

# MATERIAL SAFETY DATA SHEET

Trade Name: **Raven 405FS - Part A**

## SECTION I: COMPANY INFORMATION

**Company:** Raven Lining Systems  
13105 East 61<sup>st</sup> Street South, Suite A  
Broken Arrow, OK 74012

**Emergency Telephone #:** 800-424-9300  
Chemtrec

**Revision Date:** 9/2/10

**Information Telephone #:** 918-615-0020  
800-324-2810

## SECTION II: INGREDIENT INFORMATION

<u>INGREDIENT</u>	<u>CAS NUMBER</u>	<u>PERCENT</u>	<u>PEL</u>	<u>TLV</u>
Epoxy Resin	25068-38-6	> 70%	N/E	N/E
Titanium Dioxide	13463-67-7	0 - 10%	*15 mg/m <sup>3</sup>	*10 mg/m <sup>3</sup>
Silica, Amorphous, Fumed, Crystalline-free	67762-90-7	0 - 5%	*6 mg/m <sup>3</sup>	*3 mg/m <sup>3</sup>

N/E indicates "not established"

SARA Title III, Section 313 ingredients: None

All ingredients are TSCA inventory listed.

\*Note: The PEL and TLV for this ingredient are the TWA for respirable dust levels only. In this product, it is pre-dispersed and not available as a dust. Therefore, under normal use conditions it is not considered a hazard.

## SECTION III: PHYSICAL DATA

**Boiling Point:** > 200 deg F

**Vapor Pressure:** Not determined

**Vapor Density:** Not determined

**Solubility in Water:** Negligible

**Appearance and Odor:** White liquid with heavy paint consistency - mild epoxy odor

**Specific Gravity:** 1.4

**Melting Point:** Not determined

**Evaporation Rate:** Not determined

**% Volatile by Volume:** <1%

## SECTION IV: FIRE & EXPLOSION HAZARD DATA

**Flash Point:** >200 deg F, PMCC Method

**Extinguishing Media:** Foam, CO<sub>2</sub>, Dry Chemical, Water Spray

**Special Fire Fighting Procedures:** The use of self-contained breathing apparatus is recommended for firefighters. Water may be helpful in keeping adjacent containers cool. Avoid spreading burning liquids with water used for cooling purposes.

**Unusual Fire and Explosion Hazards:** Keep work areas free of hot metal surfaces and other source of ignition.

**NFPA classification:** Health: 2 Flammability: 1 Reactivity: 0

**OSHA/NFPA Fire Hazard Classification:** Class III B

**LFL:** Not determined **UFL:** Not determined

## SECTION V: REACTIVITY DATA

**Stability:** Stable, will react with amines.

**Incompatibility:** Strong acids and bases, selected amines and oxidizing agents.

**Hazardous Decomposition or Byproducts:** Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, acids, aldehydes and other unidentified toxic and/or irritating compounds.

**Hazardous Polymerization:** Will not occur.

## **SECTION VI: HEALTH HAZARD DATA**

### **Primary Routes of Entry:**

**EYES:** May cause moderate eye irritation. Corneal injury is possible.

**SKIN:** May cause allergic skin reaction in susceptible individuals. Prolonged exposure likely to cause skin irritation. Repeated exposure may cause skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

**INHALATION:** Vapors are unlikely due to physical properties.

**INGESTION:** Moderately toxic, may be harmful if swallowed. No hazards anticipated from ingestion incidental to industrial exposure.

**SYSTEMIC and OTHER EFFECTS:** Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.

**Carcinogenicity:** Contains no ingredient listed as a potential carcinogen or as a carcinogen per OSHA, ACGIH, NTP or IARC at concentrations equal to or greater than 0.1%.

### **Emergency and First Aid Procedures:**

**EYES:** Flush with large quantities of water for at least 15 minutes. Consult a physician.

**SKIN:** Wash thoroughly with soap and flowing water. Remove and wash contaminated clothing before reuse.

**INHALATION:** Remove to fresh air if effects occur. Consult a physician.

**INGESTION:** Seek immediate medical attention. Do not induce vomiting unless directed to do so by a physician.

## **SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE**

**Steps to Be Taken in Case Material is Released or Spilled:** Keep sources of ignition and hot metal surfaces isolated from the spill. Material may flow slowly. Scrape into containers for disposal.

