

**MATERIAL SAFETY DATA SHEET**

**PRODUCT NAME:** KEY #536 ESD/CONDUCTIVE COATING PART A  
**PRODUCT CODE:** KR-536-000

**HMIS CODES:** H F R P  
1 1 0 B

**SECTION 1: MANUFACTURER IDENTIFICATION**

**MANUFACTURER'S NAME:** KEY RESIN COMPANY  
**ADDRESS:** 4050 Clough Woods Drive  
Batavia, OH 45103  
**EMERGENCY NUMBER:** 1-800-424-9300 **DATE PRINTED:** 08/13/09  
**INFORMATION NUMBER:** 1-513-943-4225 **PREPARER:** R. CAIN

**SECTION 2: HAZARDOUS INGREDIENTS**

HAZARDOUS COMPONENTS	CAS NUMBER	OSHA PEL	ACGIH		CARCINOGEN
			TLV	WT %	
Bisphenol F Epoxy Resin	28064-14-4	NE	NE	40-60	NO
Epoxy Phenol Novolac Resin	28064-14-4	NE	NE	20-40	NO
Benzyl Alcohol	100-51-6	NE	NE	1-10	NO
Talc	14807-96-6	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	1-10	NO
Mica	12001-26-2	NE	3 mg/m <sup>3</sup>	1-25	NO
Depending on color, one or more of the following may be present:					
Titanium Dioxide	13463-67-7		10 mg/m <sup>3</sup>	1-5	NO
Black Iron Oxide	1317-61-9	10 ppm	10 mg/m <sup>3</sup>	<1	NO
Red Iron Oxide	1332-37-2	10 ppm	10 mg/m <sup>3</sup>	1-5	NO
Yellow Iron Oxide	51274-00-1	10 ppm	5 mg/m <sup>3</sup>	<1	NO
Chromium Oxide	1308-38-9	.5 mg/m <sup>3</sup>	.5 mg/m <sup>3</sup>	<1	

The exposure limits shown above for pigments are for dust exposure. They are not known to be hazardous after blended into a liquid. Wet sanding is suggested to eliminate airborne dust, if product is machined or ground. The only other exposure limits established for ingredients of this product apply to nuisance dusts from inert fillers. These fillers are blended into a liquid and pose no hazard as supplied.

Substances listed are present in concentration of 1% or greater, or 0.1% if cited as a potential Carcinogen in the OSHA hazards communication standard. Where proprietary ingredient is listed, the identity is available as provided in 29 CFR 1910.1200.

NE - Not Established

**SECTION 3: PHYSICAL/CHEMICAL CHARACTERISTICS**

<b>BOILING RANGE</b>	Not determined
<b>VAPOR DENSITY</b>	Not determined
<b>VAPOR PRESSURE</b>	1 mm Hg @ 200° F
<b>VOC</b>	0.00
<b>SOLUBILITY IN WATER</b>	NIL
<b>APPEARANCE AND ODOR</b>	Moderately viscous pigmented liquid with a mild odor
<b>SPECIFIC GRAVITY (H2O=1)</b>	1.51

**SECTION 4: FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** >200° F  
**METHOD USED:** Closed Cup  
**FLAMMABLE LIMITS IN AIR BY VOLUME** **LOWER:** Not determined  
**UPPER:** Not determined  
**EXTINGUISHING MEDIA:** Foam, dry chemical CO 2  
**OSHA FLAMMABILITY CLASSIFICATION:** Combustible liquid, Class III B

**SECTION 4: FIRE AND EXPLOSION HAZARD DATA (CON'T)**

**SPECIAL FIRE FIGHTING PROCEDURES:** Decomposition and/or products of combustion may be toxic. Use self contained breathing equipment.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Decomposition and combustion products may be toxic.

**SECTION 5: REACTIVITY DATA**

**STABILITY:** Normally Stable

**CONDITIONS TO AVOID:** Elevated temperatures.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Avoid contact with strong oxidizing agents, strong acids, strong bases. Mixing large quantities (1 gallon) with amines or epoxy hardeners can cause heat build-up and hazardous reaction.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Carbon Monoxide, Carbon Dioxide, Phenolic Derivatives.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**SECTION 6: HEALTH HAZARD DATA**

**HEALTH RISKS AND SYMPTOMS OF EXPOSURE:**

**INHALATION:** Exposure to vapors at elevated temperatures may cause irritation to respiratory tract and difficulty breathing.

