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Part 1: Chemicals and Corporate Identification

Chemical Name (in Chinese): E57-160F Insulating Varnish

Common chemical names: varnish, solvent-free insulating varnish, unsaturated resin insulating varnish

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

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National Emergency Hotline: 0532-83889090

Recommended applications: Primarily used for continuous immersion or roll impregnation insulation treatment of coils and windings in various small and medium-sized low-voltage motors and electrical appliances .

Part 2: Hazard Overview

Emergency Overview: Flammable liquids and vapors, inhalation is harmful.

GHS Hazard Categories: Flammable Liquids, Category 3; Acute Toxicity - Inhalation, Category 4; Skin Irritation/Corrosion, Category 2; Reproductive Toxicity, Category 2; Specific Target Organ Toxicity - Repeated Exposure, Category 1; Hazards to Aquatic Environment - Acute Hazard, Category 2
Label elements are in accordance with GB 15258-2009 (Regulations for the Preparation of Safety Labels for Chemicals).

Pictograms:



Signal words: Flammable health hazard warning

Warning word: Danger

Hazard statement: Flammable liquid and vapor, harmful if inhaled, causes skin and eye irritation, prolonged and repeated contact can damage organs, and is harmful to aquatic life.

Prevention instructions:

Preventive measures Keep away from sparks, open flames, and heat sources. No smoking. Keep containers tightly sealed. Ground containers and receiving equipment. Use explosion-proof electrical appliances, ventilation, and

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lighting equipment. Use machinery and tools that do not generate electrical sparks. Take anti-static measures. Wear protective gloves, safety glasses, and a face shield.

Incident Response: In case of fire, use foam, carbon dioxide, dry powder, or sand to extinguish the fire. If skin (or hair) comes into contact: Immediately remove contaminated clothing, wash thoroughly with soap and water, and shower. If inhaled, move to fresh air.

Secure storage Store in a cool, dark, and well-ventilated warehouse. Keep containers tightly sealed. Maintain a low temperature.

Waste disposal Before disposal, consult relevant national and local regulations, or use incineration.

Physical and chemical hazards:

It is flammable; its vapor, when mixed with air, can form an explosive mixture and readily polymerizes.

Health hazards: Irritating to the eyes and upper respiratory tract. High concentrations have an anesthetic effect when inhaled.

Acute poisoning: Inhalation of high concentrations may cause eye pain, tearing, runny nose, sore throat, cough, nausea, and vomiting. In severe cases, dizziness may occur. Eye contamination can cause burns.

Chronic effects: Commonly causes neurasthenia syndrome, with symptoms such as headache, fatigue, nausea, and abdominal distension. Frequent skin contact may result in roughness and cracking.

Environmental hazards: Toxic to aquatic organisms.

Part 3: Ingredient/Composition Information

mixture:

Component concentration CAS NO

Unsaturated polyester resin 70%~75% 27837-75-8

Styrene 20%~25% 100-42-5

Other 1%~2% /

Part 4: First Aid Measures

Skin contact: Remove contaminated clothing and wash skin thoroughly with soap and water.

Eye contact: Immediately open the upper and lower eyelids and rinse with running water or saline solution. Seek medical attention.

Inhalation: Immediately move to fresh air.

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If ingested: Drink plenty of warm water, induce vomiting, and seek medical attention.

Most important symptoms and harmful effects: The vapor can irritate the eyes , mucous membranes and skin, and high concentrations can cause anesthesia.

Protection for first responders: 1. First responders should provide emergency care outside the restricted area; 2. If it is necessary to enter the restricted area to provide first aid , please wear appropriate protective equipment.

Part 5: Firefighting Measures

Extinguishing agents: Foam, carbon dioxide, dry powder, and sand can be used to extinguish fires.

Special hazards: Flammable; its vapor forms an explosive mixture with air. It can react with oxidizers.

Firefighting Precautions and Protective Measures: Firefighters must wear gas masks and full-body fire suits and fight the fire from upwind. Move containers from the fire area to an open space if possible. Spray water to keep containers in the fire area cool until the fire is extinguished. If containers suddenly make unusual noises or exhibit unusual phenomena, evacuate immediately.

Harmful combustion products: CO, CO₂

Part 6: Leakage Emergency Response

Personnel protective measures: Immediately evacuate personnel from the contaminated area to an upwind location and isolate the area, strictly restricting access. Eliminate ignition sources. Emergency responders are advised to wear self-contained positive pressure breathing apparatus and anti-static work clothes. Cut off the leak source if possible.

Environmental protection measures: Prevent leaked materials from entering water bodies, sewers, basements, or confined spaces.

Methods for containing and cleaning up spilled chemicals and the disposal materials used:

Small leak It can be adsorbed or absorbed by sand or other non-combustible materials.

Massive leak Construct dikes or dig pits to contain the vapors; cover with foam to reduce vapor hazards.

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Part 7: Handling and Storage

Operating Precautions: Operate in a closed system with enhanced ventilation. Operators must be specially trained and strictly adhere to operating procedures. It is recommended that operators wear self-priming filter respirators (half-face masks) and anti-static work clothes. Keep away from sources of ignition and heat; smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. Prevent vapor leakage into the workplace air. Avoid contact with oxidizers and alkalis. Provide appropriate types and quantities of fire-fighting equipment and leakage emergency response equipment. Smoking is strictly prohibited at the work site. Avoid inhalation of high concentrations.

