SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Phenyltrimethylammonium Chloride (PTMACl)

Synonyms:
Phenyltrimethylammonium Chloride

1.2. Relevant identified uses of the substance or mixture and uses advised against
Not applicable

1.3. Details of the supplier of the safety data sheet
Manufacturer Information:
Vertellus LLC
201 North Illinois Street, Suite 1800,
Indianapolis, IN 46204
800-223-0453

Non-Emergency Fax Number:
616-772-7344

E-Mail Address:
msds@vertellus.com

1.4. Emergency telephone number
Vertellus: 800-223-0453
CHEMTREC (USA): (800) 424-9300
(collect calls accepted); (Int'l): (703) 527-3887
(collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
(According to Regulation (EC) No 1272/2008)
Not classified as hazardous under this directive.

Signal Word:
Not required.

Hazard Precautions:
Not classified as hazardous under this directive.

2.2. Label elements
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Prevention Precautions:
Note: These precautionary statements are not prescribed by directive 1272/2008 as this product is not classified as hazardous under this directive. Wash hands thoroughly after handling with soap and water. Wear protective gloves, protective clothing, eye protection and face protection. If swallowed, in eyes, on skin or inhaled call a poison center or doctor/physician if you feel unwell. If inhaled, remove victim to fresh air and keep at rest in a comfortable position for breathing. Take off contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed.

First Aid Precautions:
Not required.

Storage Precautions:
Not required.

Disposal Precautions:
Not required.

Single Exposure Target Organs:
Not applicable

Repeated Exposure Target Organs:
Not applicable

(According to Directive 67/548/EEC)
Symbol: Not classified as hazardous under this directive.
Risk Phrases: Not classified as hazardous under this directive.
Safety Phrases: Not classified as hazardous under this directive.

2.3. Other hazards

Signs and Symptoms of Potential Overexposure: May cause skin irritation. Can causes slight irritation.
Primary Route(s) of Exposure: Skin contact and absorption, eye contact, ingestion, inhalation.
Medical Conditions Aggravated by Exposure: No data found

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
<th>EINECS / ELINCS</th>
<th>EU Symbol</th>
<th>Risk Phrases</th>
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<tbody>
<tr>
<td>Phenyltrimethylammonium Chloride</td>
<td>138-24-9</td>
<td>100.000000</td>
<td>205-319-0</td>
<td>N/A</td>
<td>Not applicable</td>
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</table>

NOTE: See Section 8 of this MSDS for exposure limit data for these ingredients. See Section 15 of this MSDS for trade secret information (where applicable). See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures
SAFETY DATA SHEET

4.1. Description of first aid measures

Skin Contact: Causes skin irritation. Wash with soap and water. Wash with soap and water. Get medical attention if irritation develops or persists.

Eye Contact: Can cause irritation. Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

Inhalation: This material does not present a hazard if inhaled. Remove individual to fresh air after an airborne exposure if any symptoms develop, as a precautionary measure. Get medical attention immediately.

Ingestion: If swallowed, do not induce vomiting. Get prompt medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Acute: May cause skin irritation. Can cause slight irritation.

Delayed Effects: None known.

4.3. Indication of any immediate medical attention and special treatment needed

Thermal Exposure: Not established

Note to Physician: No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Alcohol foam, carbon dioxide, dry chemical.

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: None Known

Potential for Dust Explosion: not available

Special Flammability Hazards: Not applicable.

5.3. Advice for firefighters

Basic Fire Fighting Guidance: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. During a fire irritating or toxic gases may be generated by thermal decomposition or combustion.

Flammability Classification (OSHA): Not applicable.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
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Special Instructions: Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions
Prevent releases to soils, drains, sewers, and waterways.

6.3. Methods and material for containment and cleaning up
Containment Techniques and Clean-up Procedures: Clean up spills immediately using Protective Equipment recommended in Section VIII at a minimum. Avoid creating dusts. Cover material with absorbent and moisten and collect for disposal.
Special Reporting Requirements: Not applicable.

6.4. Reference to other sections
Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for Unique Hazards: Keep container closed to prevent drying out
Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material.
Special Handling Equipment: Use with adequate ventilation. Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues

7.2. Conditions for safe storage, including any incompatibilities
Storage Precautions & Recommendations: Keep container closed when not in use.
Dangerous Incompatibility Reactions: Avoid strong acids, strong bases, strong oxidizing agents and reactive metals which may displace hydrogen.
Incompatibilities with Materials of Construction: Hot isocyanates may react vigorously with water.

7.3. Specific end use(s)
If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure Limits (United States): OSHA PEL: Not established ACGIH TLV: Not established

8.2. Exposure controls
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Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Personal Protective Equipment: A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, the work atmosphere may be deficient of oxygen, or any other circumstances where air purifying respirators may not provide adequate protection, for example, when air purifying respirators have a short breakthrough time. Safety glasses or chemical goggles. Use impervious gloves. Launder contaminated clothing before reuse.


