TAIYUAN LANLANG TECHNOLOGY INDUSTRIAL CORP.

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Date of Revision:1 July 2021

Material Safety Data Sheet

1. PRODUCT

Mixed Bed ion exchange resin

Model Names: TY MB-W

2. COMPOSITION/INFORMATION ON INGREDIENTS

Polystyrene sulfonate in the hydrogen form	CAS# 69011-20-7 Concentration 10%-30%
Trimethylamine functionalized chloromethylated copolymer of polystyrene in the hydroxide form	CAS# 69011-18-3 Concentration 20%-50%
Water	CAS# 7732-18-5 Concentration 40%-70%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

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* Amber, tan, dark brown, green or black cation beads blended with white, yellow, orange, blue,or red anion beads *

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POTENTIAL HEALTH EFFECTS

EYE: Essentially non-irritating to eyes. Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN CONTACT: Prolonged or repeated exposure not likely to cause significant skin irritation. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

INGESTION: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

INHALATION: No adverse effects are anticipated from inhalation.

SYSTEMIC (OTHER TARGET ORGANS): No significant toxicologic effects were observed in laboratory animals fed this material in their diets for 3 months.

CANCER INFORMATION: No relevant information found.

TERATOLOGY (BIRTH DEFECTS): No relevant information found.

REPRODUCTIVE EFFECTS: No relevant information found.

4. FIRST AID

EYES: Wash immediately with water-seek attention if discomfort continues.

SKIN: Wash with soap and water- seek medical attention if a rash develops.

INGESTION: No adverse effects expected for small amounts, larger amounts can cause stomach irritation. Seek medical attention if discomfort occurs.

INHALATION: No adverse effects expected. Normal use of product does not produce odors or vapors.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

Flammability	NFPA Fire rating = 1
Extinguishing media	Water, CO2, foam, dry powder
Fire fighting Procedures	Follow general fire fighting procedures indicated in the work place. Seek medical attention if discomfort continues.
Protective Equipment	MSHA/NIOSH approved self-contained breathing gear, full protective clothing.
Combustion Products	Carbon oxides and other toxic gasses and vapors.
Unusual Hazards	Product is not combustible until moisture is removed. Resin begins to burn at approximately 230º C. Auto ignition can occur above 500º C.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Keep people away, spilled resin can be a slipping hazard, wear gloves and safety glasses to minimize skin or eye contact.
Incompatible Chemicals	Strong oxidants can create risk of combustion products similar to burning, exposure to strong bases can cause a rapid temperature increase.
Environmental Precautions	Keep out of public sewers and waterways.
Containment Materials	Use plastic or paper containers, unlined metal containers not recommended.
Methods of Clean-up	Sweep up material and transfer to containers.

7. HANDLING AND STORAGE

HANDLING: Avoid prolonged skin contact. Avoid contact with salts or with salty water to prevent premature exhaustion of the resin. Keep resin moist and avoid allowing resin to completely dry.

STORAGE: Store in a cool dry place (0º to 45º C) in the original shipping container. This product is thermally sensitive and will have reduced shelf life if subjected to extended periods of time at temperatures exceeding 50º C. Although freezing does not usually damage ion exchange resins, avoid repeated freeze thaw cycles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Provide adequate ventilation.
Personal Protection Measures Eye Protection	Safety glasses or goggles.
Respiratory Protection	Not required for normal use.
Protective Gloves	Recommended for extended contact

9. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Heat, exposure to strong oxidants.
Hazardous by-products	Organic sulfonates, charred polystyrene, aromatic acids and hydrocarbons, organic amines, nitrogen oxides, carbon oxides, chlorinated hydrocarbons.
Incompatible materials	Strong oxidizing agents (such as HNO3), strong bases (such as NaOH), strong acids (such as HCl and H2SO4)
Hazardous Polymerization	Does not occur

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10. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid beads
Flammability or explosive limits	Flammable above 500º C
Odor	None
Physical State	Solid
Vapor pressure	Not available
Odor threshold	Not available
Vapor density	Not available
pH	Acidic or basic when mixed with water
Relative density	Approx 700 grams/Liter
Melting point/freezing point	Does not melt, freezes at approx. 0 C
Solubility	Insoluble in water and most solvents
Boiling point	Does not boil
Flash point	Approx 500º C
Evaporation rate	Does not evaporate
Partition Coefficient (n-octonol/water)	Not applicable
Auto-ignition temperature	Approx 500º C
Decomposition temperature	Above 230º C
Viscosity	Not applicable

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure	Oral, skin or eye contact.
Effects of exposure	
Delayed	None known.
Immediate (acute)	None known.
Chronic	None known.
Toxicity Measures	
Skin Adsorption	Unlikely.
Ingestion	Oral toxicity believed to be low but no LD50 has been established.
Inhalation	Unknown, vapors are very unlikely due to physical properties (insoluble solid).
Toxicity Symptoms	
Skin Adsorption	Rash or burn
Ingestion	Indigestion or general malaise.
Inhalation	Unknown.
Carcinogenicity	None known

12. ECOLOGICAL INFORMATION

Eco toxicity	Not harmful to plant or animal life.
Mobility	Insoluble, acidity or causticity may escape if wet.
Biodegradability	Not biodegradable.
Bioaccumulation	Insignificant.
Other adverse effects	Not Harmful to the environment.

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13. DISPOSAL CONSIDERATIONS

General considerations	Material is non-hazardous.
Disposal Containers	Most plastic and paper containers are suitable.
Disposal methods	No specific method necessary
Sewage Disposal	Not recommended
Precautions for incineration	May release toxic vapors when burned
Precautions for landfills	pH of spent resin may be high or low. Resins used to remove hazardous materials may then become hazardous mixtures.

14. TRANSPORT INFORMATION

Transportation Class	Not classified as a dangerous good for transport by land, sea, or air.
TDG	Not regulated.
IATA	Not regulated.
DOT (49 CFR 172.101)	Not Regulated

15. REGULATORY INFORMATION

CERCLA	Not regulated
SARA Title III	Not regulated
Clean Air act	Not regulated
Clean Water Act	Not regulated
TSCA	Not regulated
Canadian Regulations	
WHMIS	Not a controlled product
TDG	Not regulated
Mexican Regulations	Not Dangerous

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that their activities comply with federal, state, and local laws.
More detailed information, please contact Lanlang CORP.

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