Storage Precautions: Store in a dry, cool, and well-ventilated warehouse. Avoid direct sunlight. Keep away from fire and heat sources. Generally, the shelf life is 3 months below 25°C; the higher the temperature, the shorter the shelf life. Packaging must be sealed, and smoking is strictly prohibited in the storage area. Warehouse lighting and ventilation facilities should be explosion-proof, with switches located outside the warehouse. The use of machinery and tools that may generate sparks is prohibited. The storage area should be equipped with spill response equipment.

Part 8: Exposure Controls/Personal Protection

Occupational exposure limit: 50 mg/m³

Biological exposure limit: 400 mg/g creatinine

Monitoring methods: Methods for determining toxic substances in the air

Engineering controls: The production process is closed and fully ventilated.

Safe shower and eyewash stations are provided.

Respiratory protection: For high-concentration exposure, a filtering half-face mask can be worn.

Eye protection: Wear protective glasses

Body protection: Wear impermeable work clothes

Hand protection: Wear rubber gloves

Other precautions: Smoking, eating, and drinking are prohibited at the work site.

Pay attention to personal hygiene.

Part 9: Physical and Chemical Properties

Appearance and properties: Yellow transparent liquid

Viscosity (Ford Cup 4, 25° C, seconds) : 18-22

Relative density (g/cm³) : 0.99±0.02

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Flash point (° C): 20

Ignition point (° C): 36

Boiling point (° C): 142

Saturated vapor pressure (mmHg): 35 / 26.0°C

Explosive limit (lower limit), % (vol) : 1

(Maximum), % (vol) : 7.0

Main applications: Primarily used for impregnating various transformers and motors.

Part 10: Stability and Reactivity

Stability: Slow polymerization will occur under normal conditions.

Substances to be avoided: strong oxidizing agents

Conditions to be avoided: heat, contact with strong oxidizers or incompatible substances.

Polymerization hazards: Contact with strong oxidizers or incompatible materials poses a risk of fire and explosion.

Potential hazards under special circumstances: Contact with strong oxidizers or incompatible materials may result in fire and explosion.

Hazardous decomposition products: CO, CO₂

Part 11: Toxicological Information

Acute toxicity:

name	result	type	dose	Exposure
styrene	LC50 inhalation	rats	24000mg/m3	4H

Conclusion/Overview

Skin irritation or corrosion: Rabbit transdermal test: 500mg, mild irritation (open irritation test).

Eye irritation or corrosion: Rabbit eye treatment: 100mg, severe irritation

Respiratory or skin allergies: No data available

Mutagenicity: No data available.

Carcinogenicity: IARC Carcinogenicity Review: Limited evidence of carcinogenicity in humans, inadequate evidence of carcinogenicity in animals.

Reproductive toxicity: In rats 6-15 days post-gestation, the lowest toxic concentration by inhalation was 11470 mg/kg. Oral administration of the drug caused malformations of the urogenital system.

Inhalation hazards: No data available.

Part 12: Ecological Information

Ecotoxicity: LC50 4.9 mg/L (96H) Blackhead Carp

Durability and Degradability: Biodegradability: Easily and rapidly biodegraded

Non-biodegradability: Photo-oxidation half-life (H) in air: 0.9-7.3

Potential bioaccumulation: BCF: 13.5 (goldfish)

Soil mobility: Based on Kow values, this substance may have some mobility.

Part 13: Waste Disposal

Waste chemicals: Dispose of by incineration

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

Waste Disposal Considerations: Waste generation should be avoided or minimized as much as possible. Significant quantities of residual product waste should be disposed of by a licensed waste management contractor, including residues and non-renewable products. The disposal of products, solutions, and their byproducts should comply with environmental protection, waste management regulations, and applicable local regulations.

Part 14: Transportation Information

Dangerous goods number: /

UN Number: /

Packaging category: II

Packaging markings:



Packaging method: 20L/drum

Transportation Precautions: Transport vehicles should be equipped with appropriate types and quantities of fire-fighting equipment and leakage emergency handling equipment. Transportation is best done in the early morning or late evening during summer. Tank trucks used for transportation should have grounding chains, and perforated baffles can be installed inside the tank to reduce static electricity generated by vibration. Mixing or transporting with oxidizers, acids, alkali metals, amines, or food chemicals is strictly prohibited. Protect from exposure to sunlight, rain, and high temperatures during transportation. When stopping en route, keep away from sources of ignition, heat sources, and high-temperature areas. Vehicles transporting this item must have flame arresters on their exhaust pipes, and the use of machinery

and tools that may generate sparks during loading and unloading is prohibited. When transporting by road, follow the prescribed routes and do not stop in residential areas or densely populated areas. When transporting by rail, shunting is prohibited .

Part 15: Regulatory Information

The following laws, regulations, rules and standards stipulate the corresponding provisions for the management of this chemical.

- Occupational Disease Prevention and Control Law of the People's Republic of China
- Regulations on the Safety Management of Hazardous Chemicals
- Labor Protection Regulations for Workplaces Using Toxic Substances
- Regulations on the Administration of Precursor Chemicals
- International Conventions

Part 16: Other Information

Drafting and Revision Information: January 5, 2025. Technical Department

Training Recommendation: Provide relevant training to users.

Disclaimer: The above information is not specific to this product and is for reference only. No warranty is provided. It is believed that the above-mentioned industrial safety and hygiene procedures are generally feasible. However, users should assess for themselves whether the above recommendations are appropriate for their individual circumstances.