

# TIANJIN NORTH JINHENG CHEMICAL INDUSTRY PLANT

## material safety data sheet

### LIGHT STABILIZER 622

### 1. PRODUCT IDENTIFICATION

**Trade Name:** LIGHT STABILIZER 622

**Formula:**  $[C_{11}H_{23}NO_2 \cdot C_6H_{10}O_4]_x$

**Intended Use:** Hindered Amine Light Stabilizer

<b>Health:</b>	<b>2</b>
<b>Flammability:</b>	<b>1</b>
<b>Reactivity:</b>	<b>0</b>
<b>Personal Protection:</b>	

**HMIS RATING**

#### Important Use Information:

This material is not intended for use in products for which prolonged contact with mucous membranes or abraded skin, body fluids, or abraded skin, or implantation within the human body, is specifically intended, unless the finished product has been tested in accordance with national and international applicable safety regulations. Because of the wide range of such potential uses, Network Performance Additives is not able to recommend this material as safe and effective for such uses and assumes no liability for such uses.

### 2. COMPOSITION & INFORMATION ON INGREDIENTS

OSHA	CAS No.	Chemical Identity	Weight %
*	65447-77-0	Dimethyl succinate polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperdine ethanol	100wt%

\* = non OSHA Hazardous Ingredient

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

**Appearance:** Off-white to slightly yellow powder

**Flammability:** Use of proper grounding techniques are recommended when emptying this product from containers weight more than 1 pound. A build-up of hazardous electrostatic charges may cause a flash fire or explosion when the contents are emptied into a flammable atmosphere. See Section 7.

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

**Health:** This product can cause skin irritation. Avoid skin contact.

**Disposal:** Sweep or shovel spilled material and place into a sealed container. Pre-wet the material to prevent dust build-up. Dispose in accordance with local, state and federal regulations. Incineration is recommended. This product is not a hazardous waste under RCRA.

**Primary Route of Entry:** Dermal, inhalation, ingestion

**Eye:** This product is not expected to cause eye irritation.

**Skin:** Direct or prolonged exposure to this product may cause skin irritation, which may be seen as redness and dermatitis. It is not expected to cause allergic skin reactions.

**Swallowing:** Small amounts, if swallowed, are not expected to cause injury; avoid swallowing.

**Inhalation:** As Internal Exposure Limit (IEL) of 10 mg/m<sup>3</sup> air (8-hour TWA) has been established. Inhalation may cause nasal and respiratory tract irritation.

Note: Refer to **Section 11, Toxicological Information** for details.

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### 4. FIRST AID MEASURES

- First Aid for Swallowing:** If swallowed, give at least 3-4 glasses of water, but DO NOT induce vomiting. Do not give anything by mouth to an unconscious or convulsing person.
- 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 several minutes. Get medical attention if irritation occurs.
- Note to Physician:** May aggravate pre-existing skin conditions. Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

- Flash Point:** > 482°F (> 250°C)
- Extinguishing Media:** Carbon dioxide, dry chemical, foam, water mist
- Unusual Hazards:** The product can form an explosive dust/air mixture. Avoid dust formation and control ignition sources. Employ grounding, venting and explosion relief provisions in accord with accepted engineering practices in process operations capable of generating dust and/or static electricity.
- Fire Fighting Instructions:** Use self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES

- Spill or Release Procedures:** Pre-wet material with water to avoid dust formation. Sweep or vacuum and place in sealable container for disposal. Wear protective equipment as specified below. Flush residue with water.

### 7. HANDLING AND STORAGE

- Handling:** Avoid contact with eyes and prolonged or repeated skin contact. Avoid breathing or ingesting dust, especially prolonged or repeated breathing of dust. Use only with adequate ventilation. 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.
- Explosion Hazards:**
- *For All Packages:*
- DANGER~ EXPLOSION RISK**
- Risk of explosion if an air-dust mixture forms
  - Avoid creating dusty conditions
  - Empty only into grounded containers

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- If container is larger than 550 US gallons ( $2\text{m}^3$ ) in volume, or when flammable solvents are present, the container must be inverted (with inert gas flush) or the system otherwise designed to prevent or contain an explosion - seek expert advise.
- *In addition, for products packaged in fused-lined (coated) fiber drums, fiber drums with conductive liner, steel drums, steel pails or bulk bags, the following instructions apply:*
  - Always ground the package before emptying
- *For products that have external protective packaging, discharge product only from the primary product packaging, NOT from external containers or its liner.*

The user is responsible for designing a system that safely handles solid additives and to ensure proper training of employees in the system's use.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

