

# 1. Product and Company Identification

Product Name: Raven 155 Part A

Raven Lining Systems 13105 East 61st Street, Suite A Broken Arrow, OK 74012

www.ravenlining.com

Company Phone: (918) 615-0020 Company Toll Free: (800) 324-2810

CHEMTREC 24 hour Emergency USA: (800) 424-9300 CHEMTREC 24 hour International: (703) 527-3887

Product Use: Primer / Sealer / Coating / Lining Not recommended for: Non Professional Use

# 2. Hazards Identification

#### Signal Word: Warning



#### **GHS Ratings:**

Skin corrosive 2 Reversible adverse effects in dermal tissue, Draize score: >=

2.3 < 4.0 or persistent inflammation.

Eye corrosive 2A Eye irritant: Subcategory 2A, Reversible in 21 days.

Skin sensitizer 1 Skin sensitizer.

**GHS Hazards** 

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

**GHS Precautions** 

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P321 Specific treatment (see Section 4 of the SDS).

P362 Take off contaminated clothing and wash before reuse.

P363 Wash contaminated clothing before reuse. P302+P352 IF ON SKIN: Wash with soap and water.

P305+P351+P338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact

lenses if present and easy to do - continue rinsing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.

P337+P313 Get medical advice/attention.

P501 Dispose of contents/container according to Section 13 of the SDS.

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# 3. Composition / Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
Epoxy Resin	25068-38-6	>80%

### 4. First Aid Measures

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

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

Skin Contact: Wash thoroughly with soap and flowing water.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## 5. Fire Fighting Measures

Flash Point: >100 C (>212 F)

Flammable Properties: Product is not considered a fire hazard, but will burn if ignited.

NFPA Flammability Class: III B (Combustible liquid).

Suitable Extinguishing Media: Carbon dioxide, dry chemical, water fog or fine spray. Alcohol resistant foams are preferred, general purpose synthetic foams or protein foams may function, but will not be as effective.

Unsuitable Extinguishing Media: Do not use direct water stream, as it may spread fire.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, acids, aldehydes, ketones and other unidentified toxic and/or irritating compounds.

Fire Fighting: Stay upwind and keep people away. Isolate fire and deny unnecessary entry. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible, as it may cause environmental damage. Review section 6 and section 12 of this SDS.

Protection of Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA) and approved protective clothing (helmet, coat, trousers, boots and gloves). If contact is likely, use full chemical resistant fire fighting clothing with SCBA.

### 6. Accidental Release Measures

Personal Precautions: Put on appropriate personal protective equipment (see section 8).

Environmental Precautions: Prevent spilled material from contact with soil, drains and sewers.

Methods for Containment: Contain by diking with sand, earth or other suitable material.

Methods for Clean-up: Absorb spill with an inert material, use non-sparking tools to place into labeled waste container for disposal.

#### 7. Handling and Storage

Handling: Wear appropriate personal protective equipment (see section 8). Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not ingest. Avoid prolonged or repeated contact with skin. May cause allergic skin reaction, persons with a history of skin sensitization should not be employed in any process in which this product is used. Wash thoroughly with soap and water after handling. Do not handle or store near flame, heat or strong oxidants. Keep away from sources of ignition and hot metal surfaces.

Storage: Store original unopened containers in a sheltered area between 60°F and 80°F (15°C and 27°C) at atmospheric pressure. Do not store in direct sunlight. Keep containers closed when not in use.

# 8. Exposure Controls / Personal Protection

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ſ	Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits

SDS for: Raven 155 Part A Page 2 of 6

Epoxy Resin 25068-38-6	Not Established	Not Established	Not Established

Engineering Controls: General mechanical ventilation is sufficient for most conditions. Control airborne levels below the exposure quidelines, if established.

Local exhaust ventilation may be necessary for some operations.

General Hygiene Considerations: Wash thoroughly after handling and before eating, drinking or smoking.

Eye/face Protection: Use chemical safety glasses, splash-proof eye goggles or goggles with full faceshield.

Skin Protection: 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.

Respiratory Protection: 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 the respirator is the sole means of protection, use a full-face supplied air respirator. If sanding or grinding on cured material, use above respirator fitted with HEPA filters or a dust mask.

