**Ciba Specialty Chemicals Corporation**

# Material Safety Data Sheet

**OSHA / ANSI 2003 Compliant**

*MSDS date: 03-Sep-2004*

| | | | | |
|---|---|---|---|---|
| **NFPA Rating:** | **Health:** 2 | **Flammability:** 1 | **Instability:** 0 | **Special Hazards:** - |
| **HMIS Rating:** | **Health:** 2* | **Flammability:** 1 | **Physical Hazard:** 0 | **Personal Protection:** - |

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** **Tinuvin 111 FDL**

**Product Number:** **1617968**

**Intended Use:** Stabilizer

**Manufacturer/Supplier:**

Ciba Specialty Chemicals Corporation
540 White Plains Road
Tarrytown, NY 10591
8:30am - 5pm Phone Number: 1-914-785-2000
MSDS Request Line (voicemail): 1-800-431-2360
Customer Service/Product Information 1-800-474-4731

**Emergency 24-Hour Health/Environmental Phone: 1-800-873-1138**

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**Signal Word:** WARNING!

**Physical Form:** Solid

**Color:** Light yellow

**Health:** This product may cause eye, skin and respiratory irritation. Avoid contact.. This product is a skin sensitizer. Avoid skin contact. Repeated or prolonged swallowing of the active ingredient may cause liver and thyroid damage, blood effects and may affect pregnancy, based upon animal studies. These effects could be seen as liver enlargement and enzyme changes, thyroid hormone changes or changes in white blood cell count..

**Physical Hazards:** Refer to MSDS Section 7 for Dust Explosion information.

**Environmental:** This product is toxic to aquatic organisms. Prevent spillage or leakage into a body of water

**OSHA Hazardous Substance:** This material is classified as hazardous under OSHA regulations.

**Primary Route(s) of Entry:** Ingestion, Skin, Inhalation, Eyes.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**HAZARDOUS COMPONENTS**

| Components | CAS Number | Weight % |
|---|---|---|
| Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | 65447-77-0 | 50 - 60 |
| N,N"'-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | 106990-43-6 | 40 - 50 |

## 4. FIRST AID MEASURES

**Eyes:** Immediately flush the eye(s) with lukewarm, gently flowing water for 15 minutes or until the chemical is removed. Get medical attention.

**Skin:** If clothing is contaminated, remove and launder before reuse. Wash off immediately with soap and plenty of water. Get medical attention if irritation occurs.

**Inhalation:** Remove to fresh air, if not breathing give artificial respiration. If breathing is difficult, give oxygen and get immediate medical attention.

**Ingestion:** Do not induce vomiting. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. Seek medical attention immediately.

**Notes to physician:** Pre-existing allergies or eczema; liver disease and jaundice; or blood disorders.

## 5. FIRE FIGHTING MEASURES

**Fire Fighting Measures:** Standard procedure for chemical fires.

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical, foam or water mist.

**Fire Fighting Equipment:** Wear self-contained breathing apparatus and protective suit.

**Unusual hazards:** The product can form an explosive dust/air mixture. For further information, see Section 7 Explosion Hazards.

**Hazardous Combustion Products:** Burning may produce toxic combustion products.

## 6. ACCIDENTAL RELEASE MEASURES

**Cleanup Instructions:** Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Wear suitable protective equipment. Should not be released into the environment.

## 7. HANDLING AND STORAGE

**Handling:** As with all industrial chemicals, use good industrial practices when handling. Avoid eye, skin, and clothing contact. Do not inhale. Do not taste or swallow. Use only with adequate ventilation.

**Storage:** Keep containers tightly closed in a cool, well-ventilated place.

**Explosion Hazards:**

Danger! Explosion Risk
- Combustible powder.
- Risk of explosion if an air-dust mixture forms.
- Avoid creating dusty conditions.
- Empty only into grounded containers.
- If container is larger than 550 gallons (2m3) or if flammable solvents are present, the container must be inerted or the system otherwise designed to prevent or contain an explosion. Seek expert advice.

In addition, for products packaged in fused-lined (coated) fiber drums, fiber drums with conductive liners, steel drums, steel pails, and Type "C" FIBC (bulk bags), the following instructions also apply:

- Always ground this package before emptying.

