.S.A.):

- Health: 2
- Flammability: 1
- Reactivity: 0
- Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 06:38 PM

Last Updated: 05/21/2013 12:00 PM

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