Contaminated Gear: Remove contaminated clothing and shoes while washing. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

## 9. Physical and Chemical Properties

**Appearance** Clear to pale yellow

Odor Threshold No data found

pH No data found

**Boiling Point 320°C** 

Flash Point 212 F, 100 C

Flammability (solid, gas) No data found

Vapor Pressure No data found

Specific Gravity 1.0 - 1.2

Partition Coefficient No data found (n-octanol/water)

**Decomposition Temperature** No data found

Lbs VOC/Gallon Less Water 0.0

**Odor** Mild

Physical State Liquid

Melting/Freezing Point No data found

Boiling Range No data found

Evaporation Rate No data found

**LEL/UEL** No data found

Vapor Density No data found

Solubility in Water No data found

Autoignition Temperature No data found

Viscosity No data found

# 10. Stability and Reactivity

Chemical Stability: Stable under recommended storage conditions (see Section 7).

Conditions to Avoid: Avoid temperatures above 450 deg F (230 deg C), potential violent decomposition may occur.

Incompatible Materials: Strong acids, bases, or oxidizing agents. Avoid unintended contact with amines.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, acids, aldehydes, ketones and other unidentified toxic and/or irritating compounds.

Hazardous polymerization will not occur.

## 11. Toxicological Information

**Mixture Toxicity** 

**Component Toxicity** 

**Likely Routes of Exposure:** 

No data found

**Target Organs** 

May cause damage to the following organs:

No data found

**Effects of Overexposure** 

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CAS NumberDescription% WeightCarcinogen RatingNoneNo data found

## 12. Ecological Information

#### **Component Ecotoxicity**

### 13. Disposal Considerations

Waste Disposal Methods: Dispose of in accordance with federal, state and local regulations. The preferred method for disposal of uncontaminated product is by recycling, reclaiming, incineration or other thermal destruction device using a licensed and permitted waste disposal contractor.

## 14. Transport Information

Agency Proper Shipping Name UN Number Packing Group Hazard Class

DOT Not Regulated ICAO/IATA Not Regulated IMDG Not Regulated TDG Not Regulated

## 15. Regulatory Information

USA Federal: This SDS has been prepared in compliance with the Occupational Safety and Health Act (OSHA) Hazard Communication Standard (29 CFR 1910.1200). This product is considered to be a hazardous chemical under that standard. The specific chemical identity and/or exact percentage of any proprietary ingredient(s) may be withheld as a trade secret, pursuant to the standard.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): To the best of our knowledge, this product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity at levels which require warning under this statute:

- None

Massachusetts Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

New Jersey Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

Pennsylvania Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Resource Conservation and Recovery Act (40 CFR 261): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

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USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Extremely Hazardous Substances Reportable Quantities (RQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Extremely Hazardous Substances Threshold Planning Quantities (TPQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Toxic Substances Control Act (TSCA) - section 12(b): To the best of our knowledge, this product contains the following chemicals above the de minimus concentration(s) which requires notification to the Environmental Protection Agency (EPA) per 40 CFR 707, subpart D, if any person intends to export:

- None

Country	Regulation	All Components Listed
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Canada Domestic Substance List	Yes
Canada	Canada Non-Domestic Substances List (NDSL)	No
China	China Inventory of Existing Chemical Substances	Yes
EU	EU REACH List of Registered Intermediates	No
EU	EU REACH List of Pre-Registered Substances	Yes
EU	EU REACH List of Registered Substances	Yes
Japan	Japanese Existing and New Chemical Substances List	Yes
South Korea	South Korea Existing Chemicals Inventory	Yes
Philippines	Philippines Inventory of Chemicals and Chemical	Yes
USA	USA TSCA Inventory list section 8(b)	Yes

- None

## 16. Other Information

Legend

ACGIH American Conference of Governmental Industrial Hygienists, Inc.

ADR/RID European Agreement for transport of dangerous goods by road (ADR) and by rail (RID)

CAS No. Chemical Abstract Service Registry Number

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act, AKA "Superfund"

DOT Department of Transportation (USA)

HCS OSHA Hazard Communication Standard (29 CFR 1910.1200)

IARC International Agency for Research on Cancer
IATA International Air Transport Association
ICAO International Civil Aviation Organization
IMO International Maritime Organization
IMDG International Maritime Dangerous Goods
MSHA Mine Safety and Health Administration

N.A. Not ApplicableN.D. Not DeterminedN.E. Not Established

NFPA National Fire Protection Association

NIOSH National Institute for Occupational Safety and Health

NTP National Toxicology Program

OSHA Occupational Safety and Health Administration (USA)

