1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product name: Bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate + methyl(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate
CAS number: 41556-26-7  82919-37-7
Company name: UV Chem-Keys Co., Ltd
RM9-G, F/9, First Trade Tower, 985# Dongfang RD, Shanghai, China
Zip Code: 200122
Tel: 86 21  58785816
Fax: 86 21  58786585

2. Health Hazards Data

CAS Number: 41556-26-7  82919-37-7
Product Name: Bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate + methyl(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate
Content:
R-Phrase(s):

3. HAZARDS IDENTIFICATION

Appearance: Pale yellow liquid
Odor: Ester-like
Flammability: For small spills, absorb with sand or other non-flammable materials. Place into sealable container for disposal. Dike large spills for cleanup and disposal.
Environmental: This product is highly toxic to aquatic organisms. Do not allow it to enter a body of water.
Health: This product is a skin sensitizer. Avoid skin contact.
Disposal: Dispose in accordance with local, state and federal regulations.
Primary Route of Entry: Ingestion, Dermal, Inhalation, Eyes
OSHA Hazardous Substance: This material is listed as hazardous under OSHA regulations.

4. FIRST AID MEASURES (SYMPTOMS)

First Aid for Swallowing: If swallowed, give at least 3-4 glasses of water. Then induce vomiting by placing a finger or blunt object the back of the person’s tongue. Give fluids until vomitus is clear. DO NOT give anything by mouth to an unconscious or convulsing person. Get medical attention.
First Aid for Skin: Following skin contact, wipe away excess material with a dry towel. Then wash affected areas with plenty of water and soap, if available, for several minutes. Remove and clean contaminated clothing and shoes before reuse. Get medical attention if irritation occurs.

First Aid for Inhalation: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops, or if breathing becomes difficult.

First Aid for Eye: Following eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. Get medical attention if irritation occurs.

Note to Physician: Pre-existing skin conditions, allergies or eczema. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point: 243°F (117°C)
Extinguishing Media: Carbon dioxide, dry chemical, alcohol foam, water mist. Water or foam may cause frothing. Use water spray to cool fire-exposed containers.
Unusual Hazards: Decomposition and combustion products may be toxic.
Fire Fighting Instructions: Use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spill or Release Procedures: Absorb with sand or other absorbent material. Shovel into sealable container for disposal. Wear protective equipment as specified below.

7. HANDLING AND STORAGE

Handling: Keep away from heat, sparks and flames. Ground and bond containers to prevent static sparks. Use non-sparking tools. Avoid eye, skin and clothing contact. For industrial use only. Wash thoroughly after handling and before eating, drinking or using tobacco products.

Storage: Keep container tightly closed when not in use and during transport. Do NOT cut or weld drums, even empty drums. No smoking in areas of use or storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION
Engineering Controls: Work in well-ventilated areas and use local exhaust.
Eye/Face Protection: Wear safety glasses or chemical goggles if eye contact is possible.
Skin Protection: Wear impervious gloves.
Respiratory Protection: Considering the low vapor pressure of this product, none required for normal use at room temperature.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Pale yellow viscous liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Ester-like odor</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 350°C (&gt;662°F)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>&lt; 20°C [&lt; 68°F]</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>&gt; 325°C [&gt;617°F]</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>~ 1 [H₂O = 1]</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>% Volatile</td>
<td>Negligible</td>
</tr>
<tr>
<td>Viscosity</td>
<td>~ 400 mPa.s at 20°C [68°F]</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>1 x 10⁻⁴ mm Hg at 20°C</td>
</tr>
<tr>
<td>pH</td>
<td>8.43 for a 1% suspension in water</td>
</tr>
<tr>
<td>Solubility</td>
<td>&lt; 0.01wt% in water at 20°C (68°F)</td>
</tr>
<tr>
<td>Octanol/Water Coefficient</td>
<td>Log P₀/w = 2.37 [at 20 – 25°C]</td>
</tr>
<tr>
<td>Ignition</td>
<td>air atmosphere</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Incompatibility</td>
<td>Strong oxidizing agents, strong acids, strong bases</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, nitrogen oxides and other toxic compounds.</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity: LD₅₀ (Rats) > 3,125 mg/kg
**Material Safety Data Sheet**

**CHEMSTAB LS-765**

**Skin Irritation:** (Rabbits) Not an irritant

**Eye Irritation:** (Rabbits) Not an irritant

**Sensitization:** (Guinea pigs) Strong skin sensitizing potential, with 20/209 animals sensitized in epidermal challenge

**Mutagenicity:** Ames/E. Coli test: Non-mutagenic

**Inhalation Toxicity:** 106-79-6 = Dimethyl Sebacate

(Humans) High gas, vapor, mist or dust concentrations may be harmful if inhaled.