The user is responsible for designing the system to handle solid and ensuring proper training of employees in the system's use.

**For Industrial Use Only**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines:**

There are no OSHA or ACGIH exposure guidelines available for component(s) in this product.

| Components | OSHA PEL | OSHA STEL | ACGIH TWA | ACGIH STEL | Ciba/ Manufacturer IEL: |
|---|---|---|---|---|---|
| Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol 65447-77-0 | | | | | 10 mg/m$^3$ |
| N,N'"-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, 106990-43-6 | | | | | 0.5 mg/m$^3$ |

**Personal Protective Equipment**

**Eye/Face Protection:** Wear safety glasses or goggles to protect against dust particles.

**Skin Protection:** Wear chemical resistant gloves and protective clothing.

**Respiratory Protection:** Use NIOSH approved respirator as needed to mitigate exposure.

**Engineering Controls:** Work in well ventilated areas. Do not breathe dust.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical Form:** Solid
**Color:** Light yellow
**Freezing/Melting Point:** Not determined

| | |
|---|---|
| **Solubility in water:** | <= 2 mg/L |
| **Vapor Density:** | Not applicable |
| **Vapor Pressure:** | Not applicable |
| **Density:** | Not determined |
| **Specific Gravity:** | Not applicable |
| **pH:** | Not determined |
| **Percent Volatile:** | Not determined |
| **VOC:** | Not determined |
| **Partition Coefficient (Octanol/Water):** | Not determined |
| **Decomposition Temperature:** | Not determined |
| **Ignition Temperature:** | 390°C (734°F) |
| **Flammability Limits in Air:** | |
| **Flash point:** | > 275°C (527°F) |
| **Test Method (for Flash Point):** | Open cup |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable.

**Conditions to Avoid:** Avoid static discharge.

**Incompatibility:** Strong oxidizing agents, strong acids, strong bases.

**Hazardous Decomposition Products:** No decomposition expected under normal storage conditions.

**Possibility of Hazardous Reactions:** None expected.

## 11. TOXICOLOGICAL INFORMATION

**Acute Oral Toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rats) (Chinese hamster) LD50 > 5000 mg/kg |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | (Rats) LD50 > 5000 mg/kg |

**Acute Dermal Toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rats) LD50 > 2000 mg/kg |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | (Rats) LD50 > 2000 mg/kg |

**Acute Inhalation Toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rats) > 1.1 mg/L LC50 in air for a 4-hour aerosol exposure with approximately 40% of particles <7 microns. There were no deaths or untoward behavioral alterations nor did necropsy reveal any gross pathologic alterations. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Eye Irritation:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rabbits) Not an irritant. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | (Rabbits) Not an irritant. (Rabbits) Not an irritant. |

**Skin Irritation:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rabbits) Not an irritant. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | (Rabbits) Not an irritant. |

**Skin Sensitization:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Guinea pig) Not a sensitizer |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | (Guinea pigs) Strong grade of skin sensitization potential in the maximization test, with 60 to 75% of the animals sensitized. |

**Carcinogenicity (IARC; NTP; OSHA; ACGIH):** None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.

**Mutagenicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Sister chromatid exchange study (Chinese hamster): Non-mutagenic<br>Ames test: Non-mutagenic<br>Nucleus anomaly test (Chinese hamster): Non-mutagenic |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Reproductive Toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rats) No evidence of a teratogenic effect for an oral administration of 500 mg/kg during days 6 to 15 of pregnancy. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Teratogenicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Rats) No evidence of a teratogenic effect for an oral administration of 500 mg/kg during days 6 to 15 of pregnancy. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Neurotoxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Subacute Toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Subchronic Toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | 3 Month study (rats): The organ weights were all within the normal variations and there was no evidence of any dose-related effect. The only macro- and histopathological findings was a mammary adeno-carcinoma in the right inguinal region of a female treated with 50 mg/kg bw. The tumor was not regarded as treatment related. The NOEL was 450 mg/kg. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | The test substance was administered by incorporation into the diet to rats at doses of 0, 150, 800, 3,000 and 12,000 ppm for 3 months. There were no deaths during the study nor were clinical symptoms seen. Reductions in food and water intakes were seen in the highest dose animals. Trends to decreased mean bodyweights were recorded for both males and females at the two upper dose levels. No effects in eye tests were noted. Hematology and blood chemistry revealed a dose-related leucocytosis with neutrophilia. Bilirubinuria and occurence of blood in the urine were noted at the high-dose group animals. Decrease in carcass weights were recorded for both males and females at the 3,000 and 12,000 ppm dose levels, while increase in female liver and spleen weights were recorded at the same dose levels. An increased presence of phagocytic cells (foamy macrophages) in a number of organs, including lymph nodes, small and large intestine, liver, spleen, ovary, adrenal gland and kidney, was recorded as the primary histopathological changes. These tissue reactions led to secondary histopathologic findings such as inflammatory and necrotizing changes. In addition, signs of anemia were present along with disturbances in liver and kidney function. The NOEL was below 150 ppm, equivalent to 9.8 mg/kg/day. |

