LANGFANG OLAN GLASS BEADS CO., LTD

MATERIAL SAFETY DATA SHEET

MANUFACTURER: LANGFANG OLAN GLASS BEADS CO., LTD ISSUE DATE: 11/25/15

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HMIS: Health: 1 Flammability: 1 Reactivity: 1

SECTION I - IDENTIFICATION

Product Name: Thermoplastic
Chemical Name and Synonyms: Thermoplastic Traffic Marking Compound
Chemical Family: Modified maleic glycerol ester of rosin filled with various pigments and calcium carbonate.
Formula: N/A
CAS No.: None

SECTION II - INGREDIENTS AND EXPOSURE LIMITS

PRINCIPAL COMPONENTS	Approx. or max % wt	ACGIH TLV	EST. OSHA PEL	Hazard
Modified Maleic Glycerol Ester of Rosin	15-30%	$10mg/m^3$	$15mg/m^3$	Nuisance Dust
Titanium Dioxide CAS # 13463-67-7	5-13%	$10mg/m^3$ TWA	$10mg/m^3$ TWA	Nuisance Dust
Calcium Carbonate CAS # 471-34-1	30-70%	$10mg/m^3$ Total Dust $10mg/m^3$ Respirable Dust	$15mg/m^3$ Total Dust $15mg/m^3$ Respirable Dust	Nuisance Dust
Alumina CAS # 471-34-1	5-25%	$10mg/m^3$ Total Dust $5mg/m^3$ Respirable Dust	$10mg/m^3$ Total Dust $5mg/m^3$ Respirable Dust	Nuisance Dust

SECTION III - PHYSICAL DATA

Boiling Point °F: N/A

Percent Volatile by Volume (%): Negligible

Melting Point: 88°C minimum (Ring and Ball Softening Point)

Evaporation Rate: Not Applicable

Specific Gravity: 1.6-2.3 Pre-melted Block Form

50-75 lbs/ft^3 Dry Granular Form

Vapor Density (Air = 1): N/A

Vapor Pressure (mm Hg): N/A

Solubility in Water: Negligible

Appearance and Odor: Yellow odorless granular powder

Yellow odorless pre-melted block slab

SECTION IV- HEALTH AND HAZARD INFORMATION

Powdered Material

Primary Routes of Absorption: Eyes - Dermal - Inhalation - Ingestion

Eye and Dermal Irritation: As Nuisance Dust

Inhalation: Overexposure may be irritating to the respiratory track.

Symptoms of chronic Exposure: In the case of yellow granular thermoplastic, care should be taken to minimize exposure especially in the creation of dust. The dust is the primary vehicle by which exposure can occur. The minimization of dust will reduce potential dermal, eye and respiratory exposure.

Carcinogenicity: The compounds of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

Emergency First Aid Procedures:

For overexposure by:

Skin contact: Wash with soap and water

Eye: Wash eyes with running water. See a physician if irritation persists.

Inhalation: Remove to fresh air and call a physician.

Ingestion: Not anticipated. However, if large amounts are ingested, induce vomiting and call a physician or Poison Control Center immediately.

Molten Material - Hot

Primary Routes of Absorption: Eyes, Dermal and Inhalation

Eye and Inhalation: Overexposure to hot fumes of molten thermoplastic may cause irritation to the eyes and respiratory tract. As always, care should be taken not to breathe hot fumes of any type. If such ingestion occurs, remove to a well ventilated area.

Skin: Heated thermoplastic can cause serious burns to unprotected skin.

No chronic exposure effects are known for the thermoplastic resin products. The further encapsulation of the pigment in the molten resin minimizes the available leachable Pb and Cr (VI). To the best of our knowledge, the OSHA lead standard cites no chronic exposure effects due to silica encapsulated lead chromate pigment.

Emergency First Aid Procedures

For contact with molten thermoplastic by:

Skin: Cool immediately under running water. Do not apply ice as this may cause frost bite. Continue to cool under running water for an extended period of time. Do not attempt to remove the plastic as, in most cases, the skin is also removed, resulting in severe tissue

damage. Immediately call a physician and receive medical attention.

Eye: Flush with running water. Call a physician

Inhalation of Fumes: Remove to well ventilated area. Call a physician if irritation persists.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 475°F COC
Extinguishing Media: Dry Chemical, CO_2, Foam

Special Fire Fighting Procedures: Toxic emissions may be released in a fire. Wear self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: None

SECTION VI - REACTIVITY DATA

Stability: Normally Stable
Hazardous Polymerization: None

Conditions and Materials to Avoid: Avoid temperatures above 500°F and strong oxidizing agents
Hazardous Decomposition Products: C, CO, CO_2 and aliphatic aldehydes.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Uncontaminated material may be reclaimed for use. If material is contaminated, place material in appropriate receptacle for disposal. Report the spill, if deemed necessary, according to local laws and regulations.

WASTE DISPOSAL METHOD: Disposal should be made in accordance with Federal, State and Local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Protective Equipment: Eyes - goggles, face shield
Skin - Heat resistant gloves and clothing to help prevent injury from molten material This includes long sleeve shirt, long pants, socks, hard sole shoes and hats.
Respiratory - NIOSHA/MSHA approved respirator as necessary. An organic vapor/dust filtering respirator is recommended. The exact selection of a respirator should be based on the concentration of air contaminate present (OSHA 29CFR 1910.134).

Ventilation: Provide adequate local exhaust ventilation to reduce exposure to dust and fumes to maintain concentrations below acceptable exposure limits (Section II).

Mechanical: Ventilation for the application equipment must be provided to prevent excessive pressure and concentration of fumes which could lead to material flashing at low temperatures.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Local exhaust should be provided in unventilated work areas. Precautions should be taken to prevent water damage by using the appropriate coverings. Protect material against physical damage. AVOID making dust. Do not inhale or ingest dust. Wash thoroughly before eating, drinking, or smoking. Always store material in a cool dry place. If stored outside, always cover material to prevent damage which may be caused by moisture.

OTHER PRECAUTIONS: Keep away from flames. Do not heat material above 450°F. Keeping water nearby during application is always recommended.

SECTION X - REGULATORY INFORMATION

Department of Transportation: Non Regulated

Toxic Substance Control Act:	All components of thermoplastic traffic markings are listed in the TSCA Inventory of Chemical Substances.
SARA TITLE III:	This product does not contain chemicals subject to reporting requirements of SARA Title III, Section 313 and of 40CFR372.