SECTION 1: Identification

1.1 Product identifier
Chlorendic Anhydride PE1+

Chemical Name and Synonym:
1,4,5,6,7,7-hexachloro-8,9,10-trinorbom-5-ene-2,3-dicarboxylic anhydride;
4,5,6,7,8,8-Hexachloro-3a,4,7,7a-tetrahydro-4, 7-methanoiso benzofuran-1, 3-dione

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant identified uses:
Industrial applications: Hardener for epoxy resins, paints, and coatings.
Other non-specified industry: Flame retardant in unsaturated polyester resins.

1.2.2 Uses advised against:
No specific uses advised against have been identified.

1.3 Details of the supplier of the safety data sheet
Velsicol Chemical LLC
10400 W. Higgins Road, Suite 303
Rosemont, Illinois 60018 USA
Phone: (847) 813-7888
Fax: (847) 768-3227
Email: customerservice@velsicol.com

1.4 Emergency telephone number
Outside the continental U.S.A. call CHEMTREC 1-800-424-9300 (24 hours)
In the continental U.S.A. call CHEMTREC 703-527-3887 (24 hours)

SECTION 2: Hazards Identification

2.1 Hazard classification and Hazard statement(s)

<table>
<thead>
<tr>
<th>Hazard classification</th>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irritation 2</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>Skin Sensitization 1</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>Eye Irritation 2A</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>Carcinogen 2 *</td>
<td>Suspected of causing cancer though oral exposure</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (STOT) Repeated Exposure 2</td>
<td>May cause damage to lungs, stomach, heart and liver through prolonged or repeated exposure to oral, dermal and inhalation</td>
</tr>
<tr>
<td>Aquatic Chronic 3</td>
<td>May cause long lasting harmful effects to aquatic life.</td>
</tr>
</tbody>
</table>

* Chlorendic Anhydride PE1+ will rapidly hydrolyse to chlorendic acid in the presence of water. The National Toxicology Program (NTP) has concluded that there is clear evidence of carcinogenicity (cancer) in a feeding study of rats and mice using chlorendic acid. International Agency for Research on Cancer (IARC) has given chlorendic acid an overall evaluation of 2B (possibly carcinogenic).

2.2 Precautionary statements

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Avoid breathing dust/fume/gas/mist/ vapors/spray.
- Wash any possible exposed area on body thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
Dispose of contents/container in accordance with local/regional/national/international regulation
Wash contaminated clothing before reuse.
Take off contaminated clothing and wash it before reuse.
Contaminated work clothing must not be allowed out of the workplace.
Store in a well-ventilated place. Keep container tightly closed and locked up.
Avoid release to the environment.

- If exposed or concerned: Get medical advice/attention.
- If on skin: Wash with soap and plenty of water. Remove contaminated clothing and shoes.
- If skin irritation or rash occurs: Get medical advice/attention.
- Contaminated work clothing must not be allowed out of the workplace.
- Store in a well-ventilated place. Keep container tightly closed and locked up.
- Avoid release to the environment.
- If exposed or concerned: Get medical advice/attention.
- If on skin: Wash with soap and plenty of water. Remove contaminated clothing and shoes.
- If skin irritation or rash occurs: Get medical advice/attention.
- Contaminated work clothing must not be allowed out of the workplace.
- Store in a well-ventilated place. Keep container tightly closed and locked up.
- Avoid release to the environment.

### 2.3 Signal Word

- **Warning**

### 2.4 Pictograms

- GHS08
- GHS07

### 2.5 Other hazards

- Not known.

