1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>Resorufin benzyl ether</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>B1532</td>
</tr>
<tr>
<td>Brand</td>
<td>Sigma</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>87687-02-3</td>
</tr>
</tbody>
</table>

1.2 Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory chemicals, Manufacture of substances</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td>3050 Spruce Street</td>
</tr>
<tr>
<td>SAINT LOUIS MO 63103 USA</td>
</tr>
<tr>
<td>Telephone</td>
</tr>
<tr>
<td>+1 800-325-5832</td>
</tr>
<tr>
<td>Fax</td>
</tr>
<tr>
<td>+1 800-325-5052</td>
</tr>
</tbody>
</table>

1.4 Emergency telephone number

<table>
<thead>
<tr>
<th>Emergency Phone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>(314) 776-6555</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

<table>
<thead>
<tr>
<th>GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin irritation (Category 2), H315</td>
</tr>
<tr>
<td>Eye irritation (Category 2A), H319</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Warning</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.</td>
</tr>
<tr>
<td>Wash skin thoroughly after handling.</td>
</tr>
<tr>
<td>Use only outdoors or in a well-ventilated area.</td>
</tr>
<tr>
<td>Wear protective gloves/ eye protection/ face protection.</td>
</tr>
<tr>
<td>IF ON SKIN: Wash with plenty of soap and water.</td>
</tr>
<tr>
<td>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</td>
</tr>
<tr>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove</td>
</tr>
</tbody>
</table>

| P261           |
| P264           |
| P271           |
| P280           |
| P302 + P352    |
| P304 + P340    |
| P305 + P351 + P338 |
contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms: 7-Benzyloxy-3H-phenoxazin-3-one
7-Benzyloxyresorufin
O7-Benzylresorufin

Formula: C₁₉H₁₃NO₃
Molecular weight: 303.31 g/mol
CAS-No.: 87687-02-3

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-Benzylresorufin</td>
<td>Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335</td>
<td>-</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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

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, Nitrogen oxides (NOx)

5.3 **Advice for firefighters**  
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 **Further information**  
No data available

6. **ACCIDENTAL RELEASE MEASURES**

6.1 **Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
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**  
Pick up and arrange disposal without creating dust. 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**  
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.  
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.

Recommended storage temperature 2 - 8 °C

Light sensitive.

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**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**  
Safety glasses with side-shields conforming to EN166 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.

**Body Protection**  
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. 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: solid
   Colour: dark brown, red

b) Odour
   No data available

c) Odour Threshold
   No data available

d) pH
   No data available

e) Melting point/freezing point
   No data available

f) Initial boiling point and boiling range
   No data available

g) Flash point
   No data available

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   No data available

j) Upper/lower flammability or explosive limits
   No data available

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**
No data available

Dermal: No data available
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**
No data available

**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
No data available

**Specific target organ toxicity - single exposure**
Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**
RTECS: Not available
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. Contact a licensed professional waste disposal service to dispose of this material.

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

SARA 313 Components
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
Acute Health Hazard

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>Substance</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-Benzylxyresorufin</td>
<td>87687-02-3</td>
<td></td>
</tr>
</tbody>
</table>

New Jersey Right To Know Components

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-Benzylxyresorufin</td>
<td>87687-02-3</td>
<td></td>
</tr>
</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

Full text of H-Statements referred to under sections 2 and 3.

Eye Irrit.  
H315  Causes skin irritation.
H319  Causes serious eye irritation.
H335  May cause respiratory irritation.
Skin Irrit.  
STOT SE  Specific target organ toxicity - single exposure

**HMIS Rating**
- Health hazard: 2
- Chronic Health Hazard:
- Flammability: 0
- Physical Hazard: 0

**NFPA Rating**
- Health hazard: 2
- Fire Hazard: 0
- 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 product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling 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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