**EYE:** May cause irritation to the eyes.

**SKIN:** A single exposure to the skin is unlikely to result in harm.

**SKIN ABSORPTION:** Repeated exposure to the skin can cause sensitization.

**INGESTION:** Oral toxicity is low. No hazards expected from normal industrial exposure.

**HEALTH HAZARDS (ACUTE AND CHRONIC):**

**CARCINOGENICITY:**

**NTP CARCINOGEN:** NO **IARC MONOGRAPHS:** NO **OSHA REGULATED:** NO

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Allergy, Eczema, or skin conditions.

**EMERGENCY AND FIRST AID PROCEDURES:**

**EYES:** Flush at once with potable water for at least 15 minutes.

**SKIN:** Wash with soap and warm water. Remove contaminated clothes. Wash before reuse. Destroy contaminated shoes.

**INGESTION:** Not likely to occur in normal handling. Give large quantities of water and get medical attention.

**INHALATION:** Remove to fresh air. Administer oxygen if breathing is difficult.

**SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Avoid contact. Soak up with clay or other absorbent material. Place in covered container for disposal.

**WASTE DISPOSAL METHOD:** Dispose in an approved incinerator or an approved landfill.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Avoid contact.

**OTHER PRECAUTIONS:** Keep containers tightly closed when not in use. If mixture of A and B are allowed to remain in the mixing vessel past the pot life deadline, heat and a strong reaction will result. Grinding or other abrasive action to cured film may develop Micro crystalline Silica dust. Wear a dust mask during such operations.

**SECTION 8: CONTROL MEASURES**

**RESPIRATORY PROTECTION:** Avoid breathing vapor mist or spray.

**VENTILATION:** Use with good ventilation.

**PROTECTIVE GLOVES:** Wear impervious gloves.

**EYE PROTECTION:** Wear splash-proof chemical goggles.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Provide eye fountain and safety shower.

**WORK/HYGIENIC PRACTICES:** Practice good industrial hygiene. Wash with soap and water before eating, smoking, or using the restroom.

**SECTION 9: REGULATORY INFORMATION**

**SARA TITLE III SECTION 313:** Unless shown below, this product does not contain the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

CAS #	Chemical Name	Percent by Weight
1308-38-9	Chromium compound	<1%(not in all formulations)

**PROP 65 (CARCINOGEN):** Unless shown below, this product does not contain chemicals known to the state of California to cause cancer.

CAS #	Chemical Name	Percent by Weight
	None	

**PROP 65 (TERATOGENIC):** Unless shown below, this product does not contain chemicals known to the state of California to cause birth defects or other reproductive harm.

CAS #	Chemical Name	Percent by Weight
	None	

**PROP 65 (CARCINOGENIC & TERATOGENIC):** Unless shown below, this product does not contain chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.

CAS #	Chemical Name	Percent by Weight
	None	

**HAZARDOUS WASTE INFORMATION:** Unless shown below, this product is not a hazardous waste according to definitions found in CFR-40.

**STATE OF MICHIGAN CRITICAL MATERIALS:** Unless shown below, this product does not contain ingredients appearing on the State of Michigan Critical Materials List.

CAS #	Chemical Name	Percent by Weight
	None	

**D.O.T. PROPER SHIPPING NAME:** Synthetic Resin Liquid

**PROPER SHIPPING NAME:** Synthetic Resin Liquid

**HAZARD CLASS:** non-hazardous

**UN/NA ID NUMBER:**

**SECTION 10: DISCLAIMER**

Data and recommendations presented herein are based upon our and other researchers and are believed to be accurate. The products discussed are distributed without warranty (expressed or implied) and the customer shall make his own determination of suitability for his particular purpose.

**MATERIAL SAFETY DATA SHEET**

**PRODUCT NAME:** KEY #536 ESD/CONDUCTIVE COATING Part B **HMIS CODES:** H F R P  
**PRODUCT CODE:** KR-536-RCB 2 1 0 B

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**SECTION 2: HAZARDOUS INGREDIENTS**

<b>HAZARDOUS COMPONENTS</b>	<b>CAS NUMBER</b>	<b>OSHA PEL</b>	<b>ACGIH TLV</b>	<b>WT %</b>	<b>CARCINOGEN</b>
Polyamine Resin Adduct Emulsion	Mixture	NE	NE	40-60	NO
Titanium Dioxide	13463-67-7	NE	NE	1-10	NO
Silica	14808-60-78	0.01	NE	30-40	NO

Substances listed are present in concentration of 1% or greater, or 0.1% if cited as a potential Carcinogen in the OSHA hazards communication standard. Where proprietary ingredient is listed, the identity is available as provided in 29 CFR 1910.1200.

