1. IDENTIFICATION

Product Description: PHENYLACETALDEHYDE 50% IN PEA

CAS #
MIXTURE

Other means of identification
Vigon Item # 501074

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

Company
Vigon International, Inc.
127 Airport Road
E. Stroudsburg, PA 18301

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 regulatory@vigon.com

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
Serious eye damage/eye irritation Category 1
Sensitization, skin Category 1

Environmental hazards Not classified.

Label elements

Signal word Warning
Hazard statement

H227  Combustible liquid.
H302  Harmful if swallowed.
H313  May be harmful in contact with skin.
H315  Causes skin irritation.
H315 + H320  Causes skin and eye irritation.
H319  Causes serious eye irritation.

Precautionary statement

Prevention

P210  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264  Wash thoroughly after handling.
P270  Do not eat, drink or smoke when using this product.
P280  Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P312  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330  Rinse mouth.
P302 + P352  IF ON SKIN: Wash with plenty of water.
P305 + P351 + P358  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312  Call a POISON CENTER/doctor if you feel unwell.
P332 + P313  If skin irritation occurs: Get medical advice/attention.
P337 + P313  If eye irritation persists: Get medical advice/attention.
P362 + P364  Take off contaminated clothing and wash it before reuse.
P370 + P378  In case of fire: Use appropriate media to extinguish.

Storage

P403  Store in a well-ventilated place.

Disposal

P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOCS)

None known.

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

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHENYL ETHYL ALCOHOL</td>
<td>BENZYL CARBINOL</td>
<td>60-12-8</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>2-Phenylethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

Revision Date: 06-08-2021
Page 3 of 10
Version # 02
Print Date: 06-08-2021

<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>50</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.

Most important symptoms/effects, acute and delayed
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

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.

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.
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

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.

Environmental precautions
Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. HANDLING AND STORAGE

Precautions for safe handling
Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits
This mixture has no ingredients that have 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. Chemical resistant gloves.
Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

Wear appropriate thermal protective clothing, when necessary.

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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Refer to Spec Sheet</td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Refer to Spec Sheet</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Characteristic.</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
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<td><strong>pH</strong></td>
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<tr>
<td><strong>Melting point/freezing point</strong></td>
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<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>Not available.</td>
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<tr>
<td><strong>Flash point</strong></td>
<td>175.0 °F (79.4 °C) Closed Cup</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></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><strong>Vapor pressure</strong></td>
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<tr>
<td><strong>Vapor density</strong></td>
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<tr>
<td><strong>Relative density</strong></td>
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<tr>
<td><strong>Solubility(ies)</strong></td>
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<td><strong>Solubility (water)</strong></td>
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<tr>
<td><strong>Partition coefficient (n-octanol/water)</strong></td>
<td>Not available.</td>
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<tr>
<td><strong>Auto-ignition temperature</strong></td>
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</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
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<tr>
<td><strong>Viscosity</strong></td>
<td>Not available.</td>
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<tr>
<td><strong>Other information</strong></td>
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</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Not explosive.</td>
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<tr>
<td><strong>Flammability class</strong></td>
<td>Combustible IIIA estimated</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

Revision Date: 06-08-2021
Version # 02

Molecular formula: Not applicable
Oxidizing properties: Not oxidizing.
Specific gravity: 1.06 at 25 °C

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: Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
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
Inhalation: No adverse effects due to inhalation are expected.
Skin contact: May be harmful in contact with skin. Causes skin irritation.
Eye contact: Causes serious eye irritation.
Ingestion: Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects
Acute toxicity: Harmful if swallowed. May be harmful in contact with skin.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHENYL ETHYL ALCOHOL (CAS 60-12-8)</td>
<td></td>
<td></td>
</tr>
<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></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>1610 mg/kg</td>
</tr>
<tr>
<td>PHENYLACETALDEHYDE (CAS 122-78-1)</td>
<td></td>
<td></td>
</tr>
<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></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>1550 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td>Causes skin irritation.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

Revision Date: 06-08-2021
Version # 02
Print Date: 06-08-2021

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization
Not a respiratory sensitizer.

Skin sensitization
This product is not expected to cause skin sensitization.

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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

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

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

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
No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
PHENYL ETHYL ALCOHOL 1.36

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 BULK

UN number NA1993
Proper shipping name COMBUSTIBLE LIQUID, N.O.S. (PHENYLACETALDEHYDE)
Hazard class Combustible liq
Packing group III
Environmental hazards
Marine pollutant No
Packing exceptions 150
Packing bulk 241
Labels required None

DOT NON-BULK
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. REGULATORY INFORMATION

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

Toxic Substances Control Act (TSCA)
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.
SARA 304 Emergency release notification
Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.
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
- Serious eye damage or eye 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.

Safe Drinking Water Act (SDWA) Not regulated.

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

Issue date 11-20-2015
Revision date 06-08-2021
Version # 02
HMIS® ratings Health: 2
Flammability: 2
Physical hazard: 1
**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.