

Material Safety Data Sheet (MSDS)

Section 1: Chemical Product and Company Identification

Chemical Name: E962 Insulating Varnish

Synonyms / Trade Name: Insulating Varnish, Insulating Oil

Chemical Formula: Mixture

Company: Zhuhai Changxian New Material Technology Co., Ltd.

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Section 2: Hazards Identification

Emergency Overview: Flammable liquid and vapour. May cause drowsiness or dizziness.

Harmful if inhaled.

GHS Classification: Flammable Liquids, Category 2; Skin Corrosion/Irritation, Category 2;

Reproductive Toxicity, Category 2; Specific Target Organ Toxicity - Single Exposure,

Category 3 (narcotic effects); Specific Target Organ Toxicity - Repeated Exposure, Category

2; Aspiration Hazard, Category 1; Hazardous to the Aquatic Environment - Acute Hazard,

Category 2; Hazardous to the Aquatic Environment - Long-term Hazard, Category 3

Label elements in accordance with GB 15258-2009 (General Rules for Preparation of Chemical Safety Labels)

Pictograms:



Signal Word: Danger

Hazard Statement(s): Flammable liquid and vapour. Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Harmful to aquatic life.

Precautionary Statements:

Prevention Keep away from sparks, open flames and heat. Keep container tightly closed. Use explosion-proof electrical, ventilation and lighting equipment. Use non-sparking tools and equipment. Take precautionary measures against static discharge. Wear protective gloves, safety goggles and face protection. Avoid contact with eyes and skin; wash thoroughly after handling. Avoid breathing vapour and mist. Do not discharge into the environment.

Response: In case of fire, use foam, carbon dioxide, dry powder or sand to extinguish. If inhaled, move to fresh air and rest. Keep containers cool by spraying water until the fire is completely extinguished. IF ON SKIN (or hair): immediately remove contaminated clothing and rinse thoroughly with soapy water and clean water; take a shower.

Storage Store in a shaded, cool and ventilated warehouse. Keep container tightly closed.

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Keep cool.

Disposal Consult national and local regulations before disposal, or treat by incineration.

Physical and Chemical Hazards:

Flammable. Its vapour can form an explosive mixture with air.

Health Hazards: Irritating to the skin and mucous membranes; high concentrations have a narcotic effect on the central nervous system.

Acute Poisoning: Short-term inhalation of high concentrations of this product may cause obvious irritation of the eyes and upper respiratory tract, as well as headache, dizziness, nausea and other symptoms.

Chronic Effects: Long-term exposure may cause neurasthenic syndrome; prolonged skin contact may cause dryness, chapping and dermatitis.

Section 3: Composition / Information on Ingredients

Pure Substance ☐

Mixture ☒

Ingredient

Concentration

CAS No.

Modified polyester resin

30-50%

63148-69-6

Aromatic solvents

30-50%

1330-20-7, 108-88-3

Alcohol solvent

1-3%

71-36-3

Other additives

1-3%

Trade secret

Section 4: First Aid Measures

Inhalation: Remove the person from the exposure area to fresh air immediately.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and clean water.

Eye Contact: Immediately hold the upper and lower eyelids apart and flush with running water or saline for at least 15 minutes. Seek medical attention.

Ingestion: Rinse the mouth with clean water. Seek medical attention.

Section 5: Fire Fighting Measures

Extinguishing Media: Foam, carbon dioxide, dry powder or sand may be used.

Special Hazards: Flammable. Its vapour can form an explosive mixture with air. May react with oxidizing agents.

Firefighting Precautions: Firefighters must wear gas masks and full fire-fighting suits, and extinguish from the upwind direction. Move containers from the fire area to an open area if possible. Keep containers cool by spraying water until the fire is completely extinguished. If a container suddenly emits an abnormal sound or shows abnormal phenomena, evacuate immediately.

Hazardous Combustion Products: Carbon monoxide and carbon dioxide

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Section 6: Accidental Release Measures

Personal Precautions: Evacuate personnel from the contaminated area to the upwind side, isolate the area and strictly restrict access. Eliminate all ignition sources. Emergency responders are advised to wear self-contained positive-pressure respirators and anti-static work clothes. Stop the leak if it can be done safely.

Environmental Precautions: Prevent the leaked material from entering water bodies, sewers, basements or confined spaces.

Containment and Cleanup of Leaked Chemical:

Small Spill Absorb with sand or other non-combustible materials.

Large Spill Build dikes or dig pits for containment; cover with foam to reduce the vapour hazard.

Section 7: Handling and Storage

Handling Precautions: Operate in a closed system with enhanced ventilation. Operators must be specially trained and strictly follow operating procedures. Wear a self-priming filter respirator (half mask) and anti-static work clothes. Keep away from ignition sources and heat. No smoking in the workplace. Use explosion-proof ventilation systems and equipment. Prevent vapour from escaping into workplace air. Avoid contact with oxidizing agents and alkalis. Keep appropriate types and quantities of fire-fighting equipment and spill emergency equipment on hand. Avoid inhaling high concentrations.

Storage Precautions: Store in a shaded, cool and ventilated warehouse. Keep away from ignition sources and heat. Keep containers tightly closed. The shelf life is generally six months from the date of production when stored below 25°C. Warehouse lighting and ventilation facilities shall be explosion-proof, with switches located outside the warehouse. Do not use mechanical equipment or tools that may generate sparks. The storage area shall be equipped with spill emergency equipment.

