

MATERIAL SAFETY DATA SHEET

Trade Name: **Raven 210 - Part A**

SECTION I

Company: RLS
13105 East 61st Street South, Suite A
Broken Arrow, OK 74012

Emergency Telephone #: 800-424-9300
Chemtrec

Revision Date: 9/9/08

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

SECTION II: INGREDIENT INFORMATION

| <u>INGREDIENT</u> | <u>CAS NUMBER</u> | <u>PEL</u> | <u>TLV</u> |
|---|-------------------|-----------------------|----------------------------------|
| Epoxy Resin | 25085-99-8 | N/E | N/E |
| Polypropylene Glycol Diglycidyl Ether Epoxy Resin | 26142-30-3 | N/E | N/E |
| Titanium Dioxide | 13463-67-7 | *10 mg/m ³ | *10 mg/m ³ |
| Amorphous Silicon Dioxide | 7631-86-9 | *80 mg/m ³ | *3 mg/m ³ (inhalable) |
| Hydrophobic Amorphous Silicon Dioxide | 67762-90-7 | *5 mg/m ³ | *3 mg/m ³ |

N/E indicates "not established"

SARA Title III, Section 313 ingredients: None

All ingredients are TSCA inventory listed.

*Note: The PEL & TLV exposure limits for this ingredient are for respirable dust levels. In this product, it is pre-dispersed and not available as a dust. Therefore, under normal use conditions it would not be considered a hazard.

The specific identity and/or remaining ingredient(s) are being withheld as a trade secret per 29 CFR 1910.1200.

SECTION III: PHYSICAL DATA

Boiling Point: > 200 deg F

Vapor Pressure: Not available

Vapor Density: Not available

Solubility in Water: negligible

Appearance and Odor: Heavy paint consistency - faint epoxy odor

Specific Gravity: 1.1 - 1.4

Melting Point: Not applicable

Evaporation Rate: Not established

% Volatile by Volume: <1%

SECTION IV: FIRE & EXPLOSION HAZARD DATA

Flash Point: >200 deg F, TCC Method

Extinguishing Media: Foam, CO₂, Dry Chemical

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 liquid with water used for cooling purposes.

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

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

Fire Hazard Classification (OSHA/NFPA): Class III B

LFL: Not available **UFL:** Not available

SECTION V: REACTIVITY DATA

Stability: Stable

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

Hazardous Decomposition or Byproducts: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide 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 slight transient (temporary) eye irritation. Corneal injury is unlikely.

SKIN: May cause allergic skin reaction in susceptible individuals. Prolonged exposure not likely to cause significant 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: Single dose oral toxicity is low. The oral LD50 for rats is >4000 mg/kg. 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: A poorly characterized sample of low molecular weight epoxy resin of this type (diglycidyl ether of bisphenol A) has been reported to produce skin cancer in a highly sensitive strain of mice. However, high levels of impurities (including a known animal skin carcinogen) compromise the validity of the findings. Epoxy resin that is representative of current manufacturing processes is not believed to be a cancer hazard to humans. Results of mutagenicity tests in animals have been negative. Has been shown to be negative in some invitro ("test tube") mutagenicity tests and positive in others.

Emergency and First Aid Procedures:

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

SKIN: Wash off in flowing water or shower.

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

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

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 safety glasses, splash-proof eye goggles or goggles with full faceshield.

CLOTHING/GLOVES: Use impermeable gloves to prevent skin irritation in sensitive individuals. Wear clean, long-sleeved, body covering clothing.

SECTION IX: TRANSPORT DATA

Proper Shipping Name: Not regulated

Hazard Class: Not regulated

Identification Number: Not applicable

Packing Group: Not applicable

SECTION X: DISCLAIMER

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MATERIAL SAFETY DATA SHEET

Trade Name: **Raven 210 - Part B**

SECTION I

Company: RLS
13105 East 61st Street South, Suite A
Tulsa, OK 74012

Emergency Telephone #: 800-424-9300
Chemtrec

Revision Date: 2/12/08

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

SECTION II: INGREDIENT INFORMATION

| <u>INGREDIENT</u> | <u>CAS NUMBER</u> | <u>PEL</u> | <u>TLV</u> |
|---|-------------------|----------------------|------------|
| 2,4,6-Tri (Dimethylaminomethyl) Phenol | 90-72-2 | N/E | N/E |
| 4,4'-Methylenebiscyclohexanamine | 1761-71-3 | N/E | N/E |
| Polyamine Adduct Epoxy Curing Agent | 129733-57-9 | N/E | N/E |
| Aliphatic Polyaminoamide Epoxy Curing Agent | 68082-29-1 | N/E | N/E |
| Nepheline Syenite | 37244-96-5 | *5 mg/m ³ | N/E |
| Benzyl Alcohol | 100-51-6 | N/E | N/E |

SARA Title III, Section 313 ingredients: None

All ingredients are TSCA inventory listed.

*Note: The PEL for this ingredient is 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.

The specific identity and/or remaining ingredient(s) are being withheld as a trade secret per 29 CFR 1910.1200.

SECTION III: PHYSICAL DATA

Boiling Point: > 200 deg F

Vapor Pressure: Not available

Vapor Density: Not available

Solubility in Water: Negligible

Appearance and Odor: Heavy paint to mastic consistency - bland odor

Specific Gravity: 1.4 - 1.7

Melting Point: Not applicable

Evaporation Rate: Not established

% Volatile by Volume: <1%

SECTION IV: FIRE & EXPLOSION HAZARD DATA

Flash Point: >200 deg F, TCC Method

Extinguishing Media: Foam, CO₂, 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.

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

NFPA classification: Health: 3 Flammability: 1 Reactivity: 0

Fire Hazard Classification (OSHA/NFPA): Class III B.

LFL: Not available **UFL:** Not available

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, 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. Seek medical attention.

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

INHALATION: Excessive inhalation is likely to cause irritation of mucous membranes.

INGESTION: May cause headache, nausea, vomiting, bleeding of the gastrointestinal tract and vomiting of blood. Oral toxicity not available on compound. Seek immediate medical attention.

SYSTEMIC and OTHER EFFECTS: Product may be irritating to skin, ears, eyes and mucous membranes. 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. Consult a physician.

SKIN: Wash immediately with soap and water. If irritation or sensitization occurs, remove individual from further contact with material.

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

INGESTION: If this product is swallowed, administer 3-4 glasses of milk or water. Do not induce vomiting. Seek medical advice.

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: Not regulated

Hazard Class: Not regulated

Identification Number: Not applicable

Packing Group: Not applicable

SECTION X: DISCLAIMER

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