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PEL Permissible Exposure Limit

SARA Superfund Amendments and Reauthorization Act of 1986 (40 CFR)
STEL Short Term Exposure Limit (15 minute Time Weighted Average)

TDG Canada Transport of Dangerous Goods regulations

TLV Threshold Limit Value
TWA Time Weighted Average

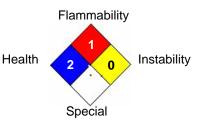
WHMIS Canada Workplace Hazardous Materials Information System

## **Hazardous Material Information System (HMIS)**

## **National Fire Protection Association (NFPA)**



HMIS & NFPA Hazard Rating Legend
\* = Chronic Health Hazard
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH



#### Disclaimer

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Reviewer Revision

Date Prepared: 10/28/2015

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# 1. Product and Company Identification

Product Name: Raven 155 Part B

Raven Lining Systems 13105 East 61st Street, Suite A Broken Arrow, OK 74012

www.ravenlining.com

Company Phone: (918) 615-0020 Company Toll Free: (800) 324-2810

CHEMTREC 24 hour Emergency USA: (800) 424-9300 CHEMTREC 24 hour International: (703) 527-3887

Product Use: Primer / Sealer / Coating / Lining Not recommended for: Non Professional Use

# 2. Hazards Identification

#### Signal Word: Danger



#### **GHS Ratings:**

Eye corrosive 1 Serious eye damage: Irreversible damage 21 days after

exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5

Skin sensitizer 1 Skin sensitizer.

**GHS Hazards** 

H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

**GHS Precautions** 

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see Section 4 of the SDS).
P363 Wash contaminated clothing before reuse.
P302+P352 IF ON SKIN: Wash with soap and water.

P305+P351+P338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact

lenses if present and easy to do - continue rinsing.

P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.
P501 Dispose of contents/container according to Section 13 of the SDS.

### 3. Composition / Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
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Water	7732-18-5	30 - 60%
Mannich Base Adduct		30 - 60%
Modified Aliphatic Amine		3 - 7%
Aliphatic Amine	1477-55-0	1 - 5%

## 4. First Aid Measures

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

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

Skin Contact: Wash thoroughly with soap and flowing water.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## 5. Fire Fighting Measures

Flash Point: >100 C (>212 F)

Flammable Properties: Product is not considered a fire hazard, but will burn if ignited.

NFPA Flammability Class: Class III A liquids are combustible liquids that have a flash point ≥ 140 deg F (60 deg C), but < 200 deg F (93 deg C). Class III B liquids are combustible liquids that have a flash point ≥200 deg F.

Suitable Extinguishing Media: Carbon dioxide, dry chemical, water fog or fine spray. Alcohol resistant foams are preferred, general purpose synthetic foams or protein foams may function, but will not be as effective.

Unsuitable Extinguishing Media: Do not use direct water stream, as it may spread fire.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, ammonia, nitrogen oxides and other unidentified toxic and/or irritating compounds.

Fire Fighting: Stay upwind and keep people away. Isolate fire and deny unnecessary entry. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible, as it may cause environmental damage. Review section 6 and section 12 of this SDS.

Protection of Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA) and approved protective clothing (helmet, coat, trousers, boots and gloves). If contact is likely, use full chemical resistant fire fighting clothing with SCBA.

#### 6. Accidental Release Measures

Personal Precautions: Put on appropriate personal protective equipment (see section 8).

Environmental Precautions: Prevent spilled material from contact with soil, drains and sewers.

Methods for Containment: Contain by diking with sand, earth or other suitable material.

Methods for Clean-up: Absorb spill with an inert material, use non-sparking tools to place into labeled waste container for disposal.

## 7. Handling and Storage

Handling: Wear appropriate personal protective equipment (see section 8). Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not ingest. Avoid prolonged or repeated contact with skin. May cause allergic skin reaction, persons with a history of skin sensitization should not be employed in any process in which this product is used. Wash thoroughly with soap and water after handling. Do not handle or store near flame, heat or strong oxidants. Keep away from sources of ignition and hot metal surfaces.

Storage: Store original unopened containers in a sheltered area between 60°F and 80°F (15°C and 27°C) at atmospheric pressure. Do not store in direct sunlight. Keep containers closed when not in use.

