

**Section 1 Identification**

**Product identifiers**

Product name: MiaLam F-37

**Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: Polyester Laminating Resin

**Details of the supplier of the safety data sheet**

Freeman Manufacturing & Supply Company

1101 Moore Road, Avon, OH 44011

Phone (440) 934-1902

Email contactus@freemansupply.com

**24 Hour Emergency Phone Number**

**CHEMTREC: (800) 424-9300**

**Section 2 Hazards Identification**

**GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)**

Flammable Liquids, Category 3

Acute Toxicity, Inhalation, Category 4

Skin Corrosion/Irritation, Category 2

Serious Eye Damage/Irritation, Category 2

Carcinogenicity, Category 2

Reproductive Toxicity, Category 1B

Specific Target Organ Toxicity, Single Exposure, Category 3

Specific Target Organ Toxicity, Repeated Exposure, Category 1



**Signal Word: Danger**

**Hazard Statements**

H226 Flammable liquid and vapor

H304 May be fatal if swallowed and enters airways

H317 May cause an allergic skin reaction.

H372 Causes damage to organs through prolonged or repeated exposure. (central nervous system, hearing organ, visual organ, color vision effect)

H360 May damage fertility or the unborn child

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

**Precautionary Statements**

**Prevention: P201** Obtain special instruction before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surface. No smoking.

P235 Keep cool.

P240 Ground/Bond container and receiving equipment.

P241 Use explosion proof electrical equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

**Section 2 Hazards Identification continued**

P260 Do not breathe vapours.  
 P264 Wash hands thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves  
 P282 Wear face shield & eye protection.  
 P284 Wear respiratory protection.  
**Response:** P304+P340 If inhaled: remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes.  
 Remove contact lenses if present and easy to do. Continue rinsing.  
 P312 Call a poison center or a doctor if you feel unwell.  
 P308+P313 If exposed or concerned : Get medical attention  
 P301+P330+P331+P310 If swallowed: Rinse mouth. Do not induce vomiting. Immediately call a doctor.  
 P302+P352 If on skin: Wash with plenty of water.  
 P337+P313 If eye irritation persists: get medical advice.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
**Storage:** P233 Keep container tightly closed  
 P403 Store in a well ventilated place.  
 P410 Protect from sunlight.  
**Disposal:** P501 Dispose of contents and container to an appropriate waste site in accordance with local and national regulations.

**Hazards not otherwise classified**

Cobalt 2-Ethyl hexanoate 12% has been recently listed by IARC as possibly carcinogenic to humans (group 2B). This listing is based on inadequate evidence of carcinogenic in humans and sufficient evidence in experimental animals.

**Section 3 Composition/Information on Ingredients**

Ingredient Name	CAS Number	Concentration (%)
Styrene monomer	100-42-5	40 - 44
Cobalt bis(2-ethylhexanoate) 12%	136-52-7	0.1 - 1.0

**Section 4 First Aid Measures**

**Inhalation:** Remove victim to fresh air and keep comfortable for breathing.  
 Call a physician immediately.  
**Eye contact:** Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Call a physician. Continue rinsing. If eye irritation persists or advised by physician, get medical attention.  
**Skin contact:** Wash with plenty of soap and water. Rinse with shower. Take off contaminated clothing and wash it before reuse. If irritation persists, get medical attention.  
**Ingestion:** Aspiration hazard if swallowed. Can enter lungs and cause damage.  
 Do not induce vomiting, rinse mouth. Consult a physician.

**Most significant signs and symptoms of exposure**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or absorption through the skin may include: nausea, vomiting, diarrhea, irritation of the nose, irritation of the throat, irritation of the airways, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), central nervous system effects (loss of coordination, confusion), and liver damage.

**Section 5 Fire-Fighting Measures**

**Suitable extinguishing media:** Alcohol-resistant foam, dry chemicals, or carbon dioxide. May use water spray or fog.

**Unsuitable extinguishing media:** Do not use strong water stream

**Specific hazards arising from the chemical**

On combustion, styrene releases carbon, carbon monoxide and carbon dioxide.

