1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
   - Product name: Benzoin
   - Product Number: B8681
   - Brand: Aldrich
   - CAS-No.: 119-53-9

1.2 Relevant identified uses of the substance or mixture and uses advised against
   - Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
   - Company: Sigma-Aldrich
     3050 Spruce Street
     SAINT LOUIS MO  63103
     USA
   - Telephone: +1 800-325-5832
   - Fax: +1 800-325-5052

1.4 Emergency telephone number
   - Emergency Phone #: +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
   - Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements
   - Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
   - Synonyms:
     - α-Hydroxy-α-phenylacetophenone
     - α-Hydroxybenzyl phenyl ketone
     - 2-Hydroxy-2-phenylacetophenone
   - Formula: C_{14}H_{12}O_{2}
   - Molecular Weight: 212.24 g/mol
   - CAS-No.: 119-53-9
   - EC-No.: 204-331-3

   No ingredients are hazardous according to OSHA criteria.
   No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures
   - If inhaled
     If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing vapours, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls
Appropriate engineering controls
General industrial hygiene practice.
personal protective equipment

eye/face protection
use equipment for eye protection tested and approved under appropriate government standards such as
niosh (us) or en 166(eu).

skin protection
handle with gloves. gloves must be inspected prior to use. use proper glove removal technique (without
touching glove's outer surface) to avoid skin contact with this product. dispose of contaminated gloves after
use in accordance with applicable laws and good laboratory practices. wash and dry hands.

full contact
material: nitrile rubber
minimum layer thickness: 0.11 mm
break through time: 480 min
material tested: dermatrił® (kcl 740 / aldrich z677272, size m)

splash contact
material: nitrile rubber
minimum layer thickness: 0.11 mm
break through time: 480 min
material tested: dermatrił® (kcl 740 / aldrich z677272, size m)

data source: kcl gmbh, d-36124 eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:
en374
if used in solution, or mixed with other substances, and under conditions which differ from en 374, contact the
supplier of the ce approved gloves. this recommendation is advisory only and must be evaluated by an
industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. it
should not be construed as offering an approval for any specific use scenario.

body protection
choose body protection in relation to its type, to the concentration and amount of dangerous substances, and
to the specific work-place. the type of protective equipment must be selected according to the concentration
and amount of the dangerous substance at the specific workplace.

respiratory protection
respiratory protection is not required. where protection from nuisance levels of dusts are desired, use type
n95 (us) or type p1 (en 143) dust masks. use respirators and components tested and approved under
appropriate government standards such as niosh (us) or cen (eu).

control of environmental exposure
do not let product enter drains.

9. physical and chemical properties

9.1 information on basic physical and chemical properties

a) appearance
   form: crystalline
   colour: light yellow
b) odour
   no data available
c) odour threshold
   no data available
d) ph
   no data available
e) melting point/freezing point
   melting point/range: 134 - 138 °c (273 - 280 °f) - lit.
f) initial boiling point and boiling range
   194 °c (381 °f) at 16 hpa (12 mmhg) - lit.
g) flash point
   170 °c (338 °f) - closed cup
h) evaporation rate
   no data available
i) flammability (solid, gas)
   no data available
j) upper/lower flammability or
   no data available
explosive limits
k) Vapour pressure no data available
l) Vapour density no data available
m) Relative density no data available
n) Water solubility no data available
o) Partition coefficient: n-octanol/water no data available
p) Auto-ignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
no data available

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - rat - 10,000 mg/kg
Inhalation: no data available
LD50 Dermal - rabbit - 8,870 mg/kg
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available
Germ cell mutagenicity
rat
Liver
DNA damage
rat
Liver
Unscheduled DNA synthesis
Hamster
ovary
Sister chromatid exchange
rat
Unscheduled DNA synthesis
rat
DNA damage

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: DI1590000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available
12.5 **Results of PBT and vPvB assessment**  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 **Other adverse effects**  
no data available

### 13. DISPOSAL CONSIDERATIONS

13.1 **Waste treatment methods**  
**Product**  
Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**  
Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**DOT (US)**  
Not dangerous goods

**IMDG**  
Not dangerous goods

**IATA**  
Not dangerous goods

### 15. REGULATORY INFORMATION

**SARA 302 Components**  
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**  
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**  
No SARA Hazards

**Massachusetts Right To Know Components**  
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoin</td>
<td>119-53-9</td>
<td></td>
</tr>
</tbody>
</table>

**New Jersey Right To Know Components**

<table>
<thead>
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<td></td>
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</tbody>
</table>

**California Prop. 65 Components**  
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 16. OTHER INFORMATION

**HMIS Rating**

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Rating</th>
</tr>
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<tbody>
<tr>
<td>Health hazard:</td>
<td>0</td>
</tr>
<tr>
<td>Chronic Health Hazard:</td>
<td>1</td>
</tr>
<tr>
<td>Flammability:</td>
<td>0</td>
</tr>
<tr>
<td>Physical Hazard:</td>
<td>0</td>
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</tbody>
</table>

**NFPA Rating**

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard:</td>
<td>0</td>
</tr>
</tbody>
</table>
Fire Hazard: 1
Reactivity Hazard: 0

Further information
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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
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or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing
slip for additional terms and conditions of sale.

Preparation Information
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

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