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

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

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 2
Serious eye damage/eye irritation Category 2A
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.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary statement

Prevention
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261 Avoid breathing mist or vapor.
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

Response
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/eye protection/face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 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.
P330 Rinse mouth.
P333 + P313 If skin irritation or rash 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 + P235 Store in a well-ventilated place. Keep cool.

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

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
None.

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 2-Phenylethanol</td>
<td>60-12-8</td>
<td>50</td>
</tr>
<tr>
<td>PHENYLACETALDEHYDE</td>
<td>oxo phenyl ethane phenyl ethanal benzyl carboxaldehyde Benzeneacetaldehyde ALPHA-TOLYLALDEHYDE 2-phenylacetaldehyde</td>
<td>122-78-1</td>
<td>50</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.
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

Revision Date: 06-01-2015
Version # 01

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. May cause an allergic skin reaction. Dermatitis. Rash.

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.

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.
SAFETY DATA SHEET
501074 PHENYLACETALDEHYDE 50% IN PEA

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

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

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
No exposure limits noted for ingredient(s).

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.

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.
9. PHYSICAL AND CHEMICAL PROPERTIES

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.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Refer to Spec Sheet</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Form</td>
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<tr>
<td>Color</td>
<td>Refer to Spec Sheet</td>
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<tr>
<td>Odor</td>
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<td>Odor threshold</td>
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<td>pH</td>
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<td>Melting point/freezing point</td>
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<td>Initial boiling point and boiling range</td>
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<tr>
<td>Flash point</td>
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<td>Evaporation rate</td>
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<tr>
<td>Flammability (solid, gas)</td>
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<tr>
<td>Upper/lower flammability or explosive limits</td>
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<tr>
<td>Flammability limit - lower (%)</td>
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<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
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<tr>
<td>Explosive limit - upper (%)</td>
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<tr>
<td>Vapor pressure</td>
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<td>Vapor density</td>
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<td>Solubility/ies</td>
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<td>Solubility (water)</td>
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<td>Decomposition temperature</td>
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<td>Viscosity</td>
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<td>Other information</td>
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<td>Molecular formula</td>
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<tr>
<td>Specific gravity</td>
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</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
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. May cause an allergic skin reaction.

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. May cause an allergic skin reaction.

Information on toxicological effects

Acute toxicity
Harmful if swallowed. May be harmful in contact with skin. May cause an allergic skin reaction.

Components | Species | Test Results
--- | --- | ---
Phenyl Ethyl Alcohol (CAS 60-12-8) | | |
Acute | | |
Dermal | Rabbit | 2500 mg/kg |
Oral | Rat | 1610 mg/kg |
Phenylacetaldehyde (CAS 122-78-1) | | |
Acute | | |
Dermal | Rabbit | > 5000 mg/kg |
Oral | Rat | 1550 mg/kg |

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.
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
- 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 this product.
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: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION
ADN
- Not regulated as dangerous goods.
ADR
Not regulated as dangerous goods.

RID
Not regulated as dangerous goods.

DOT
BULK

<table>
<thead>
<tr>
<th>UN number</th>
<th>NA1993</th>
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<tbody>
<tr>
<td>Proper shipping name</td>
<td>COMBUSTIBLE LIQUID, N.O.S. (PHENYLACETALDEHYDE)</td>
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<td>Hazard class</td>
<td>Combustible liq</td>
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<td>Packing group</td>
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<tr>
<td>Environmental hazards</td>
<td>Marine pollutant: No</td>
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<td>Packaging exceptions: 150</td>
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<tr>
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<td>Packaging bulk: 241</td>
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<tr>
<td></td>
<td>Labels required: None</td>
</tr>
</tbody>
</table>

DOT
NON-BULK
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

DOT BULK

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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

SARA 304 Emergency release notification
Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
   Not listed.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
   Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
   Immediate Hazard - Yes
   Delayed Hazard - No
   Fire Hazard - Yes
   Pressure Hazard - No
   Reactivity Hazard - No
SARA 302 Extremely hazardous substance
   Not listed.
SARA 311/312 Hazardous chemical
   No
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.
US state regulations
   US. Massachusetts RTK - Substance List
   Not regulated.
   US. New Jersey Worker and Community Right-to-Know Act
   Not listed.
   US. Pennsylvania Worker and Community Right-to-Know Law
   Not listed.
   US. Rhode Island RTK
   Not regulated.
   US. California Proposition 65
   US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
   Not listed.
International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
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## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
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</thead>
<tbody>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
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<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
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<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)*

*A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).*

Vigon 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, 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.