## SECTION 3: Composition/information on ingredients:

### 3.1 Substances:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,7-Methanoisobenzofuran-1,3-dione, 4,5,6,7,8-hexachloro-3a,4,7,7a-tetrahydro-</td>
<td>Chlorendic Anhydride</td>
<td>115-27-5</td>
<td>&gt;95</td>
</tr>
<tr>
<td></td>
<td>1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-ene-2,3-dicarboxylic anhydride</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3.2 Impurities and stabilizing additives:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, 1,4,5,6,7,7-hexachloro-</td>
<td>Chlorendic Acid</td>
<td>115-28-6</td>
<td>&lt;3.0</td>
</tr>
<tr>
<td></td>
<td>1,4,5,6,7,7-Hexachloro-8,9,10-trinorborn-5-ene-2,3-dicarboxylic acid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,5-Furandione</td>
<td>Maleic anhydride</td>
<td>108-31-6</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Benzene, chloro-</td>
<td>Chlorobenzene</td>
<td>108-90-7</td>
<td>&lt;5.0</td>
</tr>
</tbody>
</table>

## SECTION 4: First-Aid Measures

### 4.1 Description of first aid measures

#### 4.1.1 General information:

Inhalation and skin contact are expected to be the primary routes of occupational exposure to chlorendic anhydride. This material is irritating to the eyes, skin and respiratory tract.
4.1.2 Following inhalation:
Remove to under fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

4.1.3 Following skin contact:
Immediately wash skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated shoes.

4.1.4 Following eye contact:
Immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

4.1.5 Following ingestion:
Get medical attention. Inducing vomiting as directed by medical personnel. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

4.1.6 Self-protection of the first aider:
Wear protective gloves/protective clothing/eye protection/face protection. Do not get in eyes, on skin, or on clothing. Contaminated work clothing should not be allowed out of the workplace. Get medical attention immediately.

4.1.7 Notes for the doctor:
Not available.

4.2 Most important symptoms and effects, both acute and delayed
Severely irritate to eyes. May cause damage to lungs, stomach, heart and liver through prolonged or repeated exposure to oral, dermal and inhalation. Suspected of causing cancer though oral exposure.

4.3 Indication of any immediate medical attention and special treatments needed:
Not available.

SECTION 5: Fire-Fighting Measures

5.1 Extinguishing media
- Flammability Properties: Non-flammable.
  However, this product contains up to 5% occluded Chlorobenzene, which can present a fire hazard if sufficient oxygen and a source of ignition is present.
- Suitable extinguishing media: Not applicable.
- Unsuitable extinguishing media: Not applicable.

5.2 Special hazards arising from the substance or mixture
May give off dust.

5.3 Advice for fire fighters
Fire-fighters should wear protective clothing and Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Firefighting equipment should be thoroughly decontaminated after use.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing; Removal of ignition sources, provision of sufficient ventilation, control of dust; Evacuate the danger area or to consult an expert.

6.2 Environmental precautions
Do not allow to enter sewers / surface or ground water.
In case of spillage to water course or public sewers inform responsible authorities.

6.3 Methods and materials for containment and clearing up
Stop the leak if possible. Collect spilled material into a suitable container. Avoid raising dust. Label containers and arrange for recovery or disposal. Dispose of contaminated material as hazardous waste. Wash spill area thoroughly with water and detergent.

6.4 References to other sections
See sections 8 and 13 for further advice.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling
- Do not handle until all safety precautions have been read and understood; Wear suitable protective clothing, gloves and eye/face protection.
- Provide ventilation if necessary to minimize exposure. Do not breathe dust/fumes;
- Avoid release to the environment.
- Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing. Keep away from sources of ignition and sunlight.

7.2 Conditions for safe storage, including any incompatibilities
Store in well-ventilated area away from sources of ignition and direct sunlight; Keep container tightly closed and locked up. Store away from food and feeding stuff.

This product contains up to 5% occluded Chlorobenzene, which can present a fire hazard if sufficient oxygen and a source of ignition is present. Ground containers and equipment to avoid static charge accumulation and/or use an inert atmosphere to prevent combustion.

Specific incompatibilities
Keep away from moisture/water.