**Special protective actions for fire-fighter**

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.

**NFPA Classification (NFPA 30-2008):** 1C

**National Building Code of Canada:** 1C

**Section 6 Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition (flames, hot surfaces and electrical, static, or friction sparks). Avoid breathing vapors. Ventilate area. Attention! Contaminated absorbent or used absorbent may heat and ignite a fire. Keep it outside and put some water in the container.

**Environmental precautions**

Prevent entry into waterways, sewers, (risk of fire or explosion). When there is a spill, in the presence of water, the styrene will float because specific gravity is lower than water. Styrene is weakly soluble in water.

**Methods and materials for containment and cleaning up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Use non-sparking tools. Transfer to properly labeled metal containers and add water. Contaminated absorbent may heat and ignite a fire, store outside until it can be sent to a proper disposal facility.

**Section 7 Handling and Storage**

**Precautions for safe handling**

Do not store above 100°F (37.8°C). Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage. Wash hands after using and before smoking or eating.

**Conditions for safe storage**

Containers should be grounded when pouring. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Use explosion proof electrical equipment. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed.

Do not mix residues of this product with any other petroleum wastes.

**Additional information**

Hazardous polymerization can occur. Spontaneous polymerization will be accompanied by evolution of heat, which may cause release of styrene vapors forming flammable mixtures with air and a potential fire or explosion. Closed containers may rupture/explode during runaway polymerization. Product can accumulate electrostatic charges that may cause fire by electrical discharges.

**Section 8 Exposure Controls/Personal Protection**

**Component(s) with workplace control parameters**

Component	OSHA PEL		ACGIH TLV	
	TWA 8-hour	PEL-Ceiling	TWA 8-hour	STEL
Styrene	100 ppm	200 ppm	10 ppm	20 ppm
Cobalt bis(2-ethylhexanoate)	Not established	Not established	Not established	Not established

**Section 8 Exposure Controls/Personal Protection**

**Appropriate engineering controls**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits.

**Personal protective equipment**

**Eye/face protection**

Safety glasses equipped with side shields, chemical goggles, or face shields.

**Hand Protection**

Wear Polyvinyl alcohol or Viton gloves. Contaminated gloves should be replaced.

**Body Protection**

Prevent skin contact when handling material. Wear long-sleeved overalls or coveralls.

**Respiratory Protection**

Wear a cartridge or autonomous respirator if the concentration in ppm exceeds recommended exposure standard. These devices, however, require that the user has received appropriate training.

**General Hygienic Practices**

Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling. Remove contaminated clothing promptly and clean thoroughly before reuse.

**Section 9 Physical and Chemical Properties**

<b>Appearance</b>	Transparent viscous liquid
<b>Odor</b>	Aromatic/styrene
<b>Odor threshold</b>	0.14 ppm
<b>pH</b>	Not applicable
<b>Melting point</b>	-30.6°C (-23.1°F)
<b>Initial boiling point</b>	145°C (293°F)
<b>Flash point (Pensky-Marten)</b>	32°C (90°F)
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Lower flammability limit</b>	1.1% by volume
<b>Upper flammability limit</b>	6.1% by volume
<b>Vapor pressure</b>	4.5 mmHg@ 20°C
<b>Decomposition Temperature</b>	Not applicable
<b>Vapor Pressure</b>	4.5 mmHg@ 20°C
<b>Vapor density</b>	3.6
<b>Relative density (g/cc)</b>	1.2±0.1
<b>Solubility</b>	0.29 g/L @ 20°C
<b>Auto-ignition temperature</b>	490°C (914°F)
<b>Viscosity</b>	Thixotropic
<b>Explosive Properties</b>	Vapors may form explosive mixture with air
<b>Oxidizing Properties</b>	None
<b>VOC Content</b>	504 g/L
<b>Partition coefficient</b>	
<b>n-octanol/water</b>	0.00112

**Section 10 Stability and Reactivity**

**Reactivity:** Not considered self-reactive.

**Chemical stability:** These products are stable under recommended storage conditions

**Possibility of hazardous reactions:** Hazardous polymerization may occur with an exothermic reaction.

**Conditions to avoid:** Elevated temperatures. Improper addition of promoter and/or catalyst. Avoid direct contact of methylethylketone peroxide catalyst (MEKP) with accelerator (cobalt, calcium, potassium salts). If an accelerator such as cobalt drier has to be added, mix this accelerator with base material before adding catalyst.