<b>Engineering Controls:</b>	General mechanical ventilation and local exhaust recommended to keep dust levels down.
<b>General Protection:</b>	Wear coveralls.
<b>Eye/Face Protection:</b>	Wear safety glasses or chemical goggles if eye contact is possible.
<b>Skin Protection:</b>	Wear impervious gloves as a standard handling procedure.
<b>Respiratory Protection:</b>	Use NIOSH-approved respirator suitable for dust if required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>Appearance:</b>	Off-white to slightly yellow powder
<b>Odor:</b>	Odorless
<b>Boiling Point:</b>	Not applicable
<b>Evaporation Rate:</b>	Not Applicable
<b>Freezing/Melting Point:</b>	55 - 70°C [131 - 158°F]
<b>Decomposition Temperature:</b>	> 350°C [>662°F]
<b>Specific Gravity:</b>	1.22 [ $\text{H}_2\text{O} = 1$ ]
<b>Vapor Density:</b>	Not Applicable
<b>% Volatile:</b>	< 0.5%
<b>Vapor Pressure:</b>	$\sim 2 \times 10^{-8}$ mm Hg at 20°C
<b>pH:</b>	6.3 for a 1% suspension in water
<b>Solubility:</b>	$\sim 1.6$ ppm in water at 20°C (68°F)
<b>Octanol/Water Coefficient:</b>	Log $P_{o/w} = 5.2$
<b>Ignition:</b>	370°C BAM

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable
<b>Incompatibility with other Materials:</b>	Strong oxidizing agents, strong acids, strong bases
<b>Hazardous Decomposition Products:</b>	Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, nitrogen oxides and other toxic compounds.
<b>Hazardous Polymerization:</b>	Will not occur.

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### 11. TOXICOLOGICAL INFORMATION

<b>Acute Oral Toxicity:</b>	LD50 (Rats, Chinese hamsters) > 5,000 mg/kg
<b>Acute Inhalation Toxicity:</b>	LC50 (Rats) > 1.1 mg/l air for a 4-hour exposure with approximately 40% of particles <7 microns. There were no deaths or untoward behavioral alterations nor did necropsy reveal any gross pathologic alteration.
<b>Intraperitoneal LD50:</b>	(Rats) > 1,000 mg/kg
<b>Skin Irritation:</b>	(Rabbits) Not an irritant.
<b>Eye Irritation:</b>	(Rabbits) Not an irritant.
<b>Sensitization:</b>	(Guinea pigs) In the optimization test, the intradermal challenge was positive but the epidermal challenge was negative, suggesting no response on intact skin. RIPT (Humans) 0.5 and 5% polypropylene formulations tested on 80 subjects demonstrated no sensitization; incidences of erythema from primary skin irritation, while low, appeared to be does-related.
<b>Photosensitivity:</b>	(Guniea pigs): No photo-sensitization reaction was seen.
<b>Phototoxicity:</b>	(Mice): No phototoxic irritation reaction.
<b>Mutagenicity:</b>	Ames test: Non-mutagenic Nucleus anomaly test (Chinese hamster): Non-mutagenic Sister Chromatid Exchange Study (Chinese hamster): Non-mutagenic

**Teratogenicity/Reproductive Toxicity:** (Rats): No evidence of a teratogenic effect for an oral administration of 500 mg/kg during days 6 to 15 of pregnancy.

#### **Subchronic Toxicity:**

After daily application by gavage of 0, 15, 50, 150 and 450 mg/kg to rats for three months, body weight gain and food and water consumption were similar to the control. No effects in eye and hearing tests were noted and there were no observations of clinical or systemic effects. Hematology and blood chemistry showed no effect associated with the test substance. The organ weights were all within the normal variations and there was no evidence of any dose-related effect. The only macro-and histopathological finding was a mammary adenocarcinoma in the right inguinal region of the female treated with 50 mg/kg bw. This tumor was not regarded as treatment-related. The NOEL was 450 mg/kg.

After daily oral application by gelatin capsules of 0,15, 150 and 450 mg/kg to Beagle dogs for three months, body weight gain and food and water consumption were similar to the control. No effects in eye and hearing tests were noted and there were no observations of clinical or systemic effects. Hematology and blood chemistry showed no effect associated to the test substance. The organ weights were all within the normal variations and there was no evidence of any dose-related effect. There were no macro- and histopathological findings related to the treatment. The NOEL was 450 mg/kg.

