



Fine-L-Kote™ AR

Acrylic Conformal Coating 2103

Introduction

Economical, acrylic conformal coating that provides insulation against high voltage arcing and corona shorts while resisting moisture and fungus. This product offers limited resistance to common alcohols, ketones, and esters. Durable coating provides a hard surface that is resistant to abrasion and staining. Fine-L-Kote™ AR is formulated with a black light indicator, Opti/Scan™, to allow for black light inspection. Coated boards can be stripped using Trace Technologies™ Conformal Coating Remover (2510-N, 2510-P).

Features / Benefits

- Static Resistant
- Easy Repair
- Economical Coating
- High Dielectric Strength
- Contains Opti/Scan™

Chemical Components

Acetone.....(67-64-1)	12-18%-Aerosol 25-30%-Bulk
Acrylic Polymer Blend	5-8%-Aerosol 20-23%-Bulk
Aerosol-Tetrafluoroethane.....(811-97-2)	48-53%
n-Propyl Acetate.....(109-60-4)	25-30%-Aerosol 50-55%-Bulk

Cure Type	Thermal
Meets/Exceeds IPC-CC-830 MIL-I-46058C	AR Acrylic
Thermal Shock	2
Dielectric Constant (@ 10 ⁶ Hz)	3.1
Dielectric Strength (Volts/Mill)	2086
Volume Resistivity	4x10 ¹³ Dry
Moisture Resistance	2
Resistant to Fungus	Yes
Ease of Repair	2
Flexibility	2
Chemical Resistance	1
Dry Time to Touch	15 min.
Cure Time	24 Hours
Accelerated Cure Time	20 min. @ 120°F 30 min. @ 180°F Two Step Process
Removal (2510-P or 2510-N)	1-5 min.
Burn Through	Yes

Ratings: 5 (Excellent), 4 (Very Good), 3 (Good), 2 (Fair), 1 (Poor)

Typical Physical Properties for 2103

% Non Volatile	20
Gardner Color	1 Max
Acid Value (g KOH/g Acid)	4.3 – 4.9
Tg 2 (C)	43.5 – 46.5
MFI (g/10 min.)	19 @ 190°C
Molecular Weight	90,000
Viscosity (cps) Bulk	34-54

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Packaging and Availability

Fine-L-Kote™ AR may be ordered in the following container sizes:

2103-12S	12 Ounce Aerosol
2103-P	1 Pint in Glass
2103-G	1 Gallon in Metal
2103-5G	5 Gallons in Metal

FINE-L-KOTE™ COATING SELECTION CHART

Fine-L-Kote™ Part Number	2102	2103	2104	2106
Cure Type	Thermal	Thermal	Thermal	Thermal
Meets / Exceeds IPC-CC-830 MIL-I-46058C	SR Silicone	AR Acrylic	UR Urethane	SR Silicone
Thermal Shock	5	2	3	5
Dielectric Constant (@ 10 ⁶ Hz)	2.66	3.1	3.80	2.5
Dielectric Strength (Volts / Mil)	1100 Dry 976 Wet	2086	380	560
Volume Resistivity	1x10 ¹⁴ Dry 9x10 ¹⁴ Wet	4x10 ¹³ Dry	2x10 ¹³	5x10 ¹³
Moisture Resistance	5	2	4	5
Resistant to Fungus	Yes	Yes	Yes	Yes
Ease of Repair	3	5	2	3
Flexibility	5	2	3	5
Chemical Resistance	4	1	4	2
Dry Time To Touch	1 Hour	15 Min.	15 Min.	45 Min.
Cure Time	72 Hours	24 Hours	24 Hours	24 Hours
Accelerated Cure Time	30 min. @ 90°F 45 min. @ 200°F Two Step Process	20 min. @ 120°F 30 min. @ 180°F Two Step Process	20 min. @ 120°F 30 min. @ 180°F Two Step Process	15 min. @ 120°F One Step Process
*Removal (2510)	1-5 min.	1-5 min.	1-5 min.	1-5 min.
Burn Through	Yes	Yes	Yes	Yes