Section 8: Exposure Controls / Personal Protection

Exposure Limit: 100 mg/m³ (skin)

Biological Exposure Limit: 1.5 g/g (creatinine)

Monitoring Method: Methods for determination of toxic substances in air

Engineering Controls: Closed production process with enhanced ventilation

Respiratory Protection: Wear a filter-type respirator (half mask) when exposed to high concentrations

Eye Protection: Wear chemical safety goggles

Body Protection: Wear work clothes impermeable to toxic substances

Hand Protection: Wear oil-resistant rubber gloves

Other Protection: No smoking, eating or drinking at the work site. Shower and change clothes after work.

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Section 9: Physical and Chemical Properties

Appearance and State: Pale yellow transparent liquid

Viscosity (Tu-4 cup, 25°C): 40-60 s

Relative Density (25°C): 0.95 ± 0.02

Note: Relative density decreases by approximately 0.001 for every 1°C increase in temperature, and increases by approximately 0.001 for every 1°C decrease.

Saturated Vapour Pressure (mmHg): 35 at 26.0°C

Flash Point: 23°C

Ignition Temperature: 528°C

Solid Content: $40 \pm 2.0\%$

Lower Explosive Limit: 1.0% (vol)

Upper Explosive Limit: 7.0% (vol)

Drying Time at Room Temperature, RH $\leq$ 65%: Surface dry, 10-15 min; through dry, 24 h

Drying Time at 80°C (copper sheet or tinplate): Surface dry, 5-10 min; through dry, 75 min

Main Uses: Primarily used for surface coating or impregnation of transformers, inductive coils and other electronic components. The product may be air-dried or oven-dried. The baking temperature generally should not exceed 100°C.

Section 10: Stability and Reactivity

Stability: Stable

Incompatible Materials: Strong oxidizing agents and strong acids

Conditions to Avoid: Open flames, high heat and static electricity

Polymerization Hazard: Does not occur

Decomposition Products: Carbon monoxide and carbon dioxide

Section 11: Toxicological Information

Conclusion / Overview

Substance	Result	Species	Dose	Exposure
Xylene	LC50, inhalation	Rat	5,000 ppm	4 h
Toluene	LC50, inhalation	Rat	49 g/m ³	4 h

Skin Corrosion / Irritation: Rabbit, dermal, 500 mg/24 h; moderate irritation

Serious Eye Damage / Eye Irritation: Human eye, 300 ppm; causes irritation

Respiratory or Skin Sensitization: No data available

Mutagenicity: Micronucleus test, mouse, oral, 200 mg/kg

Carcinogenicity: No data available

Reproductive Toxicity: Rat inhalation on gestation days 7-20; lowest toxic concentration (TCLo), 1,800 mg/m³ (24 h); central nervous system effects and embryotoxicity.

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Section 12: Ecological Information

LC50: 34.27 mg/L (96 h), fathead minnow

Persistence and Degradability: Biodegradability: readily biodegradable

Abiotic Degradability: Photo-oxidation half-life in water: 321-1,284 h

Photo-oxidation half-life in air: 10-104 h

Potential Bioaccumulation: Based on the Kow value, this substance may have some bioaccumulation potential.

Mobility in Soil: Based on the Kow value, this substance may have some mobility in soil.

Section 13: Disposal Considerations

Waste Chemical: Dispose of by incineration.

Contaminated Packaging: Return containers to the manufacturer or dispose of them in accordance with national and local regulations.

Disposal Precautions: Avoid or minimize waste generation wherever possible. Significant quantities of residual product waste should be handled by a licensed waste disposal contractor.

Disposal of the product, solutions and their by-products shall comply with environmental protection, waste disposal regulations and relevant local regulations.

Disposal Method: Consult national and local regulations before disposal; dispose of by controlled incineration.

Section 14: Transport Information

Dangerous Goods Number: 33646

UN Number: 1866

Packing Group: II

Transport Label:



Packaging Method: 20 L pail or 200 L drum

Transport Precautions: Transport vehicles shall be equipped with appropriate types and quantities of fire-fighting equipment and spill emergency equipment. In summer, transport preferably in the early morning or evening. Tank vehicles shall have grounding chains; perforated baffles may be installed in the tank to reduce static electricity caused by vibration.

Do not load or transport together with oxidizing agents, acids, alkali metals, amines or food chemicals. Protect from sunlight, rain and high temperatures during transport. Keep away from ignition sources, heat and high-temperature areas during stops. Vehicle exhaust pipes shall be fitted with flame arresters. Do not use mechanical equipment or tools that may generate sparks during loading and unloading. For road transport, follow prescribed routes and do not stop in residential or densely populated areas. Shunting by rolling is prohibited during rail transport.

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Section 15: Regulatory Information

The following laws, regulations, rules and standards provide for the management of this chemical:

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Regulations on the Safety Management of Hazardous Chemicals

Regulations on Labour Protection in Workplaces Using Toxic Substances

Regulations on the Administration of Precursor Chemicals

International Conventions

Section 16: Other Information

Preparation and Revision Information: 2025.01.05 Technical Department

Training Recommendations: Relevant training shall be provided to users.

Disclaimer: The above information is not exclusive to the specifications of this product and is provided for reference only; no warranty liability is assumed. It is believed that the industrial safety and health handling procedures recommended above are feasible under normal circumstances. However, users shall still consider whether the above recommendations are appropriate for their individual conditions of use.