**Chronic toxicity:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Absorption / Distribution / Excretion / Metabolism:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (rat) An average of 58% was excreted within 24 hours. After 144 hours, almost all radioactivity was excreted. Residual readioactivity was found in the liver, testes, and ovaries. There is evidence that this product is first partially degraded in the intestinal tract. Thereafter, these degradation products are absorbed and further degraded. |

| | |
|---|---|
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Additional Information:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | (Mice) (Guinea pigs) No photo-sensitization reaction nor phototoxic irritation. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Pharmacokinetics: Male rats were administered 50 and 1,000 mg/kg radiolabeled product. 96-hours after administration the organs and tissues contained less than 0.007% of the dose, except the GI tract (0.14-0.22%) and the liver (0.057-0.059%). There was no significant difference in the pattern of distribution between the high and low dose. There was no significant biocentration or accumulation in any of the organs and tissues investigated. |

## 12. ECOLOGICAL INFORMATION

**Toxicity to Fish:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | LC50: > 100 ppm 96 hour (Rainbow trout) (Bluegill) (Catfish) (Carp) |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | LC50: > 119 ppm (Zebra fish) |

**Toxicity to Invertebrates:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | EC50: > 25 ppm 24 hour (Daphnia magna) |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Toxicity to Algae:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | EC50: > 100 ppm 72 hour (Green algae) |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Toxicity to Sewage Bacteria:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Inhibitory concentration on respiration of aerobic waste water bacteria: IC20, IC50, IC80 >100 ppm |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Activated Sludge Respiration Inhibition Test:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Biochemical Oxygen Demand (BOD):**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Chemical Oxygen Demand (COD):**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Total Oxygen Demand (TOD):**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Biodegradability:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Sturm Test: Not biodegradable, with 4-17% in 28 days. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Sturm test: Not biodegradable, with 3-6% in 28 days. |

**Bioaccumulation:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Japanese (MITI) bioaccumulation study: (Carp) Not bioaccumulative at test concentrations of 0.1 and 0.01 ppm. |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

**Additional Environmental Data:**

| | |
|---|---|
| 65447-77-0<br>Dimethyl succinate polymer with 4-hydroxy-2,2,6,6,-tetramethyl-1-piperidineethanol | Not determined |
| 106990-43-6<br>N,N'''-[1,2-Ethanediylbis[[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidinyl)amino] -1,3,5- traizin-2-yl]imino]-3,1-propanediyl]] bis [N'N''-dibutyl-N'N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)]-1, | Not determined |

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal:** Dispose in accordance with local, state, provincial and federal regulations.

## 14. TRANSPORT INFORMATION

**U.S. Department of Transportation (DOT):**

Not regulated for this mode of transport.

**International Maritime Dangerous Goods (IMDG):**

Not regulated for this mode of transport.

**International Air Transportation Authority (IATA):**

Not regulated for this mode of transport.