7.3 Specific end uses(s):

<table>
<thead>
<tr>
<th>End use name</th>
<th>Substance supplied to that use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipt and storage of raw materials</td>
<td>as such (substance itself)</td>
</tr>
<tr>
<td>Blending / dissolving of dispersion</td>
<td>as such (substance itself)</td>
</tr>
<tr>
<td>Filtering and filling</td>
<td>in a mixture</td>
</tr>
<tr>
<td>Waste management</td>
<td>in a mixture</td>
</tr>
<tr>
<td>Use in closed batch process</td>
<td>as such (substance itself)</td>
</tr>
<tr>
<td>Mixing or blending batches</td>
<td>as such (substance itself)</td>
</tr>
<tr>
<td>Transfer of substance</td>
<td>in a mixture</td>
</tr>
<tr>
<td>Research and development.</td>
<td>as such (substance itself)</td>
</tr>
</tbody>
</table>

SECTION 8. Exposure Controls/Personal Protection

8.1 Control parameters
No OSHA Permissible Exposure Limits (PELs), or American Conference of Governmental Industrial Hygienists (ACGIH), or Threshold Limit Values (TLVs) available.

DN(M)ELs for workers

<table>
<thead>
<tr>
<th>Exposure pattern</th>
<th>Route</th>
<th>DNEL / DMEL</th>
<th>(Corrected) Dose descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute - systemic effects</td>
<td>Dermal</td>
<td>43 mg/kg bw/day</td>
<td>NOAEL: 1,290 mg/kg bw/day (based on AF of 30)</td>
</tr>
</tbody>
</table>
Acute - systemic effects
Inhalation: 299 mg/m³ NOAEC: 8,970 mg/m³ (based on AF of 30)

Acute - local effects
Dermal: 1 mg/cm² LOAEL: 50 mg/cm² (based on AF of 50)

Acute - local effects
Inhalation: 299 mg/m³ NOAEC: 8,970 mg/m³ (based on AF of 30)

Long-term - systemic effects
Dermal: 3.7 mg/kg bw/day NOAEL: 1,110.0 mg/kg bw/day (based on AF of 300)

Long-term - systemic effects
Inhalation: 15 mg/m³ NOAEC: 4,500 mg/m³ (based on AF of 300)

Long-term - local effects
Dermal: 0.56 mg/cm² NOAEL: 100.80 mg/cm² (based on AF of 180)

Long-term - local effects
Inhalation: 33.23 mg/m³ NOAEC: 9,969.00 mg/m³ (based on AF of 300)

### DN(M)ELs for the general population

<table>
<thead>
<tr>
<th>Exposure pattern</th>
<th>Route</th>
<th>DNEL / DMEL</th>
<th>(Corrected) Dose descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute - systemic effects</td>
<td>Dermal</td>
<td>21 mg/kg bw/day</td>
<td>NOAEL: 1,260 mg/kg bw/day   (based on AF of 60)</td>
</tr>
<tr>
<td>Acute - systemic effects</td>
<td>Inhalation</td>
<td>149 mg/m³</td>
<td>NOAEC: 8,940 mg/m³ (based on AF of 60)</td>
</tr>
<tr>
<td>Acute - systemic effects</td>
<td>Oral</td>
<td>21 mg/kg bw/day</td>
<td>NOAEL: 1,260 mg/kg bw/day   (based on AF of 60)</td>
</tr>
<tr>
<td>Acute - local effects</td>
<td>Dermal</td>
<td>0.5 mg/cm²</td>
<td>LOAEL: 50.0 mg/cm² (based on AF of 100)</td>
</tr>
<tr>
<td>Acute - local effects</td>
<td>Inhalation</td>
<td>0.042 mg/m³</td>
<td>NOAEC: 50.400 mg/m³ (based on AF of 1200)</td>
</tr>
<tr>
<td>Long-term - systemic effects</td>
<td>Dermal</td>
<td>3 mg/kg bw/day</td>
<td>NOAEL: 1,080 mg/kg bw/day   (based on AF of 360)</td>
</tr>
<tr>
<td>Long-term - systemic effects</td>
<td>Inhalation</td>
<td>12 mg/m³</td>
<td>NOAEL: 4,320 mg/m³ (based on AF of 360)</td>
</tr>
<tr>
<td>Long-term - systemic effects</td>
<td>Oral</td>
<td>1.1 mg/kg bw/day</td>
<td>NOAEL: 396.0 mg/kg bw/day   (based on AF of 360)</td>
</tr>
<tr>
<td>Long-term - local effects</td>
<td>Dermal</td>
<td>0.28 mg/cm²</td>
<td>NOAEL: 100.80 mg/cm² (based on AF of 360)</td>
</tr>
<tr>
<td>Long-term - local effects</td>
<td>Inhalation</td>
<td>16.62 mg/m³</td>
<td>NOAEL: 9,972.00 mg/m³ (based on AF of 600)</td>
</tr>
</tbody>
</table>

