

Material Safety Data Sheet (MSDS)

Section 1: Chemical Product and Company Identification

Chemical Name: E57-180 High-Temperature Air-Drying Insulating Varnish

Synonyms / Trade Name: Varnish; insulating varnish

Chemical Formula: Mixture

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

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Section 2: Hazards Identification

Emergency Overview: Highly 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 Statements: Highly 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 and non-sparking tools.

Take precautions against static discharge. Wear protective gloves, safety goggles and face protection. Avoid contact with eyes and skin and wash thoroughly after handling. Avoid breathing vapour or mist. Avoid release to the environment.

Response: In case of fire, use foam, carbon dioxide, dry powder or sand. If inhaled, move to fresh air and rest. Cool containers with water spray until the fire is extinguished. IF ON SKIN (or hair), immediately remove contaminated clothing and wash thoroughly with soap and clean water; shower.

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

Disposal: Consult national and local regulations before disposal, or dispose of by incineration.

Physical and Chemical Hazards:

Physical and Chemical Hazards: Highly flammable; vapour may form an explosive mixture with air.

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

Acute Effects: Short-term inhalation of high concentrations may cause marked irritation of the eyes and upper respiratory tract, headache, dizziness and nausea.

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	40-55%	25135-73-3
Ether-ester solvent	15-30%	108-65-6
Hydrocarbon solvent	20-30%	64742-48-9
Other additives	3%	Trade secret

Section 4: First Aid Measures

Inhalation: Immediately move the affected person to fresh air.

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

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

Ingestion: Rinse the mouth with clean water and seek medical attention.

Section 5: Fire Fighting Measures

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

Special Hazards: Flammable. Vapour may form an explosive mixture with air. May react with oxidizing agents.

Firefighting Precautions: Firefighters shall wear respiratory protection and full protective clothing and fight the fire from upwind. Move containers to an open area if possible. Cool containers with water spray until the fire is completely extinguished. Evacuate immediately if a container emits abnormal sounds or shows abnormal signs.

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 ignition sources. Emergency responders should wear self-contained positive-pressure respirators and anti-static work clothing. Stop the leak if this can be done safely.

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

Containment and Cleanup:

Small Spill: Absorb with sand or another non-combustible material.

Large Spill: Construct dikes or excavate a pit for containment; cover with foam to reduce vapour hazards.

Section 7: Handling and Storage

Handling Precautions: Use closed handling with adequate local exhaust and general ventilation. Operators shall be specially trained and follow operating procedures. Wear a filter respirator (half mask) and anti-static work clothes. Keep away from ignition sources and heat; smoking is prohibited. Use explosion-proof ventilation, lighting and equipment, and non-sparking tools. Prevent vapour release into workplace air. Avoid contact with oxidizing agents and alkalis. Keep appropriate fire-fighting and spill-response equipment available. Avoid inhalation of high concentrations.

Storage Precautions: Store in a shaded, cool and well-ventilated warehouse away from ignition sources and heat. Keep containers tightly closed. Use explosion-proof lighting and ventilation, with switches outside the warehouse. Do not use spark-producing equipment or tools. Keep spill-response equipment in the storage area. Shelf life: six months from the date of production when stored below 25°C.

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: Use a closed production process and provide adequate ventilation.

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

Eye Protection: Wear chemical safety goggles.

Body Protection: Wear protective work clothing resistant to chemical permeation.

Hand Protection: Wear oil-resistant rubber gloves.

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

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Section 9: Physical and Chemical Properties

Appearance and State: Brown semi-transparent liquid.

Relative Density (25°C): 0.975±0.03.

Saturated Vapour Pressure: 34 mmHg at 26.0°C.

Viscosity (Tu-4 cup, 25°C): 20±5.0 s. Non-volatile content: 46±3.0%. Flash Point: 22°C.

Ignition Temperature: 528°C. Explosive Limits: 1.0-7.0 vol%.

Main Uses: Surface coating or impregnation of transformers, coils and other electronic components.

Section 10: Stability and Reactivity

Stability: Stable.

Incompatible Materials: Strong oxidizing agents and strong acids.

Conditions to Avoid: Open flame, high heat and static electricity.

Polymerization Hazard: Will not occur.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

Section 11: Toxicological Information

Acute Toxicity: Hydrocarbon solvent — inhalation LC50, rat, 118 g/m³/4 h; ether-ester solvent — TWA 50 ppm/8 h.

Skin Corrosion/Irritation: No data available.

Serious Eye Damage/Irritation: No data available.

Respiratory or Skin Sensitization: No data available.

Mutagenicity: No data available.

Carcinogenicity / Aspiration Hazard: No data available.

Section 12: Ecological Information

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

Persistence and Degradability: Readily biodegradable.

Abiotic Degradability: Photo-oxidation half-life in water: 321-1284 h.

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

Bioaccumulative Potential: Based on the Kow value, some bioaccumulation may occur.

Mobility in Soil: Based on the Kow value, some mobility in soil may occur.

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.

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

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

Disposal Method: Consult national and local regulations before disposal; use controlled incineration.

Section 14: Transport Information

Dangerous Goods Number: 33646

UN Number: 1866

Packing Group: II

Packaging Method: 20 L pail or 200 L drum

Transport Precautions: Vehicles shall carry suitable fire-fighting and spill-response equipment. Prefer transport in the early morning or evening during summer. Ground tank vehicles to reduce static electricity. Do not transport together with oxidizers, acids, alkali metals, amines or food chemicals. Protect from sunlight, rain and high temperatures. Keep away from ignition sources and heat during stops. Vehicle exhaust pipes shall be fitted with flame arresters. Do not use spark-producing equipment for loading or unloading. Follow prescribed road routes and avoid stopping in residential or densely populated areas. Railway transport shall not use loose shunting.

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 — Catalogue of Occupational Disease Classification: Not listed.

Regulations on the Safety Management of Hazardous Chemicals — Catalogue of Hazardous Chemicals: Listed. Catalogue of Explosive-Prone Hazardous Chemicals: Not listed. Catalogue of Hazardous Chemicals Subject to Key Supervision: Not listed. GB 18218-2018 Identification of Major Hazard Installations for Hazardous Chemicals (Table 1): Listed as a flammable liquid; threshold quantity: 500 t.

Regulations on Labour Protection in Workplaces Using Toxic Substances — Catalogue of Highly Toxic Substances: Not listed.

Regulations on the Administration of Precursor Chemicals — Catalogue of Classification and Varieties of Precursor Chemicals: Not listed.

International Conventions — Stockholm Convention: Not listed. Rotterdam Convention: Not listed. Montreal Protocol: Not listed.

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Section 16: Other Information

Preparation and Revision Information: 2025.05.18 — Technical Department.

Training Recommendations: Provide relevant training to users.

Disclaimer: The above information is not a product specification and is provided for reference only; no warranty is assumed. The recommended industrial safety and hygiene procedures are considered practicable under normal conditions. Users remain responsible for determining whether these recommendations are appropriate for their specific conditions of use.