SECTION 1: IDENTIFICATION
PRODUCT NAME
Benzoin
MFR.'S CODE ID/SYNONYMS
Benzoin, α-Hydroxy-α-phenylacetophenone, α-Hydroxybenzyl phenyl ketone, 2-Hydroxy-2-phenylacetophenone
CAS NUMBER
119-53-9
PRODUCT USE
Degasser for Powder Coatings
RESTRICTIONS ON USE
For Industrial Use Only
MANUFACTURER/SUPPLIER
Estron Chemical, Inc.
ADDRESS
807 North Main Street, Calvert City, KY 42029 USA
GENERAL INFORMATION
(270) 395-4195
EMERGENCY TELEPHONE
CHEMTREC (800) 424-9300

SECTION 2: HAZARDS IDENTIFICATION
Signal Word: Warning
GHS Classification

<table>
<thead>
<tr>
<th>Physical</th>
<th>Health</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA Combustible Dust</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

GHS Label
Symbols: No symbol

Hazard Statements
May form combustible dust concentrations in air.

Precautionary Statements
None

HAZARDS NOT OTHERWISE CLASSIFIED: None identified.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>CAS #</th>
<th>%</th>
<th>CLASSIFICATION</th>
<th>H Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoin</td>
<td>119-53-9</td>
<td>98 - 100</td>
<td>OSHA Combustible Dust</td>
<td>None</td>
</tr>
</tbody>
</table>

(See Section 8 for Exposure Limits)

SECTION 4: FIRST-AID MEASURES

SYMPTOMS OF EXPOSURE

ACUTE
Temporary mild skin or eye irritation.

DELAYED
Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin.

INHALATION
Not applicable, unless heated past the decomposition point or dust is allowed to accumulate in the air while handling. If so, remove to fresh air.

SKIN CONTACT
Mildly irritating to the skin. Wash thoroughly with soap and water. If skin irritation persists consult a doctor.

EYE CONTACT
Mildly irritating to the eyes. Wash with plenty of water for 15 minutes. Consult a physician.
INGESTION
If ingested, seek medical attention.

SPECIFIC TREATMENT
No other specific treatments are known or have been identified.

SECTION 5: FIRE FIGHTING MEASURES

| FLAMMABILITY CLASSIFICATION | OSHA Combustible Dust               |
| FLAMMABLE LIMITS            | No test data available             |
| HAZARDOUS COMBUSTION PRODUCTS | Carbon monoxide and carbon dioxide. |
| EXTINGUISHING MEDIA         | Dry Chemical, Water Fog, CO₂        |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | May represent a combustion hazard if dust from this material is allowed to accumulate in the air. |
| SPECIAL FIRE FIGHTING PROCEDURES | None known.                        |
| SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS | As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full (Bunker) protective gear. |

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Avoid contact with skin, eyes and clothing.

PROTECTIVE EQUIPMENT
See Personal Protective Equipment in Section 8.

EMERGENCY PROCEDURES
Avoid unnecessary exposure to bystanders, prevent contact with open flames or other ignition sources.

ENVIRONMENTAL PRECAUTIONS
Obey relevant local, state, provincial and federal laws and regulations. Do not allow the product to enter public drainage systems or open water courses.

METHODS AND MATERIALS FOR CLEANING UP
Avoid creating excessive dust while collecting. Sweep or scoop into a suitable container for disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING
Do not allow dust to concentrate in the air from handling. If necessary, use local ventilation. Handle in accordance with good industrial hygiene and safety practice.

CONDITIONS FOR SAFE STORAGE
Store in cool areas. Keep containers closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENTS | CAS # | % | ACGIH TLV | OSHA PEL |
Benzoin | 119-53-9 | 98 - 100 | None established | None established |

APPROPRIATE ENGINEERING CONTROLS
None required.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE
Safety glasses or goggles.

SKIN
Impervious protective gloves and clothing as appropriate to avoid skin contact.

RESPIRATORY
An appropriate NIOSH approved respirator for Dust.

HYGIENE MEASURES
Handle in accordance with good industrial hygiene and safety practices. When using, do not eat, drink or smoke. Wash face and hands before breaks and at the end of work. Wash contaminated clothing before re-use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| APPEARANCE | White to yellow powder | ODOR | Mild, acrid |
| MELTING POINT | 137 °C (279 °F) | BOILING POINT/RANGE | >200 °C |
| FLASH POINT | Over 200 °F | EVAPORATION RATE | No test data available |
| FLAMMABILITY | OSHA Combustible Dust | | |
FLAMMABLE LIMITS

<table>
<thead>
<tr>
<th>LOWER</th>
<th>UPPER</th>
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<tr>
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<td>No test data available</td>
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</table>

VAPOR PRESSURE

<table>
<thead>
<tr>
<th>VAPOR DENSITY</th>
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<tbody>
<tr>
<td>No test data available</td>
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</tbody>
</table>

RELATIVE DENSITY

<table>
<thead>
<tr>
<th>1.31 @ 20 °C</th>
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</thead>
<tbody>
<tr>
<td>(n-octanol/water)</td>
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</table>

PARTITION COEFFICIENT

<table>
<thead>
<tr>
<th>SOLUBILITY IN H₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td>No test data available</td>
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</tbody>
</table>

AUTOIGNITION TEMPERATURE

<table>
<thead>
<tr>
<th>550 °C (1022 °F)</th>
</tr>
</thead>
</table>

DECOMPOSITION TEMPERATURE

<table>
<thead>
<tr>
<th>No test data available</th>
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</thead>
</table>

% VOLATILE

<table>
<thead>
<tr>
<th>2 Maximum</th>
</tr>
</thead>
</table>

RELATIVE DENSITY

1.31 @ 20 °C

SOLUBILITY IN H₂O

Very slightly soluble in cold water

VAPOR DENSITY

No test data available

VAPOR PRESSURE

No test data available

RELATIVE DENSITY

1.31 @ 20 °C

PARTITION COEFFICIENT

(n-octanol/water)

No test data available

AUTOIGNITION TEMPERATURE

550 °C (1022 °F)

DECOMPOSITION TEMPERATURE

No test data available

% VOLATILE

2 Maximum

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY

This product does not pose a significant reactivity hazard when stored appropriately (see Section 7).