### PNECs

<table>
<thead>
<tr>
<th>Environmental protection target</th>
<th>PNEC</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh water</td>
<td>0.097 mg/L</td>
<td>Extrapolation method: assessment factor</td>
</tr>
<tr>
<td>Marine water</td>
<td>0.0097 mg/L</td>
<td></td>
</tr>
<tr>
<td>Intermittent release</td>
<td>0.97 mg/L</td>
<td>The LC50 from Acute toxicity to Algae, 97.2 mg/l, was used.</td>
</tr>
<tr>
<td>Sediment (fresh water)</td>
<td>0.097 mg/kg dw</td>
<td>This is the worst-case scenario for aquatic toxicity.</td>
</tr>
<tr>
<td>Sediment (marine water)</td>
<td>0.0097 mg/kg dw</td>
<td></td>
</tr>
<tr>
<td>Soil (Terrestrial)</td>
<td>0.106 mg/kg dw</td>
<td>Extrapolation method: partition coefficient</td>
</tr>
<tr>
<td>Food chain (Oral, mammals)</td>
<td>2.51 mg/kg food</td>
<td>The endpoint used was 90 day sub-acute oral toxicity to rats which gave a result of 226 mg/kg bw/day and has an assessment factor of 90.</td>
</tr>
<tr>
<td>Sewage treatment</td>
<td>16.23 mg/L</td>
<td>Extrapolation method: assessment factor</td>
</tr>
</tbody>
</table>

DN(M)EL: Derived No(Minimal) Effect Level; NOAEL(C): No-observed-adverse-effect level (concentration), PNEC: Predicted No-Effect Concentration; AF: Assessment Factor

### 8.2 Exposure controls

Ventilation must be adequate to maintain the ambient workplace atmosphere.

#### 8.2.1 Appropriate engineering controls:

Provide ventilation if necessary to minimize exposure. If practical use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

#### 8.2.2 Personal protective measures:

Do not eat, drink, or smoke whilst working. Keep away from foodstuffs, beverages and feed. Remove all contaminated clothing. Wash hands before breaks and at the end of work.

**Respiratory protection**

A full-face piece respirator with dual organic vapour and particulate matter cartridge is recommended.
Hand Protection
Chemical resistant coveralls, gloves and boot covers. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

Eye and face protection
Safety glasses should be worn when handling this substance.

Skin protection
Aprons or coveralls are recommended. These should be changed after use or if contaminated. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

8.2.3 Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
Appearance: White solid
Odor: No distinctive odor.
Odor threshold: Not known
pH: Not available
Melting point: 235 - 239°C
Boiling point: 266.5 - 322°C
Flashpoint: Not applicable
Evaporation rate: Not applicable
Flammability: Not flammable
Vapor pressure: 2.68 E-03 Pa at 25°C
Vapor density: Not available
Relative density: 1.76
Particle size distribution: 0.1% w/w < 10 μm
Solubility in water: 0.499 g/l for Chlorendic acid, < 2.5 E-03 g/l for Chlorendic anhydride
Solubility in other solvents: Easily soluble in acetone. Soluble in methanol, diethyl ether, n-octanol
Surface tension: 72.0 mN/m (90% saturated solution) due to rapid hydrolysis result for Chlorendic acid.
Partition coefficient: Log Pow = 1.39 (for Chlorendic acid)
Auto ignition temperature: Explosivity study not undertaken as Chlorendic Anhydride is used as a flame retardant.
Decomposition temperature: Not available
Viscosity: Not applicable
Explosive properties: Not considered to be explosive
Oxidizing properties: Not considered to be oxidizing
Dissociation Constant: Study not undertaken as Chlorendic Anhydride readily hydrolyses
Molecular Weight: 371