Ventilation: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided. Use process enclosures to control the level of dust in the air. Local exhaust ventilation is recommended when generating excessive levels of vapors from handling or thermal processing.

Other Engineering Controls: All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.

Thermal Hazards: Not applicable.

Additive or Synergistic Effects: None known.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance, State &amp; Odor (ambient temperature):</td>
<td>White powder - Naphthalene-like</td>
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<td>Molecular Formula:</td>
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</tr>
<tr>
<td>Molecular Weight:</td>
<td>Not applicable</td>
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<tr>
<td>Evaporation Rate:</td>
<td>Not applicable</td>
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<td>Vapor Pressure:</td>
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<tr>
<td>Vapor Density (air = 1):</td>
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<td>459 °F 459 °F</td>
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<td>Octanol / Water Coefficient:</td>
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<td>Not applicable</td>
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<tr>
<td>9.2. Other information</td>
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</table>

SECTION 10: Stability and reactivity

10.1. Reactivity

Not classified as dangerously reactive.
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10.2. Chemical stability
Stable

10.3. Possibility of hazardous reactions
Polymerization is not expected to occur

10.4. Conditions to avoid
Allowing the material to heat uncontrollably or to absorb water and/or impurities can promote autopolymerization into vinylpyridine polymer.

10.5. Incompatible materials
Avoid strong acids, strong bases, strong oxidizing agents and reactive metals which may displace hydrogen.

10.6. Hazardous decomposition products
Have not been determined.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
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<tr>
<th>Effect</th>
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<tr>
<td>Acute Oral LD₅₀</td>
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<tr>
<td>Acute Dermal LD₅₀</td>
<td>Not available</td>
</tr>
<tr>
<td>Acute Inhalation LC₅₀</td>
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<tr>
<td>Skin Irritation</td>
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</tr>
<tr>
<td>Skin Sensitization</td>
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<td>Eye Irritation</td>
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<td>Target Organs</td>
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<tr>
<td>Carcinogenicity</td>
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<tr>
<td>Additional Toxicity Information</td>
<td>Not available</td>
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</tbody>
</table>

SECTION 12: Ecological information

12.1. Toxicity
Code: No data

12.2. Persistence and degradability
No data

12.3. Bioaccumulative potential
No data

12.4. Mobility in soil
No data

12.5. Results of PBT and vPvB assessment
Not available.

12.6. Other adverse effects
No data available. Not available.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

**US EPA Waste Number:** Dispose of by incineration following Federal, State, Local, or Provincial regulations.

**Waste Classification: (per US regulations)** Dispose of by incineration following Federal, State, Local, or Provincial regulations. NOTE: Generator is responsible for proper waste characterization. State (USA) hazardous waste regulations may differ substantially from federal (USA) regulations.

**Waste Disposal:** Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

14.1. UN number: Not applicable

14.2. UN proper shipping name: Chemicals, n.o.s. (Phenyltrimethylammonium Chloride)

14.3. Transport hazard class(es): Not applicable

14.4. Packing group: Not applicable

14.5. Environmental hazards: Not applicable

14.6. Special precautions for user: Not available.

**NA Emergency Guidebook Numbers:** Not applicable

**IMDG EMS:** Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**OSHHA Hazards:** Not applicable

**WHMIS Classification:** Class D, Division 2, Subdivision B: Irritant.

**Chemical Inventory Lists:**
- **TSCA:** Listed
- **EINECS:** Listed
- **Canada(DSL/NDSL):** DSL
- **Japan:** (9)-1187
- **Korea:** Not Listed
- **Australia:** Present
- **New Zealand:** Present
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China: Not Listed
Philipines: Present
Switzerland: Not Listed

New Zealand GHS Classification: 6.1C oral, 6.1C dermal, 9.3B (Approval number: HSR006946)
Japan GHS Classification: Non classificato da questo paese.
Korea (MOL) GHS Classification: Non classificato da questo paese.
Australia GHS Classification: Non classificato da questo paese.
Taiwan GHS Classification: Non classificato da questo paese.
Indonesia GHS Classification: Non classificato da questo paese.
SARA 313: Yes
15SARA H010
No

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

Full text of R phrases in Section 3: Not applicable
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Legend of abbreviations:
ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
DSL/NDSL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EEC = European Economic Community.
EINECS = European Inventory of Existing Commercial Chemical Substances.
ELINCS = European List of Notified Chemical Substances.
EU = European Union.
GHS = Globally Harmonized System.
LC = Lethal concentration.
LD = Lethal dose.
MOL = Ministry of Labor.
NEMA = National Emergency Management Agency.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicological Program.
OSHA = Occupational Safety and Health Administration.
PEL = Permissible exposure limit.
RQ = Reportable quantity.
TLV = Threshold limit value.
WHMIS = Workplace Hazardous Materials Information System.

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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Revision Details: Revised in all sections to GHS format.