SAFETY DATA SHEET
500316 PHENYLACETALDEHYDE FCC

Revision Date: 07-17-2018
Version # 04
Print Date: 07-17-2018

1. IDENTIFICATION
Product Description: PHENYLACETALDEHYDE FCC
CAS # 122-78-1
FEMA Number 2874
Other means of identification
Vigon Item # 500316
Recommended use Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.
Recommended restrictions For Manufacturing Use Only

24 Hour Emergency Response Information
INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

For information call: 570-476-6300
Web Site: www.vigon.com

Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name Vigon International, Inc.
Address 127 Airport Road
E. Stroudsburg, PA 18301
United States
Telephone For information call: 570-476-6300
Website www.vigon.com
E-mail Not available.
Emergency phone number INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

2. HAZARD(S) IDENTIFICATION
Physical hazards Flammable liquids Category 4
Health hazards Acute toxicity, oral Category 4
Acute toxicity, dermal Category 5
Skin corrosion/irritation Category 1
Sensitization, skin Category 1

Environmental hazards Not classified.

Label elements
Signal word Danger
HAZARD STATEMENT

Combustible liquid. Harmful if swallowed. May be harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction.

PRECAUTIONARY STATEMENT

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

STORAGE

Store in a well-ventilated place. Store locked up.

DISPOSAL

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

After prolonged contact with highly porous materials, this product may spontaneously combust.

Supplemental information

100% of the mixture consists of component(s) of unknown acute inhalation toxicity. 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHENYLACETALDEHYDE</td>
<td>oxo phenyl ethane</td>
<td>122-78-1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>phenyl ethanal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>benzyl carboxaldehyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Benzeneacetaldehyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ALPHA-TOLYLALDEHYDE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2- phenylacetaldehyde</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

Eye contact

Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion

Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
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Most important symptoms/effects, acute and delayed
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed
Not available.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray, fog, CO2, dry chemical, or alcohol resistant foam.

Unsuitable extinguishing media
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
Fire may produce irritating, corrosive and/or toxic gases. Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

Specific methods
Use water spray to cool unopened containers.

General fire hazards
Static charges generated by emptying package in or near flammable vapor may cause flash fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

The product is immiscible with water and will spread on the water surface.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS.
7. HANDLING AND STORAGE
Precautions for safe handling
Do not handle or store near an open flame, heat or other sources of ignition. Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material. May auto-oxidize with sufficient heat generation to ignite if spread (as a thin film) or absorbed on porous or fibrous material. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Contaminated rags and cloths must be put in fireproof containers for disposal. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Occupational exposure limits
This substance has no PEL, TLV, or other recommended exposure limit.

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Use explosion-proof ventilation equipment to stay below exposure limits. Adequate ventilation should be provided so that exposure limits are not exceeded.

Individual protection measures, such as personal protective equipment
Eye/face protection
Wear safety glasses with side shields (or goggles). Face shield is recommended.

Skin protection
Hand protection
Chemical resistant gloves.

Other
Use of an impervious apron is recommended.

Respiratory protection
Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance
Refer to Spec Sheet

Physical state
Liquid.

Form
Liquid.

Color
Refer to Spec Sheet

Odor
Characteristic.

Odor threshold
Not available.

pH
Not available.

Melting point/freezing point
14 °F (-10 °C)
### SAFETY DATA SHEET

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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range</td>
<td>379.4 - 383 °F (193 - 195 °C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>154.0 °F (67.8 °C) Closed Cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.37 mm Hg at 25 °C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>4.2</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Flammability class</td>
<td>Combustible IIIA estimated</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C8H8O</td>
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<tr>
<td>Molecular weight</td>
<td>120.15 g/mol</td>
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<tr>
<td>Oxidizing properties</td>
<td>Not oxidizing.</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**
The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability**
Material is stable under normal conditions.

**Possibility of hazardous reactions**
No dangerous reaction known under conditions of normal use.

**Conditions to avoid**
Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous decomposition products**
No hazardous decomposition products if stored and handled as indicated.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>May cause irritation to the respiratory system.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes severe skin burns. May be harmful in contact with skin. May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Causes digestive tract burns. Harmful if swallowed.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

- Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

| Acute toxicity | Harmful if swallowed. May be harmful in contact with skin. |

### PHENYLACETALDEHYDE (CAS 122-78-1)

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>2500 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1550 mg/kg</td>
</tr>
</tbody>
</table>

| Skin corrosion/irritation | Causes severe skin burns and eye damage. |
| Serious eye damage/eye irritation | Causes serious eye damage. |

Respiratory or skin sensitization

| Respiratory sensitization | Not a respiratory sensitizer. |
| Skin sensitization | May cause an allergic skin reaction. |

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

- IARC Monographs. Overall Evaluation of Carcinogenicity
  - Not listed.
  - Not regulated.
- US. National Toxicology Program (NTP) Report on Carcinogens
  - Not listed.
- US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
  - Not available.

Reproductive toxicity

- This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

- Not classified.
### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
- The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence and degradability**
- Biodegradability: Closed Bottle test
  - Result: Readily biodegradable.
    - 74%
  - Method: OECD 301D

**Bioaccumulative potential**
- No data available.

**Mobility in soil**
- No data available.

**Other adverse effects**
- No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. DISPOSAL CONSIDERATIONS

**Disposal instructions**
- Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
- Dispose in accordance with all applicable regulations.

**Hazardous waste code**
- Not established.

**Waste from residues / unused products**
- Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
- Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. TRANSPORT INFORMATION

**ADN**
- Not regulated as dangerous goods.

**ADR**
- Not regulated as dangerous goods.

**RID**
- Not regulated as dangerous goods.

**DOT**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>NA1993</td>
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<tr>
<td>Proper shipping name</td>
<td>COMBUSTIBLE LIQUID, N.O.S. (PHENYLACETALDEHYDE)</td>
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<tr>
<td>Hazard class</td>
<td>Combustible Liquid</td>
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<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
</tbody>
</table>
15. REGULATORY INFORMATION

US federal regulations  This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)  Not listed.

SARA 304 Emergency release notification  Not regulated.


TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)  SARA 302 Extremely hazardous substance  Not listed.

SARA 311/312 Hazardous chemical  Yes

   Classified hazard categories  Flammable (gases, aerosols, liquids, or solids)
                                  Acute toxicity (any route of exposure)
                                  Skin corrosion or irritation
                                  Respiratory or skin sensitization

SARA 313 (TRI reporting)  Not regulated.

Other federal regulations  Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List  Not regulated.

   Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)  Not regulated.
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Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
California Proposition 65
California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Not listed.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

<table>
<thead>
<tr>
<th>Issue date</th>
<th>11-23-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision date</td>
<td>07-17-2018</td>
</tr>
<tr>
<td>Version #</td>
<td>04</td>
</tr>
<tr>
<td>HMIS® ratings</td>
<td>Health: 3</td>
</tr>
<tr>
<td></td>
<td>Flammability: 2</td>
</tr>
<tr>
<td></td>
<td>Physical hazard: 0</td>
</tr>
</tbody>
</table>

Disclaimer
Vigon International, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Vigon International, Inc. has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its’ safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon’s knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

Revision information
This document has undergone significant changes and should be reviewed in its entirety.