**Waste Disposal Methods:** Dispose of according to all local, state and federal regulations.

**Precautions to Be Taken in Handling and Storing:** Keep containers closed when not in use. Avoid prolonged or repeated contact with skin. Do not handle or store near flame, heat or strong oxidants. Do not store in direct sunlight. Avoid prolonged storage above 38 deg C (100 deg F).

## **SECTION VIII: CONTROL MEASURES**

**RESPIRATORY:** Respiratory protection should not be needed. If exposure may or does exceed occupational exposure limits, respiratory irritation is experienced, or during spray application, use a properly fitted MSHA/NIOSH approved respirator fitted with organic vapor cartridges. In addition, spray application may require the use of paint pre-filters. If sanding or grinding on cured material, use above respirator fitted with HEPA filters or a dust mask.

**VENTILATION:** General mechanical ventilation is sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

**EYES:** Use chemical safety glasses, splash-proof eye goggles or goggles with full faceshield.

**CLOTHING/GLOVES:** Use nitrile or other impermeable chemical resistant gloves to prevent skin irritation. If potential for skin contact is present, wear impervious, long-sleeved, body covering clothing and rubber boots.

**OTHER PROTECTIVE EQUIPMENT:** The availability of eye washes and safety showers in work areas is recommended.

## **SECTION IX: TRANSPORT DATA**

**Proper Shipping Name:** Not regulated

**Hazard Class:** Not regulated by D.O.T. regulations

**Identification Number:** None

**Packing Group:** None

## **SECTION X: DISCLAIMER**

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# MATERIAL SAFETY DATA SHEET

Trade Name: **Raven 405FS - Part B**

## SECTION I: COMPANY INFORMATION

**Company:** Raven Lining Systems  
13105 East 61<sup>st</sup> Street South, Suite A  
Broken Arrow, OK 74012

**Emergency Telephone #:** 800-424-9300  
Chemtrex

**Revision Date:** 9/2/10

**Information Telephone #:** 918-615-0020  
800-324-2810

## SECTION II: INGREDIENT INFORMATION

<u>INGREDIENT</u>	<u>CAS NUMBER</u>	<u>PERCENT</u>	<u>PEL</u>	<u>TLV</u>
Alkyl Amine	57214-10-5	25 - 40%	N/E	N/E
Alkylphenol		10 - 25%	N/E	N/E
Aliphatic Amine	1477-55-0	10 - 20%	N/E	0.1 mg/m <sup>3</sup> skin
Trimethyl-1,6-Hexanediamine	25620-58-0	7 - 15%	N/E	N/E
Diethylenetriamine	111-40-0	5 - 10%	4 mg/m <sup>3</sup>	1 ppm TWA
Phenol	108-95-2	4 - 6%	5 ppm (skin)	5 ppm (skin)
Alkyl Quaternary Ammonium Clay		2 - 6%	*5 mg/m <sup>3</sup>	*3 mg/m <sup>3</sup>
2,2-bis(4-Hydroxyphenyl)propane	80-05-7	2 - 5%	N/E	N/E

N/E indicates "not established"

SARA Title III, Section 313 ingredients: phenol; 2,2-bis(4-hydroxyphenyl)propane

All ingredients are TSCA inventory listed.

\*Note: The PEL and TLV for this ingredient are the TWA for respirable dust levels only. In this product, it is pre-dispersed and not available as a dust. Therefore, under normal use conditions it is not considered a hazard.

## SECTION III: PHYSICAL DATA

**Boiling Point:** > 200 deg F

**Specific Gravity:** 1.1

**Vapor Pressure:** Not determined

**Melting Point:** Not determined

**Vapor Density:** Not determined

**Evaporation Rate:** Not determined

**Solubility in Water:** Negligible

**% Volatile by Volume:** <1%

**Appearance and Odor:** Gel consistency with characteristic ammonia odor

## SECTION IV: FIRE & EXPLOSION HAZARD DATA

**Flash Point:** >200 deg F, Setaflash Method

**OSHA/NFPA Fire Hazard Classification:** Class III B

**Extinguishing Media:** Foam, CO<sub>2</sub>, Dry Chemical, Water Spray

**LFL:** Not determined

**UFL:** Not determined

**Special Fire Fighting Procedures:** The use of self-contained breathing apparatus is recommended for firefighters.

Water may be helpful in keeping adjacent containers cool.

