

## 419 Amine-adduct Cured Epoxy Tank Lining

### Product Data Sheet / Application Instruction

- High build, ideal as the body coat in tank lining systems for chemical service.
- Can be applied up to 6 mils in one coat.
- Excellent durability in marine atmosphere.
- Meets requirements of U.S. Food & Drug Administration for potable water.
- High build protective system in immersed conditions especially over concrete surface in aggressive solution.
- Easy application property
- Excellent resistance to moisture
- Excellent resistance to mild chemicals
- Good resistance to abrasion

### Typical Uses

Particularly intend for internal lining of steel tanks for storing animal and vegetable oils, effluent tanks, drinking water tanks, etc. Over primed steel surfaces in aggressive environments such as marine and heavy industrial exposure.

### Chemical Resistance Guide

The following is a representative list of chemicals to which KHEMIX 419 may be exposed as a lining. Contact your KHEMIX representative for recommendations concerning specific requirements.

Aliphatic hydrocarbons	Lube oil
Aromatic 100,150	Mineral oil
Aviation Gasolines	Oxygenated salt water
Castor oil	Palm oil
40-60% Caustic (140°F, 60°C)	Potable water
Crude oil (to 120°F, 49°C)	Sea water
Diesel fuel	Toluene
Gasoline, unleaded	Water
Jet fuels	Xylene
Kerosene	Demineralised water
	Refined palm oil
	Methyl ester

### Physical Data

Finish	Satin
Color	Oxide Red and full range of industrial colours
Applied Over	Prepared and primed steel, concrete, galvanized
Components	2
Curing Mechanism	By solvent release and chemical reaction between





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	components	
Volume Solids	56%	
Dry film thickness	75 - 150 microns (3 – 6 mils)	
Coats	1 - 3	
Calculated coverage at		
@ 25 microns (1 mil)	24.0m <sup>2</sup> /litre	
@ 150 microns (6 mil)	4.0m <sup>2</sup> / litre	
<i>When computing practical coverage, allow for application loss and surface irregularities.</i>		
Application Method	Airless or conventional spray	
Pot life	6 - 7 hours @ 77°F (25°C)	
Drying Time (ASTM D1640)	At 77°F (25°C)	
Dry to touch	2 - 3 hours	
Dry through	16 hours	
Recoat		
Minimum	8 hours	
Maximum	7 days	
<i>If maximum recoat time exceeded, roughen surface with fine sandpaper before overcoating.</i>		
Cure time before immersion service	Minimum 7 days at 25°C	
Mixing ratio (by volume)	3.75 litres parts resin to 1.25 litres part cure component	
Temperature limit		
Continuous	200°F (93°C), dry	
Intermittent	266°F (130°C), dry	
Flash point (ASTM D3275)	30°C (mixed)	
Thinner	RT - 101	
Packaging	<u>5 litres set</u>	<u>20 litres set</u>
Resin	3.75 litres in 5 litres can	15 litres in 20 litre pail
Cure	1.25 litres in 1 litre can	5 litres in 2.5 litres can
Shipping Weight	<u>5 litre set</u>	<u>20 litre set</u>
	7.3 kg	28.0 kg
Shelf Life	24 months when stored indoors and tightly sealed contained.	
Theoretical Coverage	4.48 m <sup>2</sup> /litres @ 125 microns DFT	
Recommended Thinner	Thinner No. 5	

### Application Data Summary

For complete information on procedures, equipment, and safety precautions, see detailed Application Instructions. KHEMIX 419 must be applied as recommended to obtain maximum performance.

### Practical Application Rates

Micron Per Coat	Airless Spray	Conventional Spray	Brush	Roller
<b>Dry</b>	125	125	50	60
<b>Wet</b>	223	223	89	107





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### Average Drying Time

Ambient Temperature	Touch Dry	Hard Dry	Overcoating Interval		Potlife
			Minimum	Maximum	
15°C	5 hours	32 hours	32 hours	10 days	12 hours
25°C	3 hours	24 hours	24 hours	7 days	8 hours
35°C	2 hours	16 hours	20 hours	5 days	5 hours

\* This coating will hard dry when the water temperature is taken to 100°C for 5 hours.