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### 12. ECOLOGICAL INFORMATION

**Ecological Information**

- **Acute Toxicity to Fish:** Bluegill, 96-hour LC50: >0.97 mg/l
  Rainbow Trout, 96-hour LC50: 7.9 mg/l

- **Acute Toxicity to Invertebrates:** Daphnia magna, 24-hour,
  EC50: 20 mg/l

- **Acute Toxicity to Algae:** 2403-89-6 PMHP(Scenedesmus sp.)
  72-hour, EC50: 27 mg/l

- **Toxicity to Sewage Bacteria:** Inhibitory concentrate on respiration of aerobic wastewater bacteria: IC20 approximately 100 pp; IC50, IC80: >100 ppm

- **Bioconcentration:** Japanese (MITI) bioaccumulation study, carp:
  Not bio-accumulative at test concentrations of 0.3 and 0.03ppm.

- **Biodegradability:** OECD screening test No. 301E: Partially but not readily biodegradable with 38% in 28 days.

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### 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products**

Residual chemical should be disposed by incineration or by other modes of disposal in compliance with local legislation.

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### 14. Transport information

This product is not regulated by any means of transport.

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### 15. REGULATORY INFORMATION

**Chemical Weapons Convention (CWC):**

This product does not contain any chemicals listed under the Chemical Weapons Convention Schedule of Chemicals.

**US Federal Regulations:**

**Clean Air Act – Hazardous Air Pollutants (HAP):**

This product contains no hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act.

**Clean Air Act – Ozone Depleting Substances (ODS):**
This product does NOT contain nor was manufactured with any Class I or Class II ozone depleting substances (ODS). This is based upon existing knowledge from our current supplier base.

**Clean Water Act – Priority Pollutants (PP):**
This product contains no chemicals listed under the U.S. Clean Water Act Priority Pollutant List.

**Occupational Safety and Health Act (OSHA):**
This product is considered to be a hazardous chemical under the OSHA Hazard Communication Standard (29CFR 1910.1200).

**Resource Conservation and Recovery Act (RCRA):**
This product is not considered to be a hazardous waste under RCRA (40 CFR 261).

**SARA Title III: Section 302 – Extremely Hazardous Substances (EHS):**
This product contains no chemicals regulated under Section 302 as extremely hazardous substances.

**SARA Title III: Section 304 – CERCLA:**
This product contains no chemical regulated under Section 304 as extremely hazardous chemicals for emergency release notification (“CERCLA” List).

**SARA Title III: Section 311/312 – Hazard Communication Standard (HCS):**
This product is regulated under Section 311-312 (40 CFR 370).

**SARA Title III: Section 313 Toxic Chemical List (TCL):**
This product does not contain a toxic chemical for routine annual Toxic Chemical Release Reporting’ under Section 313 (40 CFR 372).

**TSCA Section 5(e) – Consent Order / SNUR:**
This product is not subject to a section 5(e) Consent Order or Significant New Use Rule (SNUR).

**TSCA Section 8(b) – Inventory Status:**
All Chemical(s) comprising this product are listed on the TSCA inventory.

**TSCA Section 12(b) – Export Notification:**
This product does not contain any chemicals subject to Section 12(b) export notification.

**Additional Federal Information:**
This product is not subject to a Section 5(f)/6(a) rule.

**International Regulations:**

**Australian Inventory Status:**
This product contains only chemicals that are currently listed on the Australian Inventory of Chemical Substances.

**Canadian Inventory Status:**
This product contains only chemical that are currently listed on the Canadian Domestic Substance List.

**European Inventory Status (EINECS):**
This product contains only chemicals that are currently listed on the European Inventory of Existing Commercial Chemical Substances (EINECS).

**Korean Inventory Status:**
This product contains only chemicals that are currently listed on the Korean Chemical Substances List.
Japanese Inventory Status:
This product contains only chemicals currently listed on the Japanese Ministry of International Trade and Industry List of Existing and New Chemical Substances. The MITI registration number(s) are 907(5)-5501, 1194(5)-5593

Additional International Information:
This product contains only chemical that are currently listed on the Philippine Inventory of Chemical Substances

16. Other information

Legal disclaimer : The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.