1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

Chemical Name: 2-Isobutoxy-1-isobutoxycarbonyl-1,2-dihydroquinoline
Product Code: FI33684
Synonyms: -
Recommended uses: For R&D purposes
Supplier: Carbosynth Ltd, 8&9 Old Station Business Park, Compton, Berkshire, RG20 6NE, UK.
Emergency contact numbers:
   Telephone: +44 (0)1635 578 444
   Fax: +44 (0)1635 579 444
   Mobile: +44 (0)7887 998 634

2. HAZARDS IDENTIFICATION

Harmful if swallowed. Irritating to eyes, respiratory system and skin.

Classification:

Acute toxicity, oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)

Labelling and precautionary statements:

Pictogram:

Signal word: Warning.

Hazard statement(s):
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

Precautionary statement(s):
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash hands thoroughly after handling.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
2-ISOBUTOXY-1-ISOBUTOXYCARBONYL-1,2-DIHYDROQUINOLINE

Hazard symbol(s): Xn Harmful.  
Xl Irritant.

R-phrase(s):  
R22 Harmful if swallowed.  
R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrase(s):  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39 Wear suitable gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Molecular Formula:</th>
<th>Molecular weight:</th>
<th>CAS Number:</th>
<th>EINECS Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_{18}H_{25}NO_{3}</td>
<td>303.40</td>
<td>38428-14-7</td>
<td>253-925-9</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye contact: Immediately flush eye with copious amounts of water for at least 15 minutes. Get medical aid immediately.

Skin contact: In case of contact remove contaminated clothing and immediately wash affected areas with copious quantities of water and soap for at least 15 minutes. Get medical aid immediately. Wash contaminated clothing before reuse.

Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Get medical aid.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Wash out mouth with water provided person is conscious. Call a physician.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Personal precautions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Extinguishing media: In case of fire use water spray, dry chemical powder,
6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions: Wear self-contained breathing apparatus, eye protection and gloves. Keep personal hygiene. Avoid contact with skin, eyes and clothing. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions: Do not let product enter the drains. Prevent further leakage or spillage if safe to do so.

Spills/Leaks: Soak up with inert absorbent material (e.g. sand, earth, vermiculite) and place the material in appropriate container for disposal. Ventilate area, clean up spills and wash spill site after material pickup is complete, observing precautions in the Protective Equipment section.

7. HANDLING AND STORAGE

Handling: Wear appropriate protective clothing - see Section 8. Wash thoroughly after handling. Use with adequate ventilation. Use only in a chemical fume hood. Minimize dust generation and accumulation. Avoid contact with skin, eyes and clothing. Discard contaminated shoes. Keep container tightly closed. Avoid ingestion and inhalation. Avoid inhalation of vapour or mist. Keep away from heat.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep container tightly closed. which are opened must be carefully resealed and kept upright to prevent leakage. Refrigerate. Keep cold. Store at 2 - 8 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protection equipment:
Eye protection: Wear appropriate protective safety glasses with side-shields conforming to EN166, chemical safety goggles or
face-shield (min. 8-inch) as described by OSHA’s eye and face protection regulations. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Wear appropriate protective gloves to prevent skin exposure, as defined in EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection: Appropriate protective clothing, overalls.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Respirators and components must tested and approved under appropriate government standards - NIOSH (US) or CEN (EU).

Hygiene measures: Use good working practices. Wash hands and face thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colourless to light yellow viscous clear liquid.</td>
</tr>
<tr>
<td>Odour</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>pH</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Melting point</td>
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</tr>
<tr>
<td>Boiling point</td>
<td>140 - 142 °C (0.2 mmHg)</td>
</tr>
<tr>
<td>Flash point</td>
<td>113 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Negligible.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Negligible.</td>
</tr>
<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Specific gravity/Density</td>
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</tr>
<tr>
<td>Solubility</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.522 - 1.524</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Data not available/does not apply.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: Dust generation.
Incompatibilities with other materials: Strong oxidizing agents, acids. 
Hazardous decomposition products: Carbon oxides, nitrogen oxides. 
Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

RTCS #: Data not available.
Acute toxicity: Data not available.
Skin corrosion/irritation: Data not available.
Serious eye damage/eye irritation: Data not available.
Respiratory or skin sensitization: Data not available.
Germ cell mutagenicity: Data not available.
Carcinogenicity: Not listed by ACGIH, IARC, NTP or CA Prop 65.
Reproductive toxicity: Data not available.

Specific target organ toxicity - single exposure: Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure: Data not available.
Aspiration hazard: Data not available.

Signs and symptoms of exposure: Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Systemic exposure: May cause headache, nausea, disorientation, weakness, and convulsions if overexposure by ingestion or skin absorption, as poisoning symptoms.

Potential health effects:
Eye: Causes serious eye irritation.
Skin: May be harmful by skin absorption. Causes skin irritation.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
12. ECOLOGICAL INFORMATION

Data not available.

13. DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations. You may be able to mix or dissolve the material in a combustible solvent and burn in chemical incinerator equipped with an afterburner and scrubber system. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

ADR/RID
Not classified as hazardous for transport.

IMDG
Not classified as hazardous for transport.

IATA
Not classified as hazardous for transport.

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. ADDITIONAL INFORMATION

Further information on PPE:
European Standard & performance category markings:

- EN143 - Particulates filter.
- EN166 - Standard applicable to all types of personal eye protectors.
- EN14387 - Gas & vapour filter.

Gas & vapour protection:

- A Organic vapours
- B Inorganic vapours

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Revision Number: 0
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.