NE - Not Established

**SECTION 3: PHYSICAL/CHEMICAL CHARACTERISTICS**

**BOILING RANGE** Above 400° F  
**VAPOR DENSITY** Approx. 3.5 (Air = 1)  
**VAPOR PRESSURE** Less than 1 mm Hg @ 100° F  
**VOC** 0.00  
**SOLUBILITY IN WATER** Very slight  
**APPEARANCE AND ODOR** opaque yellow liquid with a mild, amine odor  
**SPECIFIC GRAVITY (H2O=1)** 2.19

**SECTION 4: FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** NA

**FLAMMABLE LIMITS IN AIR BY VOLUME - LOWER:** 1.3%  
**UPPER:** 6.0%

**EXTINGUISHING MEDIA:** Not Applicable

**OSHA FLAMMABILITY CLASSIFICATION:** Not Applicable

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

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** During Emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention. Closed containers may explode (due to the build up of steam pressure) when exposed to extreme heat.

#### SECTION 5: REACTIVITY DATA

**STABILITY:** This product is stable under normal storage conditions.

**CONDITIONS TO AVOID:** Elevated temperatures.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Amines Peroxides and Oxidizers

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Thermal decomposition and partial combustion may produce hazardous fumes which may contain the following materials: Carbon Monoxides

**HAZARDOUS POLYMERIZATION:** Will not occur under normal conditions.

#### SECTION 6: HEALTH HAZARD DATA

##### HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

**INHALATION:** Acute: May cause headache and nausea.

**SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE:** Possible primary irritant. (Material is slightly alkaline). Eye Contact: Primary irritant.

**SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE:**

**HEALTH HAZARDS (ACUTE AND CHRONIC):** Chronic: reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Overexposure to components of this material has been suggested to cause health effects to the following organs: eyes, skin, respiratory system (nose, throat, and lungs), liver, kidney, digestive tract, spleen, blood.

**CARCINOGENICITY:**                      **NTP CARCINOGEN:**                      **IARC MONOGRAPHS:**                      **OSHA REGULATED:**

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** persons with impaired lung functions, asthma-like conditions, or skin disorders may experience difficulties while using this product.

**PRIMARY ROUTE(S) OF ENTRY:** Inhalation dermal

##### EMERGENCY AND FIRST AID PROCEDURES:

**EYES:** Splash. Flush immediately with large amounts of water for at least 15 minutes. Take to a physician for medical treatment.

**SKIN:** Splash. Remove with mineral spirits then wash with soap and water. Remove contaminated clothing. Consult a physician.

**VAPORS:** Remove from exposure. Restore breathing. Keep warm and quiet. Notify a physician.

## SECTION 7: PRECAUTIONS FOR SAFE HANDLING AND USE

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Contain and remove with inert absorbent and non-sparking tools.

**WASTE DISPOSAL METHOD:** Dispose in accordance with local, state, and federal regulations. Incinerate in approved facility. Do not incinerate closed containers.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Do not store above 120 F. Close container after each use. Store large quantities only in buildings designed to comply with OSHA 1910.106. Use approved grounding procedures when pouring or pumping. Never use pressure to empty drums. Drum is not a pressure vessel.

**OTHER PRECAUTIONS:** Do not take internally. This material is electrically conductive. Do not apply by electrostatic spray equipment unless the equipment has been modified and intended for the application of conductive coatings. **IMPORTANT!** This product must be blended with other components before it can be used. Before opening the package, consult all label warnings and material safety data sheets. Follow all precautions. Mixtures will have hazards of all components. Volatile of this product are principally water. Boiling range given in Section III is for hazardous volatile organic solvents. A higher boiling non hazardous solvent may be present.

## SECTION 8: CONTROL MEASURES

**RESPIRATORY PROTECTION:** In restricted areas use approved chemical-mechanical respirator filters to remove both particles and vapor. In confined areas use approved respirators with external air supply.

**VENTILATION:** Provide local exhaust ventilation sufficient to insure a vapor concentration well below TLV and LEL in section II.

**PROTECTIVE GLOVES:** Required (Neoprene or Nitrile Rubber). Non-permeable gloves recommended (latex, rubber, etc.)

**EYE PROTECTION: OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Use safety eye wear designed to protect against splash of liquids.

**OTHER PROTECTIVE EQUIPMENT:** Prevent prolonged skin contact with contaminated clothing.

**WORK/HYGIENIC PRACTICES:** Wash hands before eating, smoking, or using washroom.

## SECTION 9: REGULATORY INFORMATION

**D. O. T. PROPER SHIPPING NAME:** Water Based Solution, Non-Hazardous

**PROPER SHIPPING NAME:** Water Based Solution, Non-Hazardous

**UN/NA ID NUMBER:**

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