Section 1 - Product and Company Information

Product Name: 2,2-DIETHOXYACETOPHENONE, 95%
Product Number: 227102
Brand: ALDRICH
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-DIETHOXYACETOPHENONE</td>
<td>6175-45-7</td>
<td>No</td>
</tr>
</tbody>
</table>

Formula: C12H16O3
Synonyms: alpha,alpha-Diethoxyacetophenone *
2,2-Diethoxyacetophenone * Ethanone,
2,2-diethoxy-1-phenyl- * Phenylglyoxal diethyl acetal
RTECS Number: MD3284000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Toxic.
May cause cancer. Harmful by inhalation, in contact with skin and if swallowed. Irritating to skin.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.
Section 5 - Fire Fighting Measures

FLASH POINT
230 °F   110 °C   Method: closed cup

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling. Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties

Appearance
Color: Light yellow-green
Form: Clear liquid
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
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<tr>
<td>pH</td>
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<tr>
<td>BP/BP Range</td>
<td>131 - 134 °C</td>
<td>10 mmHg</td>
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<tr>
<td>MP/MP Range</td>
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<tr>
<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
<td>0.01 mmHg</td>
<td>20 °C</td>
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<tr>
<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<tr>
<td>SG/Density</td>
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<tr>
<td>Bulk Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<td></td>
</tr>
<tr>
<td>Water Content</td>
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<td></td>
</tr>
<tr>
<td>Solvent Content</td>
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<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Surface Tension</td>
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<td></td>
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<tr>
<td>Partition Coefficient</td>
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<tr>
<td>Decomposition Temp.</td>
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<tr>
<td>Flash Point</td>
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<td>Method: closed cup</td>
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<tr>
<td>Explosion Limits</td>
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<tr>
<td>Flammability</td>
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<td>Autoignition Temp</td>
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<td>Refractive Index</td>
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<td>Optical Rotation</td>
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<td>Miscellaneous Data</td>
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<tr>
<td>Solubility</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
- Conditions to Avoid: Moisture
- Materials to Avoid: Acids, Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
- Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
- Skin Contact: Causes skin irritation.
- Eye Contact: May cause eye irritation.
- Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

SIGNS AND SYMPTOMS OF EXPOSURE
- To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA
- Oral
- Rat
- 5660 UL/KG
- LD50

Skin
Rabbit
11300 UL/KG
LD50

CHRONIC EXPOSURE - CARCINOGEN
Result: Carcinogen.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
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

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
S: 23 24/25
Safety Statements: Do not breathe vapor. Avoid contact with skin and eyes.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Toxic.
Risk Statements: May cause cancer. Harmful by inhalation, in contact with skin and if swallowed. Irritating to skin.
Safety Statements: Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe vapor. Keep container tightly closed in a cool well-ventilated place. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.
WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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