STABILITY

This product is stable when stored appropriately (see Section 7).

CONDITIONS TO AVOID

Excessive heat and open flame, material dust accumulation.

INCOMPATIBLE PRODUCTS

Strong oxidizing or reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon dioxide and carbon monoxide.

POSSIBILITY OF HAZARDOUS REACTIONS

Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE

ACUTE

Temporary mild skin or eye irritation. Coughing.

DELAYED

Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin. Irritation of the lungs and airways.

ACUTE TOXICITY

INHALATION

May be mildly irritating.

SKIN

In some cases, eye contact will cause mild, but reversible, irritation.

EYES

In some cases, skin contact will cause mild, but reversible, irritation.

INGESTION

Not likely to have harmful effects in normal exposures, may cause nausea or gastric distress if ingested in quantity.

INHALATION TOXICITY

LC₅₀ Rat

Not established

DERMAL TOXICITY

LD₅₀ Rat

8,870 mg/kg

SKIN IRRITATION

Draize, Rabbit, 24 hours

Not established

EYE IRRITATION

Draize, Rabbit, 24 hours

Not established

ORAL TOXICITY

LD₅₀ Rat

10,000 mg/kg

SENSITIZATION

Draize, Rabbit

Not established

CHRONIC EFFECTS

CARCINOGENICITY

Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

MUTAGENIC EFFECTS

Genotoxicity in vitro, Rat, Liver

DNA damage, Unscheduled DNA synthesis

Genotoxicity in vitro, Hamster, Ovary

Sister chromatid exchange

Genotoxicity in vivo, Rat, Oral

Unscheduled DNA synthesis

Genotoxicity in vivo, rat, Intraperitoneal

DNA damage

REPRODUCTIVE TOXICITY

None known
TARGET ORGAN EFFECTS None known

SECTION 12: ECOLOGICAL INFORMATION
ECOTOXICITY Not known to be harmful to aquatic life.
TOXICITY TO FISH Not established
TOXICITY TO DAPHNIA Not established
PERSISTANCE AND DEGRADABILITY No data available
BIOACCUMULATIVE POTENTIAL No data available
MOBILITY IN SOIL No data available
OTHER ADVERSE EFFECTS None known

SECTION 13: DISPOSAL CONSIDERATIONS
WASTE DISPOSAL Dispose of in accordance with local, state and federal regulations. This product, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This product could become a hazardous waste, if chemical additions are made or if the product is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste.

US EPA WASTE NUMBER & DESCRIPTION No information available

SECTION 14: TRANSPORT INFORMATION
This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

DOT Not regulated
ICAO Not regulated
RID Not regulated

TDG Not regulated
IATA Not regulated
ADR Not regulated

MEX Not regulated
IMDG/IMO Not regulated
ADN Not regulated

SECTION 15: REGULATORY INFORMATION
The components in this product are either listed or exempt from listing due to polymer exemption criteria for the following chemical listing inventories as indicated by an “X”:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>X</th>
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<tbody>
<tr>
<td>AICS</td>
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<tr>
<td>DSL</td>
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<tr>
<td>ECL</td>
<td>X</td>
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<tr>
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<tr>
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<tr>
<td>TCSI</td>
<td>X</td>
</tr>
<tr>
<td>TSCA</td>
<td>X</td>
</tr>
</tbody>
</table>

INTERNATIONAL REGULATIONS
EU REGULATION (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorization, Substances of Very High Concern: This product does not contain any SVHC listed substances.

REACH One or more components of this product are not REACH registered. Import quantities may be subject to limitation.

FEDERAL REGULATIONS

SARA 313  This product does not contain any chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA Section 311/312 (40 CFR 370) Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
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</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
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<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
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<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CERCLA  This product, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional or state level pertaining to releases of this product.

CLEAN WATER ACT  This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CLEAN AIR ACT  This product does not contain any substances regulated as hazardous air pollutants (HAPS under Section 112 of the Clean Air Act Amendments of 1990).

OTHER FEDERAL  None known

U.S. STATE REGULATIONS

RIGHT TO KNOW  The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in Sections 2 and 15 of this Safety Data Sheet.

CALIFORNIA PROP 65  No substances known to the state of California to cause cancer and/or reproductive toxicity were intentionally added to this product; however, this product may contain unknown trace amounts of substances known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16: OTHER INFORMATION

DISCLAIMER  This product is intended for industrial use only and should be used in accordance with the manufacturer’s recommendations. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

DATE OF REVISION  August 2, 2018, replaces the July 14, 2015 version

REASON FOR REVISION  Revised Restrictions on Use in Section 1. Added H Codes to Section 3. Changed ECN to TCSI, updated the REACH statement, and revised the California Prop 65 warning in Section 15.

SDS PREPARED BY  Glen Pearson

SDS APPROVED BY  Robert Auerbach