9.2 Other information:
Chlorendic anhydride rapidly hydrolyses to chlorendic acid in contact with water.

SECTION 10: Stability and Reactivity

10.1 Reactivity
Not a reactive substance and no reactive hazards are expected.
No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability
This substance is stable under normal ambient temperature and conditions.
The substance rapidly (instantaneously) hydrolyses to chlorendic acid in contact with water.
10.3 **Others**

**Possibility of hazardous reactions:**
No hazardous reactions expected under normal conditions of use.

**Conditions to avoid:**
Avoid excessive exposure to heat, direct sunlight and humidity.

**Incompatible materials:**
Highly reactive with oxidizing agents, organic materials. Slightly reactive to reactive with reducing agents, acids, alkalis. Very slightly to slightly reactive with metals.

**Hazardous decomposition products:**
No decomposition if used as directed.

### SECTION 11: Toxicological Information

#### 11.1 Information on toxicological effects

(a) **Acute toxicity**
This substance is not classified as acute toxic for all exposure route listed below:

<table>
<thead>
<tr>
<th>Acute Toxicity</th>
<th>Effect Dos /Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral Toxicity</td>
<td>LD50: 2562 mg/kg bw (male)</td>
</tr>
<tr>
<td></td>
<td>LD50: 2130 mg/kg bw (female)</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50: 10000 - 20000 mg/kg bw</td>
</tr>
<tr>
<td>Acute inhalative toxicity (dust/mist)</td>
<td>LC50: &gt; 203 mg/l</td>
</tr>
</tbody>
</table>

(b) **Skin corrosion/irritation**
Causes skin irritation

(c) **Serious eye damage/irritation**
Causes serious eye irritation

<table>
<thead>
<tr>
<th>Irritation parameter</th>
<th>Basis</th>
<th>Time point</th>
<th>Score</th>
<th>Max. score</th>
<th>Reversibility</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>overall irritation score</td>
<td>mean</td>
<td>14 days</td>
<td>16.4</td>
<td>17.3</td>
<td>no data</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

(d) **Respiratory/skin sensitisation**
May cause an allergic skin reaction

(e) **Germ cell mutagenicity**
Chlorendic Anhydride is not classified as genetically toxic as all study results are negative.

(f) **Carcinogenicity**
Suspected of causing cancer though oral exposure
Chlorendic anhydride will rapidly hydrolyse to chlorendic acid in the presence of water. The National Toxicology Program (NTP) has concluded that there is clear evidence of carcinogenicity (cancer) in a feeding study of rats and mice using chlorendic acid. International Agency for Research on Cancer (IARC) has given chlorendic acid an overall evaluation of 2B (possibly carcinogenic).

(g) **Reproductive toxicity**
Chlorendic anhydride is not classified as toxic to reproduction as negative results were obtained in the reproductive and spermatogenetic studies in animals.
Adverse effects on sexual function and fertility:

<table>
<thead>
<tr>
<th>Species</th>
<th>Result / Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>NOEL (Fetal mortality): &gt; 223 mg/kg bw/day (actual dose received)</td>
</tr>
</tbody>
</table>

Adverse effects on developmental toxicity:

<table>
<thead>
<tr>
<th>Species</th>
<th>Result / Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rats</td>
<td>NOEL: 400 mg/kg bw/day (actual dose received); NOEL (maternal toxicity): 100 mg/kg bw/day (nominal)</td>
</tr>
</tbody>
</table>

(h) **STOT-single exposure**

No information available.

(i) **STOT-repeated exposure**

May cause damage to lungs, stomach, heart and liver through prolonged or repeated exposure to oral, dermal and inhalation.