#### Application Method

Airless or conventional spray. Brush may be used for smaller area.

#### Mixing Ratio (by volume)

3 Parts Resin to 1 Parts Cure.

#### Thinner

Thinner No. 5. (Maximum 5% addition)

#### Airless Spray

Nozzle Size : 0.43-0.53mm (17-21 thou)  
Fan Angle : 65°  
Operating Pressure : 110-160 kg/cm<sup>2</sup> (1600-2300 psi)

#### Conventional Spray

Nozzle Size : 1.27mm (50 thou)  
Atomising Pressure : 2.8 kg/cm<sup>2</sup> (40 psi)  
Fluid Pressure : 0.4 kg/cm<sup>2</sup> (6 psi)

#### Brush/ Roller

This product is suitable for brush/roller application. Application of minimum two coats to give an even application and ensure consistent performance



Application Method



65° Spraying Tip



Pratice Proper Cleaning

### Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure and tip size maybe needed for proper spray characteristics.

**Airless Spray** - standard equipment such as Graco, Devilbiss, Mordsen - Bede, Speeflo, or others having a 28:1 or higher pump ratio and a fluid tip of 0.013 to 0.021 in. (0.33 to 0.43mm).

**Conventional Spray** - industrial equipment such as Devilbiss MBC or OGA spray gun with 78 or 765 air cap and "E" fluid tip or Binks No. 18 or 62 gun with 63PB nozzle set up. Separate air and fluid pressure regulators, mechanical pot agitator and a moisture and oil trap in main air supply line are recommended.

**Power mixed** - Jiffy Mixer powered by an air or an explosion - proof electric motor.

**Brush** - Natural bristle. Maintain wet edge.

**Roller** - Use industrial roller. Level any air bubbles with bristle brush.



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### Application Procedure

KHEMIX 419 consists of two components which must be mixed together before use. It is packaged in the proper portions in 5 litres or 20 litres units.

1. Flush equipment KHEMIX 012 before use.
2. Stir each component thoroughly, then combine resin and cure and mix until uniform.
3. Thin only if necessary for workability, add RT-101 thinner by volume.
4. Do not mix more material than will be used within pot life. Pot life is shortened by higher temperatures.
5. For conventional spray, use adequate air pressure and volume to ensure proper atomization.
6. Apply a wet coat in even, parallel passes; overlap each pass 50 percent. If required, cross-spray at right angles to avoid holidays, bare areas and pinholes.

**Note :** *When applying directly over inorganic zinc or zinc-rich primers, a mist coat / full coat technique may be required to minimize bubbling. This will depend on the age of the primer, surface roughness and environmental conditions during application and curing.*

7. A wet film thickness of 208 microns normally provides 125 microns of fry film.
8. When using brush or roller application method, additional coats may be required to achieve proper film thickness.
9. When a pinhole-free film is required, check film continuity of material with a nondestructive holiday detector such as Tinker and Razor Model M-Apply additional KHEMIX 419 to areas requiring touch up.
10. Clean all equipment with thinner or KHEMIX 012 immediately after use.

### Safety Precautions

**CAUTION** - Improper use and handling of this product can be hazardous to health and cause fire or explosion. Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas.

Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mists and vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. KHEMIX makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which KHEMIX is unaware and over which it has no control. If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

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### Limitation of Liability

KHEMIX's liability on any claim of any kind, including claims based upon KHEMIX's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or parts thereof which give rise to the claim. **In no event shall KHEMIX be liable for consequential or incidental damages.**

### Warranty

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Any recommendation or suggestion relating to the use of the products made by KHEMIX either in technical literature or in response to specific inquiry is given in good faith, but it is for Buyer to satisfy itself of the suitability of the goods for its own particular purpose and it will be deemed to have done so.