

## Red Insulating Varnish



**4228**

### Dielectric Strength (dry): 3000 V / mil

- Protect motor windings, small dry type transformers, and coils from arcing, discharge and oxidation
- Class F thermal protection (20,000 @ 150°C)
- High dielectric strength

### Specifications

Physical Properties	
Type	Modified Alkyd
Color	Red
Gloss (60°)	80+
Thinner	Xylol
Weight per Gallon	8.84 ± 2.0% lbs
Dielectric Str. dry	3000 V / mil
Dielectric Str. wet	1500 V / mil
Tack free time	10 min
Cure time (25°C)	20 min
Non-Volatile by Weight	51.8 ± 2.0%
Non-Volatile by Volume	40.8 ± 2.0%
Coverage (at 1 mil with 4228-4L)	655 sq ft
Mandrel 1/2 inch	No Cracking
Mandrel 1/4 inch	No Cracking
Volitile Organic Compounds (VOC)	4.28 lbs / gal



### Available Sizes

Catalog Number	Sizes Available	Description
4228-55ML	55ml (2 oz)	Liquid
4228-1L	950ml (1 quart)	Liquid
4228-4L	4L (1 gal)	Liquid

# Material Safety Data Sheet

## Section 1: Product Identification

**MSDS Code: 4228****Name: Red Insulating Varnish****Related Part Numbers: 4228-55ML, 4228-1L, 4228-4L**

Use: High voltage protective coating for motor windings.

## Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
1330-20-7	Xylene	<45	100ppm	100ppm	150ppm
1309-37-1	Red Iron Oxide	<6	*N/E	*N/E	*N/E
100-41-4	Ethyl Benzene	<6	100ppm	100ppm	N/E
1332-37-2	Iron oxide	<18	N/E	N/E	N/E

## Section 3: Hazards Identification

**WHMIS Codes:** B2, D2A**NFPA Ratings:** Health 2 Flammability 3 Reactivity 0**HMIS Ratings:** Health 2 Flammability 3 Reactivity 0**Eyes:** Causes eye irritation.**Skin:** Possible absorption through skin. Prolonged exposure de-fats skin producing flaky cracking dermatitis**Inhalation:** Harmful if inhaled. May cause nausea, dizziness, hallucinations, headache, and loss of coordination.**Ingestion:** Harmful if swallowed. Burning in mouth, stomach. May cause headache, dizziness, nausea, vomiting, and abdominal pain. May cause central nervous system depression.**Chronic:** No effects known.

## Section 4: First Aid Measure

**Eyes:** Remove contact lenses. Flush with water or saline. Get medical aid.**Skin:** Wash skin with soap and water. Remove contaminated clothing. Get medical aid if symptoms persist.**Inhalation:** Immediately remove from exposure to fresh air.**Ingestion:** Do not induce vomiting. Keep person warm. Get medical aid.

### Section 5: Fire Fighting Measures

**Autoignition Temperature:** 272°C      **Flash Point:** 15°C      **LEL / UEL:** 1 / 7

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**General Information:** Vapor is heavier than air and may travel along the ground or may be moved by ventilation and ignited.

### Section 6: Accidental Release Measures

**Spill Procedure:** Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic or metal container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water.

### Section 7: Handling and Storage

**Handling:** Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.

**Storage:** Keep away from sources of ignition. Store in a cool, dry, well-ventilated area, away from incompatible substances. Keep from freezing.

### Section 8: Exposure Controls

**Routes of entry:** Eyes, ingestion, inhalation, and skin.

**Ventilation:** Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

**Personal Protection:** Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

### Section 9: Physical and Chemical Properties

<b>Physical State:</b>	Red Liquid	<b>Odor:</b>	N/e	<b>Solubility:</b>	Insoluble	<b>Evaporation Rate:</b>	N/a
<b>Boiling Point:</b>	N/a	<b>Specific Gravity:</b>	1.06	<b>Vapor Pressure:</b>	1 PSI @20°C	<b>Vapor Density:</b>	N/a <b>pH:</b> N/e

### Section 10: Stability and Reactivity

**Stability:** Stable at normal temperatures and pressures.

**Conditions to avoid:** Temperatures over 40°C, ignition sources, strong oxidizing agents and incompatible substances.

**Incompatibilities:** Strong acids, bases, oxidizing agents, sodium, barium, and aluminum.

**Polymerization:** Will not occur.

**Decomposition:** Carbon monoxide, carbon dioxide, and water. Toxic vapors possible due to incomplete combustion.

### Section 11: Toxicological Information

**Sensitization:** (effects of repeated exposure)      Prolonged or repeated skin contact may cause dermatitis.

**Carcinogenicity:** (risk of cancer)      No



**Teratogenicity:** (risk of malformation in an unborn fetus) No

**Reproductive Toxicity:** (risk of sterility) This product contains xylene, a known embryo toxin. Pregnant women must avoid all contact with this product.

**Mutagenicity:** (risk of heritable genetic effects) No

<b>Lethal Exposure Concentrations:</b>	<b>Ingestion (LD50):</b> 4300 mg/kg (rat)	<b>Inhalation (LC50):</b> 5000 ppm/4h	<b>Skin (LD50):</b> N/e
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## Section 12: Ecological Information

**General Information:** Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage.

**Environmental Impact Data:** (percentage by weight)

<b>CFC:</b> 0	<b>HFC:</b>	<b>Cl.Solv:</b> 0	<b>VOC:</b> 65	<b>HCFC:</b> 0	<b>ODP:</b> 0
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## Section 13: Disposal Information

**General Information:** Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

## Section 14: Transportation Information

**Ground: (All sizes 4 liters or less)**

Consumer Commodity / ORM-D.

**Air:**

Shipper must be trained and certified. Refer to IATA regulations, UN# 1263, packing groups 3.

**Sea:**

Shipper must be trained and certified. Refer to IMDG regulations. Limited Quantity, UN# 1263, Paint.

## Section 15: Regulatory Information

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.**

**SARA** (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

This Product contains Ethyl Benzene CAS#100-41-4 (<6% ) and Xylene CAS#1330-20-7(<45%) toxic chemicals subject to the reporting requirements.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains Ethyl Benzene CAS#100-41-4 (<6% ) and Xylene CAS#1330-20-7(<45%) chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

**CAA** (Clean Air Act, USA)

This product does not contain any class 1-ozone depletors.

This product does not contain any class 2-ozone depletors.

This product does not contain any chemicals listed as hazardous air pollutants.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.