Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 17100
Product Name: AP39
Synonyms: [10-oxo-10-[4-(3-thioxo-3H-1,2-dithiol-5-yl)phenoxy]decyl]triphenyl-phosphonium;

1.2 Relevant identified uses of the substance or mixture and uses advised against:
   Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:
   Company Name: Cayman Chemical Company
   1180 E. Ellsworth Rd.
   Ann Arbor, MI 48108
   Web site address: www.caymanchem.com
   Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:
   Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
   CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
   Carcinogenicity, Category 2

2.2 Label Elements:
   GHS Signal Word: Warning
   GHS Hazard Phrases:
   H351: Suspected of causing cancer.
   GHS Precaution Phrases:
   P201: Obtain special instructions before use.
   P202: Do not handle until all safety precautions have been read and understood.
   P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
   GHS Response Phrases:
   P308+313: IF exposed or concerned: Get medical attention/advice.
   GHS Storage and Disposal Phrases:
   Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:
   Material may be irritating to the mucous membranes and upper respiratory tract.
   May be harmful by inhalation, ingestion, or skin absorption.
   May cause eye, skin, or respiratory system irritation.
   Suspected of causing cancer.
   To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
### Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name) / REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1429173-57-8 NA</td>
<td>AP39</td>
<td>2.5 %</td>
<td>NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>75-09-2 PA8050000</td>
<td>Dichloromethane</td>
<td>97.5 %</td>
<td>200-838-9 620-004-00-3</td>
<td>Carcinogen 2: H351</td>
</tr>
</tbody>
</table>

### Section 4. First Aid Measures

#### 4.1 Description of First Aid Measures:

- **In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

- **In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

- **In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

- **In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

### Section 5. Fire Fighting Measures

#### 5.1 Suitable Extinguishing Media:

- Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

- Use water spray to cool fire-exposed containers.

**Unsuitable Extinguishing Media:** A solid water stream may be inefficient.

**Flammable Properties and Hazards:**

- No data available.

- **Flash Pt:** No data.

- **Explosive Limits:**
  - LEL: No data.
  - UEL: No data.

- **Autoignition Pt:** No data.

#### 5.3 Fire Fighting Instructions:

- As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### Section 6. Accidental Release Measures

#### 6.1 Protective Precautions:

- Avoid raising and breathing dust, and provide adequate ventilation.

#### 6.2 Environmental Precautions:

- Take steps to avoid release into the environment, if safe to do so.

#### 6.3 Methods and Material For Containment and Cleaning:

- Contain spill and collect, as appropriate.

- Transfer to a chemical waste container for disposal in accordance with local regulations.

**Up:**

Multi-region format
Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1429173-57-8</td>
<td>AP39</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>75-09-2</td>
<td>Dichloromethane</td>
<td>TWA: 350 mg/m3 (100 ppm) STEL: 1060 mg/m3 (300 ppm)</td>
<td>TWA: 180 mg/m3 (50 ppm) STEL: 350 mg/m3 (100 ppm)</td>
<td>No data.</td>
</tr>
</tbody>
</table>

CAS #     | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1429173-57-8</td>
<td>AP39</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>75-09-2</td>
<td>Dichloromethane</td>
<td>PEL: 25 ppm STEL: 125 ppm (15 min)</td>
<td>TLV: 50 ppm</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

- **Eye Protection:** Safety glasses
- **Protective Gloves:** Compatible chemical-resistant gloves
- **Other Protective Clothing:** Lab coat
- **Respiratory Equipment:** NIOSH approved respirator, as conditions warrant.
- **Work/Hygienic/Maintenance Practices:**
  - Do not take internally.
  - Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
  - Wash thoroughly after handling.
  - No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical States:</th>
<th>[ ] Gas</th>
<th>[X] Liquid</th>
<th>[ ] Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and Odor:</td>
<td>A solution in dichloromethane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting Point:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Pt:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Limits:</td>
<td>LEL: No data.</td>
<td>UEL: No data.</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure (vs. Air or mm Hg):</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density (vs. Air = 1):</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.

9.2 Other Information
Percent Volatile: No data.
Molecular Formula & Weight: C37H38O2PS3 641.9

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [ X ]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
10.4 Conditions To Avoid: heat, flames and sparks
10.5 Incompatibility - Materials alkali metals
To Avoid: aluminum
amines
magnesium
strong acids
strong bases
strong oxidizing agents
vinyl compounds
10.6 Hazardous Decomposition or Byproducts: No data available.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: Dichloromethane - Toxicity Data: Oral LD50 (rat): 1600 mg/kg; Intraperitoneal LD50 (rat): 916 mg/kg; Oral LD50 (mouse): 873 mg/kg; Intraperitoneal LD50 (mouse): 437 mg/kg; Subcutaneous LD50 (mouse): 6460 mg/kg;

Chronic Toxicological Effects: Dichloromethane - Investigated as an agricultural chemical, drug, mutagen, primary irritant, reproductive effector, and tumorigen.
Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
See actual entry in RTECS for complete information.
Dichloromethane RTECS Number: PA8050000

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1429173-57-8</td>
<td>AP39</td>
<td></td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>75-09-2</td>
<td>Dichloromethane</td>
<td>Possible</td>
<td>2B</td>
<td>A3</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and Degradability: No data available.
12.3 Bioaccumulative Potential: No data available.
12.4 Mobility in Soil: No data available.
12.5 Results of PBT and vPvB: No data available.
12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Dichloromethane
DOT Hazard Class: 6.1 POISON
UN/NA Number: UN1593 Packing Group: III

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Dichloromethane
UN Number: 1593 Packing Group: III
Hazard Class: 6.1 - POISON

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Dichloromethane
UN Number: 1593 Packing Group: III
Hazard Class: 6.1 - POISON IATA Classification: 6.1

Additional Transport Information:
Transport in accordance with local, state, and federal regulations.
When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1429173-57-8</td>
<td>AP39</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>75-09-2</td>
<td>Dichloromethane</td>
<td>No</td>
<td>Yes 1000 LB</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>1429173-57-8</td>
<td>AP39</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>75-09-2</td>
<td>Dichloromethane</td>
<td>CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory, 8A CAIR; CA PROP.65: Yes</td>
</tr>
<tr>
<td>Regulatory Information</td>
<td>This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td></td>
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</tbody>
</table>

**Section 16. Other Information**

<table>
<thead>
<tr>
<th>Revision Date:</th>
<th>07/09/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Information About This Product:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Company Policy or Disclaimer:</td>
<td>DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.</td>
</tr>
</tbody>
</table>