#### **Chronic Toxicity/Carcinogenicity:**

Four groups of 70 male and 70 female Sprague-Dawley rats each (50 males and 50 females for tumor evaluation and 20 males and 20 females for laboratory investigations) were treated with 0, 1,000, 3,000 and 10,000 ppm of test substance in the food for two years. Food and water intakes were similar to the control. Slight reductions in the rate of body weight gain were noted for females in the 3,000 ppm and in the 10,000 ppm group which was restricted to the first 26 weeks of treatment. There were no clinical signs noted which were considered to be related to the treatment. No effects in eye and hearing tests were noted and there were no observations of clinical or systemic effects. Hematology and blood chemistry showed no effects associated to the test substance. The organ weights were all within the normal variations and there was no evidence of dose-related effect. There were no macro- or histopathological findings related to the treatment, including no tumor effects. NOEL was 1,000 ppm.

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

After treatment with radiolabeled test substance (0.5 and 10 mg/kg) in the rat, an average of 58% was excreted within 24 hours. After 144 hours almost all radioactivity was excreted. Residual radioactivity was found in the liver, testes and ovaries. All of radioactivity found in the urine was attributed to metabolites of the test substance. By contrast, a major fraction present in the feces corresponded to unchanged compound. There is evidence that this product is first partially degraded in the intestinal tract. Thereafter, these degradation products are absorbed and further degraded.

## **12. ECOLOGICAL INFORMATION**

### **Acute Toxicity to Fish:**

Bluegill, 96-hour LC50: > 100ppm  
Rainbow Trout, 96-hour LC50: > 100ppm  
Catfish, 96-hour, LC50: > 100ppm  
Carp, 96-hour, LC50: > 100ppm

### **Acute Toxicity to Invertebrates:**

Daphnia magna, 24-hour, EC50: 25ppm

### **Acute Toxicity to Algae:**

Green algae, 0-72 hour, EC50: > 100ppm

### **Toxicity to Sewage Bacteria:**

Inhibitory concentrate on respiration of aerobic wastewater bacteria: IC20, IC50, IC80: >100ppm

### **Biocentration:**

Japanese (MITI) bioaccumulation study, carp: not bio-accumulative at test concentrations of 0.1 and 0.01 ppm (14C-material)

### **Biodegradability:**

Modified Sturm test: Not readily biodegradable, 4 - 17% in 28 days

## **13. DISPOSAL CONSIDERATIONS**

### **Disposal Considerations:**

Incinerate in a chemical incinerator equipped with an after-burner and scrubber. Follow all federal, state and local regulations.

## **14. TRANSPORT INFORMATION**

This product is not regulated by any means of transport.

## **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.

#### **Clear 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.

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### **Clean Water Act – Priority Pollutants (PP):**

This product contains no chemicals listed under the U.S. Clean Water Act Section 307 (2)(1) Priority Pollutant List (40 CFR 401.15).

### **FDA: Food Packaging Status:**

This product has been cleared by the FDA for use in food packaging and/or other applications as an indirect food additive. Call for further detailed information.

### **Occupational Safety and Health Act (OSHA):**

This product is considered to be a hazardous chemical under the OSHA Hazard Communication Standard (29CFR 1910.1200). Its hazards are: Immediate (acute) health hazard and fire or the sudden release of pressure (explosion) hazard.

### **Resource Conservation and Recovery Act (RCRA):**

This product is not considered to be a P or U listed 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 (40 CFR 355) as extremely hazardous substances.

### **SARA Title III: Section 304 – CERCLA:**

This product contains no chemical regulated under Section 304 (40 CFR 302) 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.

### **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 or the Non 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.

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### State Regulations:

#### **California Proposition 65:**

This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

#### **Massachusetts Right-to-Know:**

This product does not contain any chemicals that are subject to Massachusetts Right-to-Know disclosure requirement.

#### **New Jersey Right-to-Know:**

The following is required composition information:

*Chemical Name:* Dimethyl succinate polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine ethanol  
*Common Name:* ELC-622  
*CASRN:* 65447-77-0

#### **Pennsylvania Right-to-Know:**

The following is required composition information:

*Chemical Name:* Dimethyl succinate polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine ethanol  
*Common Name:* ELC-622  
*CASRN:* 65447-77-0  
*Comment:* NOT on the Pennsylvania Hazardous Substance List

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## **16. OTHER INFORMATION**

**Disclaimer:** The information and recommendations contained herein are based upon data believed to be correct. However, NO guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.

**Information Contact:** For technical information contact your technical sales representative. For additional health / safety / regulatory information, contact Product Safety at (330)773-2700.

**Label Text:** EC Labeling – None required