



Tatung Fine Chemicals Co.

247-1, Tsaota, Kuanyin, Taoyuan County, Taiwan, R. OC. TEL : 886-3-4830321 FAX : 886-3-4838381

Material Safety Data Sheet

1、CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : LEAD-FREE BLACK PIGMENT PASTE

Product code/Identity : **E-5411L**

Chemical Family : QUATERNARY AMMONIUM RESIN

PRODUCT SAFETY/MSDS INFO : 247-1, Tsaota, Kuanyin, Taoyuan County, Taiwan

EMERGENCY PHONE NO. : 886-3-4830321/886-3-4838381

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2、COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS			CAS. NO.	TWA	STEL	CEILING	LD50	LC50
NAME	FORMULA	WT%						
Ethylene Glycol mono-Butyl Ether	C ₄ H ₉ OCH ₂ CH ₂ OH	9 6	111-76-2	50ppm	75ppm		4700mg/kg	2900mg/m ³
Diethylene Glycol mono-Butyl Ether	C ₄ H ₉ O(CH ₂ CH ₂ O) ₂ H	6 3	112-34-5	5ppm	10ppm		5660 mg/kg	4120 mg/kg

3、HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE FROM:

- INGESTION: Harmful if swallowed.
- EYE CONTACT: Causes eye irritation.
- SKIN CONTACT: May cause slight skin irritation.
- INHALATION: Vapor and/or spray mist may be harmful if inhaled.
- CHRONIC OVEREXPOSURE: Avoid long-term and repeated contact. An ingredient(s) in this product may adversely affect the blood and/or blood forming tissues. This product contains a blocked isocyanate prepolymer. Elevated temperature may cause the release of small amounts of free isocyanates which cause a burning sensation of the nose, throat and lungs and allergic respiratory reactions. These symptoms may follow repeated exposure or a single massive exposure and may be delayed.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Not applicable.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

4、FIRST AID MEASURES

- INGESTION: If swallowed, do not induce vomiting. Gently wipe out inside to remove any residual material.



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- **EYE CONTACT:** In case of eye contact, remove contact lenses and flush eyes immediately with a gentle stream of warm water for at least 15 minutes.
- **SKIN CONTACT:** In case of skin contact, flush immediately with plenty of water for at least 15 minutes followed by washing with soap and water.
- **INHALATION:** If affected by inhalation of vapor or spray mist, remove to fresh air. Apply artificial respiration and other support measures as required.

OTHER: If ingestion, any type of overexposure or symptoms of overexposure occur during of following the use of this product, contact a poison control center, emergency room or physician immediately; have Material Safety Data Sheet information available.

5 、 FIRE-FIGHTING MEASURES

- **FLASHPOINT:** > 100°C
- **FLAMMABLE LIMITS: LOWER EXPLOSION LIMIT(LEL):** Not available
- **UPPER EXPLOSION LIMIT(UEL):** Not available
- **EXTINGUISHING MEDIA:** Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical or universal aqueous film forming foam) designed to extinguish NFPA Class IIIB combustible liquid fires.
- **UNUSUAL FIRE AND EXPLOSION HAZARDS:** Closed containers may explode or burst (due to the build-up of steam pressure) when exposed to extreme heat.

SPECIAL FIRE FIGHTING PROCEDURES: Water spray may be ineffective. Water spray may be used to cool closed containers that are exposed to extreme heat. If water is used, fog nozzles are preferable. Firefighters should wear self-contained breathing apparatus and full protective clothing.

6 、 ACCIDENTAL RELEASE MEASURES

- **STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbent should be placed in this container.

WASTE DISPOSAL METHOD: Waste material must be disposed of in accordance with federal, state, provincial, and local environmental control regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

7 、 HANDLING AND STORAGE



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- **HANDLING AND STORAGE PRECAUTIONS:** Protect from freezing.

OTHER PRECAUTIONS: If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component of components before blending as the resulting mixture may have the hazards of all of its parts.

8、EXPOURE CONTROLS AND PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT FOR :

- **EYE PROTECTION:** Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.
- **SKIN PROTECTION:** Wear protective clothing. Gloves should be constructed of : neoprene rubber, nitrile rubber, or latex. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendation for skin protection are based on infrequent contact with this product. For frequent contact of total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment.
- **PESPIRATORY PROTECTION:** Where ventilation is inadequate, use a NIOSH/MSHA-Approved (TC-23C-) air purifying or air supplied (TC-19C-) respirator is effective and how it is to be properly fitted.
- **OTHER EQUIPMENT:** Clean contaminated clothing and shoes.

VENTILATION REQUIPMENTS: Provide general dilution of local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

9、PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE: OVER 100⁰C

SOLUBILITY IN WATER: SOLUBLE

VAPOR PRESSURE:

WEIGHT/GALLON(LBS):

VAPRO DENSITY:

pH:

% VOLATILE/VOLUME: 55-60

% SOLIDS BY WEIGHT: 40-45

SPECIFIC GRACITY:1.2-1.4

EVAPOR ATION RATE(BuOAc=100):

ODOR/APPEARNACE: Viscous black liquid with an odor characteristic of the chemical family and solvents listed in Section 2.

10、STABILITY AND REACTIVITY

- This product is normally stable and will not undergo hazardous reactions.
- INCOMPATIBLITY (MATERIALS AND CONDITIONS TO AVOID): Avoid contact with strong



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alkalies or strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: May produce the following hazardous decomposition products when exposed to extreme heat: carbon monoxide; carbon dioxide; lower molecular weight polymer fractions; hydrogen cyanide; traces of isocyanate; oxides of nitrogen. Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

11、TOXICOLOGICAL INFORMATION

● Irritation Not dertermined.

● Acute oral toxicity(LD50) Not dertermined.

12、ECOLOGICAL INFORMATION

● To avoid being taken by ocean species or birds, disposal of the waste to the ocean and water sources is inhibited.

13、DISPOSAL CONSIDERATIONS

● Dispose of in accordance with local, state and federal regulations. Use a licensed waste handler.

14、TRANSPORT INFORMATION

● Not regulated

15、regulatory information

● Not available.

16、Others

● The data given above is believed accurate and for reference only.