Oral NOAEL = 1242 mg/kg bw/day; Dermal NOAEL = 2500 mg/kg bw/day; Inhalation NOAEC = 9970 mg/m³

**Repeated dose toxicity: oral**

<table>
<thead>
<tr>
<th>Species</th>
<th>Specific effects</th>
<th>Organs affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rats</td>
<td>decrease in bodyweight</td>
<td>Heart, liver</td>
</tr>
</tbody>
</table>

**Repeated dose toxicity: dermal**

<table>
<thead>
<tr>
<th>Species</th>
<th>Specific effects</th>
<th>Organs affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbits</td>
<td>adverse clinical signs and decrease in bodyweight at higher dose</td>
<td>Stomach</td>
</tr>
</tbody>
</table>

**Repeated dose toxicity: inhalation**

<table>
<thead>
<tr>
<th>Species</th>
<th>Specific effects</th>
<th>Organs affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rats</td>
<td>pathological inflammatory changes in the lungs, trachea, nasal turbinate and stomach mucosa in all treated groups</td>
<td>Lungs, stomach, liver</td>
</tr>
</tbody>
</table>

(j) **Aspiration hazard**

This substance is a solid.

---

**SECTION 12: Ecological Information**

12.1. **Toxicity**

May cause long lasting harmful effects to aquatic life.

**Acute (short-term) toxicity:**

- **Fish:** LC50 (96h) for freshwater fish: 422.7 mg/L
- **Crustacean:** EC50/LC50 (48h) for freshwater invertebrates: 110.7 mg/L
- **Algae/aquatic plants:**
  - EC50/LC50 (72h) for freshwater algae: 97.2 mg/L
  - EC10/LC10 (72h) or NOEC for freshwater algae: 48.4 mg/L
- **Other organisms:** Not available

**Chronic (long-term) toxicity:**

The Algal Inhibition Test with a result of EC50 > 97.2 mg/L.

12.2 **Persistence and degradability**

Chlorendic Anhydride is not inherently biodegradable. However chlorendic anhydride readily hydrolyses to chlorendic acid and is moderately soluble, 0.499 mg/l.
12.3 Bioaccumulative potential
Chlorendic anhydride readily hydrolyses to chlorendic acid (log Kow = 1.39). According to the screening criteria this indicates that chlorendic acid is non-bioaccumulative.

12.4 Mobility in soil
Chlorendic anhydride readily hydrolyses to chlorendic acid. Chlorendic acid shows a low adsorptive (log Koc = 0.92) potential. The fugacity study shows that chlorendic acid undergoes significant degradation. Hence, Chlorendic anhydride is not expected to be a relevant distribution into soil and a considerable exposure to the soil compartment.

12.5 Results of PBT and vPvB assessment
Chlorendic anhydride is not bioaccumulative and is not regarded as a PBT / vPvB.

12.6 Other adverse effects
No information available.

SECTION 13: Disposal Considerations
Recycle to process, if possible. Consult your local or regional authorities for disposal options.

SECTION 14: Transport Information
This substance is not under control of ADR, IMDG, IATA and DOT.

Customs Classification: International HTS# 2917.20.0000

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This substance included on or exempted from listing on the following inventories:
United States (TSCA), Canada (DSL), Australia (AICS), China (IECSC), European Union (EINECS), Japan (ENCS), Korea (ECI), New Zealand (NZIoC), Philippines (PICCS)

This product contains Chlorendic Acid known to the State of California to cause cancer.

15.2 Chemical Safety Assessment
HMIS Rating
Health: 1 Flammability: 1 Reactivity (Stability): 1 Personal Protection:

Key: 0=Insignificant; 1=Slight; 2=Moderate; 3=High; 4=Extreme.

SECTION 16: Other Information

16.1 Indication of changes
October 22, 2013 This is the first SDS under OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))

August 31, 2016, Update address in Section 1

16.2 Key literature references and sources for data
Hazard Communication Standard (HCS)(29 CFR 1910.1200(g)) and Appendix D Hazardous Substance Data Bank (HSDB), National library of Medicine, #2920 Dossier and Chemical Safety Report (CSR) submitted to ECHA under REACH Product Data Sheet and SDS information from manufacturer.
16.3 **Classification for mixtures and used evaluation method according to** Hazard Communication Standard (HCS)(29 CFR 1910.1200(g)), Not a mixture.

16.4 **Training advice:** accordance with Hazard Communication Standard (HCS)(29 CFR 1910.1200(g))

16.5 **Further information:** Notice to Reader

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*