**Unusual Fire and Explosion Hazards:** Keep work areas free of hot metal surfaces and other source of ignition. Sudden reaction and fire may result if product is mixed with an oxidizing agent.

**NFPA classification:** Health: 3

Flammability: 1

Reactivity: 0

## SECTION V: REACTIVITY DATA

**Stability:** Stable

**Incompatibility:** Strong acids and bases, selected epoxy resins and strong oxidizing agents.

**Hazardous Decomposition or Byproducts:** Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, ammonia, aldehydes, ketones, nitrogen oxides and other unidentified toxic and/or irritating compounds.

**Hazardous Polymerization:** Will not occur.

## **SECTION VI: HEALTH HAZARD DATA**

### **Primary Routes of Entry:**

**EYES:** Severe eye irritant. May cause burns. Vapors may be irritating.

**SKIN:** Severe skin irritant. May cause injury to skin following prolonged or repeated contact. Repeated exposure may cause sensitization of the individual.

**INHALATION:** Vapors/mists may be corrosive to the upper respiratory tract. Repeated or prolonged exposure can result in lung damage. May cause respiratory tract sensitization and/or irritation of mucous membranes.

**INGESTION:** Not expected to be a relevant route of exposure. However, the material is corrosive and may cause permanent damage to the mouth, throat and stomach.

**SYSTEMIC and OTHER EFFECTS:** Product can be alkaline, corrosive and irritating to skin, ears, eyes and mucous membranes. Aliphatic amines can cause changes in the lungs, liver, kidneys and heart. May cause injury upon prolonged contact and repeated contact.

**Carcinogenicity:** Contains no ingredient listed as a potential carcinogen or as a carcinogen per OSHA, ACGIH, NTP or IARC at concentrations equal to or greater than 0.1%.

### **Emergency and First Aid Procedures:**

**EYES:** Flush with large quantities of water for at least 15 minutes. Seek immediate medical attention.

**SKIN:** Wash immediately with soap and water. If irritation or sensitization occurs, remove individual from further contact with material. Remove and wash contaminated clothing before reuse.

**INHALATION:** Remove to fresh air if effects occur. Consult a physician.

**INGESTION:** If this product is swallowed, administer one glass of water. Do not induce vomiting. Seek medical attention immediately.

## **SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE**

**Steps to Be Taken in Case Material is Released or Spilled:** Keep sources of ignition and hot metal surfaces isolated from the spill. Material may flow slowly. Scrape into containers for disposal.

**Waste Disposal Methods:** Dispose of according to all local, state and federal regulations.

**Precautions to Be Taken in Handling and Storing:** Keep containers closed when not in use. Avoid breathing vapors and prolonged or repeated contact with skin. Do not handle or store near flame, heat or strong oxidants. Do not store in direct sunlight. Avoid prolonged storage above 38 deg C (100 deg F).

## **SECTION VIII: CONTROL MEASURES**

**RESPIRATORY:** Respiratory protection should not be needed. If exposure may or does exceed occupational exposure limits, respiratory irritation is experienced, or during spray application, use a properly fitted MSHA/NIOSH approved respirator fitted with ammonia & methylamine cartridges. In addition, spray application may require the use of paint pre-filters. If sanding or grinding on cured material, use above respirator fitted with HEPA filters or a dust mask.

**VENTILATION:** General mechanical ventilation is sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

**EYES:** Use chemical safety glasses, splash-proof eye goggles or goggles with full faceshield.

**CLOTHING/GLOVES:** Use nitrile or other chemical resistant gloves. Wear clean, long-sleeved, body covering clothing and rubber boots.

**OTHER PROTECTIVE EQUIPMENT:** The availability of eye washes and safety showers in work areas is recommended.

## **SECTION IX: TRANSPORT DATA**

**Proper Shipping Name:** Amines, liquid, corrosive, N.O.S. (alkyl amine)

**Hazard Class:** Corrosive Material - 8

**Identification Number:** UN 2735

**Packing Group:** II

## **SECTION X: DISCLAIMER**

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