## 15. REGULATORY INFORMATION

### Federal Regulations

**OSHA Hazardous Substance:** This material is classified as hazardous under OSHA regulations

**Clean Air Act - Hazardous Air Pollutants (HAP):** This product contains the following Hazardous Air Pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

| Components | CAA Section 112 Statutory Hazardous Air Pollutants |
|---|---|
| Benzene, dimethyl-<br>1330-20-7 | Listed. |
| Ethylbenzene<br>100-41-4 | Listed. |

**Clean Air Act - Volatile Organic Compounds (VOC):** This product contains the following SOCMI Intermediate or Final Volatile Organic Compounds (VOC), as defined by the U.S. Clean Air Act Section 111 (40 CFR 60.489).

| Components | CAA Section 111 Volatile Organic Compounds |
|---|---|
| Benzene, dimethyl-<br>1330-20-7 | Listed. |
| Ethylbenzene<br>100-41-4 | Listed. |

**Clean Air Act - Ozone Depleting Substances (ODS):** This product neither contains, nor was manufactured with, a Class I or Class II ozone depleting substance (ODS), as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B).

**Clean Water Act - Priority Pollutants (PP):** This product contains the following priority pollutants listed under the U.S. Clean Water Act Section 307 (2)(1) Priority Pollutant List (40 CFR 401.15):

| Components | CWA Section 307(2)(1) Priority Pollutants |
|---|---|
| Ethylbenzene<br>100-41-4 | Listed. |

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261.21).

**SARA Section 302 Extremely Hazardous Substances (EHS):** This product does not contain any components regulated under Section 302 (40 CFR 355) as Extremely Hazardous Substances.

**SARA Section 304 CERCLA Hazardous Substances:** This product contains the following component(s) regulated under Section 304 (40 CFR 302) as hazardous chemicals for emergency release notification ("CERCLA" List).

| Components | Section 304 CERCLA Hazardous Substances | CERCLA Reportable Quantity |
|---|---|---|
| Benzene, dimethyl-<br>1330-20-7 (0.001 - 0.99 %) | Listed. | 100 LBS |
| Ethylbenzene<br>100-41-4 (0.001 - 0.05 %) | Listed. | 1000 LBS |

**SARA Section 311/312 Hazard Communication Standard (HCS):** This product is regulated under Section 311/312 HCS (40 CFR 370), Its hazards are: , Acute (immediate) health hazard, Chronic (delayed) health hazard.

**SARA Section 313 Toxic Chemical List (TCL):** The following component(s) are listed on the Section 313 Toxic Chemical List:

| Components | Weight % | Section 313 Status |
|---|---|---|
| Ethylbenzene<br>100-41-4 | 0.001 - 0.05 | Listed. |
| Benzene, dimethyl-<br>1330-20-7 | 0.001 - 0.99 | Listed. |

**TSCA Section 8(b) Inventory Status:** All component(s) comprising this product are either exempt or listed on the TSCA inventory.

**TSCA Section 5(e) Consent Orders:** This product is not subject to a Section 5(e) Consent Order.

**TSCA Significant New Use Rule (SNUR):** This product is not subject to a Significant New Use Rule (SNUR).

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

**TSCA Section 12(b) Export Notification:** This product contains the following component(s) that are subject to a Section 12(b) Export Notification:

| Components | TSCA Section 12(b) Export Notification |
|---|---|
| Benzene, dimethyl-<br>1330-20-7 | One-Time Export Notification only. |

## State Regulations

**California Proposition 65:** This product contains the following component(s) currently on the California list of Known Carcinogens and Reproductive Toxins.

| Components | California Proposition 65 |
|---|---|
| *Ethylbenzene*<br>*100-41-4* | carcinogenic |

**Pennsylvania Right-To-Know:** This product contains the following component(s) which are subject to Pennsylvania Right-to-Know disclosure requirement.

| Components | CAS Number | Pennsylvania Right-to-Know |
|---|---|---|
| Ethylbenzene | 100-41-4 | Listed.<br>Environmental hazard. |
| Benzene, dimethyl- | 1330-20-7 | Listed.<br>Environmental hazard. |

## International Regulations

**Chemical Weapons Convention (CWC):** This product does not contain any component(s) listed under the Chemical Weapons Convention Schedule of Chemicals.

# 16. OTHER INFORMATION

**Disclaimer:** The information contained herein is based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to such data or information. The user is responsible for determining whether the product is suitable for its intended conditions of use.