**Section 10 Stability and Reactivity continued**

**Incompatible materials:** Oxidizers, peroxides, strong acids

**Hazardous decomposition products:** Thermal decomposition or combustion can produce fumes containing carbon monoxide, carbon dioxide, organic acids

**Section 11 Toxicological Information**

**Information on the likely routes of exposure**

Can be absorbed through the respiratory, digestive, skin, and eyes.

**Information on toxicological effects**

**Acute Effects:** May cause central nervous system depression causing headache, nausea, vomiting, drowsiness, dizziness and muscle weakness. Inhalation of high concentrations can lead to convulsions, coma and death.

**Chronic Effects:** Can cause damage to the brain and nervous system such as dizziness, headache and nausea, if exposure continues, loss of consciousness occurs with possible damage to the liver and kidneys.

**Skin Corrosion/Irritation:** May cause lesions to skin.

**Serious Eye Damage/Irritation:** Causes serious eye irritation.

**Skin Sensitization:** May rarely cause skin sensitization.

**Respiratory Sensitization:** May rarely cause occupational asthma.

**Germ Cell Mutagenicity:** No data available

**Carcinogenicity:**

Chemical Name	ACGIH	IARC	NTP	OSHA
Styrene 100-42-5	Not classified	Group 2B – Possibly Carcinogenic to Humans	Reasonably Anticipated	Present

**Reproductive Toxicity:** No data available

**Specific Target Organ Toxicity – Single Exposure:** No data available

**Specific Target Organ Toxicity – Repeated Exposure:** No data available

**Acute Toxicity:**

Chemical Component	LD50	LC50
Styrene	Oral: 4.37 g/kg (rat) Dermal: 5 g/kg (rabbit)	5000 ppm, 8 hour (rat)
Cobalt 2-Ethyl hexanoate 12%	3.1 g/kg (rat)	Not established

**Section 12 Ecological Information**

**Ecotoxicity:** Fish (Pimephales promelas) : CL50 (96h) = 4.02 mg/L

**Persistence and degradability:** Readily biodegradable in soil under aerobic conditions.

Freshwaters half-life: 15 days. Groundwater half-life: 4 to 30 weeks. Marine waters half-life (estimate): 45 days. In the presence of sea water, styrene will be reduced by volatilization, photo-oxidation and biotransformation.

**Bioaccumulative potential:** Octanol-water partition coefficient: Log Kow = 3.02  
Bio-concentration factor: Fish= 74, Crab= 12, Goldfish =13.5

**Mobility in soil:** Moderate

**Results of PBT & vPvB assessment:** No data available

**Section 13 Disposal Considerations**

Dispose of in accordance with local, provincial and federal regulations. Do not incinerate closed containers. Incinerate in approved facility. Liquid residue must be treated as hazardous waste and disposed in accordance with environmental regulations.

**Section 14 Transport Information**

**DOT/IMDG/IATA/TDG**

UN Number: UN1866  
Shipping Name: Resin Solution  
Hazard Class: 3  
Packing Group: III  
Placard: Flammable 3  
Environmental hazards: Not considered a marine pollutant  
Maximum quantity per limited quantity exemption: 5.0 Liters

**Section 15 Regulatory Information**

**TSCA Inventory Status:** All ingredients listed on the Toxic Substance Control Act Inventory  
**Canada Inventory (DSL):** All components are listed or exempted  
**Canada Inventory (NDSL):** Not listed  
**SARA 313:** Styrene, CAS 100-42-5, 10-25%  
**California Proposition 65:** ⚠️ WARNING: This product can expose you to chemicals including styrene, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**Section 16 Other Information**

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