Ratings: 5 - Excellent, 4 - Very Good, 3 - Good, 2 - Fair, 1 - Poor
All coatings may be thinned by using Fine-L-Kote™ UR Thinner (2105)

* Available: Conformal Coating Remover
Product #'s: 2510-P and 2510-N



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MATERIAL SAFETY DATA SHEET

Finished Product

MSDS Ref. No: 2103-12S

Fine-L-Kote AR

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Fine-L-Kote AR**PRODUCT DESCRIPTION:** Acrylic Conformal Coating**PRODUCT CODE:** 2103/CAN/EUR-12S

MANUFACTURER

Techspray, L.P.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS#</u>	<u>EINECS#</u>
Acrylic polymer	10 - 30	028262-63-7	
n-Propyl acetate	50 - 55	109-60-4	2036861
Acetone	25 - 30	67-64-1	200-662-2

EEC LABEL SYMBOL AND CLASSIFICATION



R11 - Highly flammable.

EEC Highly flammable - "F"

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: < 4.4°C (40°F)TAG CC

FLAMMABLE LIMITS: LEL: 1.7% to UEL: 8.0%

GENERAL HAZARD: Flammable Liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point.

EXTINGUISHING MEDIA: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

HAZARDOUS COMBUSTION PRODUCTS: Smoke, fumes and oxides of carbon.

EXPLOSION HAZARDS: Vapors may form explosive mixture with air.

FIRE FIGHTING PROCEDURES: Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb the liquid and scrub the area with detergent and water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not flush to sewer.

GENERAL PROCEDURES: Forms smooth, slippery surfaces on floors, posing an accident risk. Wear a self-contained breathing apparatus and appropriate personal protective equipment. (See Exposure Controls/Personal Protection Section). Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust.

7. HANDLING AND STORAGE

HANDLING: Ground and bond containers when transferring material.

STORAGE: Store in a cool place in original container and protect from sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<u>EXPOSURE LIMITS</u>					
<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>Supplier OEL</u>	
<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>

n-Propyl acetate	TWA	200	200			
	STEL	250	250			
Acetone	TWA	750 ^[1]	1800	750	1780	NL NL
	STEL	1000	2400	1000	2380	NL NL

OSHA TABLE COMMENTS:

1. NL = Not Listed

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

SKIN: The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection.

Viton, Solvex, Butyl, Buna, Neoprene.

Butyl Rubber

Solvex

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Characteristic odor.

APPEARANCE: Clear, Colorless liquid

PERCENT VOLATILE: 79 at 25°C (68°F)

VAPOR DENSITY: >1 (Air=1)

BOILING POINT: 110°C (230°F)

MELTING POINT: 163°C (325.4°F) to 249°C (480.2°F)

SOLUBILITY IN WATER: Negligible

SPECIFIC GRAVITY: 0.870 to 0.900 (water=1)

VISCOSITY: 34 to 54 Centipoise at 25°C (68°F)

(VOC): 456 g/L (non-exempt VOC)

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Heat, flames, ignition sources, and incompatibles.

INCOMPATIBLE MATERIALS: Metals. Acidic conditions. Oxidizing materials.

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: ID8000

PACKING GROUP: NA

IATA NOTE: Domestic shipments only. When shipping International contact TechSpray shipping department.

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: AEROSOLS IN LIMITED QUANTITIES OF CLASS 2

PRIMARY HAZARD CLASS/DIVISION: 2.1

UN/NA NUMBER: UN1950

PACKING GROUP: NA

IMDG NOTE: Page 2102

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: IMMEDIATE / DELAYED

FIRE: YES **ACUTE:** YES **CHRONIC:** YES

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Acetone (67-64-1)

REPORTABLE SPILL QUANTITY: 5000 lbs.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All chemicals in this product are listed in the TSCA inventory.

RCRA STATUS: U002 D001

OSHA HAZARD COMM. RULE: Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

CANADA

WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM): This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION



R11 - Highly flammable.

EEC Highly flammable - "F"



R20/21 - Harmful by inhalation and in contact with skin.