#### 8. Exposure Controls / Personal Protection

Chemical Na	me / CAS No.	<b>OSHA Exposure Limits</b>	ACGIH Exposure Limits	Other Exposure Limits
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SDS for: Raven 155 Part B Page 2 of 6

Water 7732-18-5	Not Established	Not Established	Not Established
Mannich Base Adduct	Not Established	Not Established	Not Established
Modified Aliphatic Amine	Not Established	Not Established	Not Established
Aliphatic Amine 1477-55-0	Not Established	0.1 mg/m3 Ceiling	NIOSH: 0.1 mg/m3 Ceiling

Engineering Controls: General mechanical ventilation is sufficient for most conditions. Control airborne levels below the exposure guidelines, if established.

Local exhaust ventilation may be necessary for some operations.

General Hygiene Considerations: Wash thoroughly after handling and before eating, drinking or smoking.

Eye/face Protection: Use chemical safety glasses, splash-proof eye goggles or goggles with full faceshield.

Skin Protection: 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.

Respiratory Protection: 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 the respirator is the sole means of protection, use a full-face supplied air respirator. If sanding or grinding on cured material, use above respirator fitted with HEPA filters or a dust mask.

Contaminated Gear: Remove contaminated clothing and shoes while washing. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

## 9. Physical and Chemical Properties

**Odor** Ammonia-like Appearance Clear to dark yellow Odor Threshold No data found Physical State Liquid pH No data found Melting/Freezing Point No data found **Boiling Point 100°C** Boiling Range No data found Flash Point 212 F, 100 C Evaporation Rate No data found Flammability (solid, gas) No data found LEL/UEL No data found Vapor Pressure No data found Vapor Density No data found Specific Gravity 1.0 - 1.2 Solubility in Water No data found Partition Coefficient No data found Autoignition Temperature No data found (n-octanol/water) **Decomposition Temperature** No data found Viscosity No data found

# 10. Stability and Reactivity

Lbs VOC/Gallon Less Water 0.0

Chemical Stability: Stable under recommended storage conditions (see Section 7).

Conditions to Avoid: Elevated temperatures may cause product to decompose.

Incompatible Materials: Strong acids, bases, or oxidizing agents. Avoid unintended contact with isocyanates and/or epoxies.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, phenolics, ammonia, nitrogen oxides and other unidentified toxic and/or irritating compounds.

Hazardous polymerization will not occur.

## 11. Toxicological Information

Mixture Toxicity
Component Toxicity

1477-55-0 Aliphatic Amine

Oral LD50: 660 mg/kg (Rat) Dermal LD50: 2,000 mg/kg (Rabbit) Inhalation LC50: 700 ppm (Rat)

SDS for: Raven 155 Part B

Likely Routes of Exposure:

No data found

**Target Organs** 

May cause damage to the following organs:

Eyes Kidneys Liver Skin Respiratory System

**Effects of Overexposure** 

) Factorial Information

## 12. Ecological Information

## **Component Ecotoxicity**

## 13. Disposal Considerations

Waste Disposal Methods: Dispose of in accordance with federal, state and local regulations. The preferred method for disposal of uncontaminated product is by recycling, reclaiming, incineration or other thermal destruction device using a licensed and permitted waste disposal contractor.

## 14. Transport Information

<u>Agency Proper Shipping Name UN Number Packing Group Hazard Class</u>

DOT Not Regulated ICAO/IATA Not Regulated IMDG Not Regulated TDG Not Regulated

# 15. Regulatory Information

USA Federal: This SDS has been prepared in compliance with the Occupational Safety and Health Act (OSHA) Hazard Communication Standard (29 CFR 1910.1200). This product is considered to be a hazardous chemical under that standard. The specific chemical identity and/or exact percentage of any proprietary ingredient(s) may be withheld as a trade secret, pursuant to the standard.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): To the best of our knowledge, this product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity at levels which require warning under this statute:

- None

Massachusetts Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

1477-55-0 Aliphatic Amine 1 to 5 %

New Jersey Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

1477-55-0 Aliphatic Amine 1 to 5 %

SDS for: Raven 155 Part B

Pennsylvania Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

1477-55-0 Aliphatic Amine 1 to 5 %

USA Resource Conservation and Recovery Act (40 CFR 261): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Extremely Hazardous Substances Reportable Quantities (RQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Extremely Hazardous Substances Threshold Planning Quantities (TPQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Toxic Substances Control Act (TSCA) - section 12(b): To the best of our knowledge, this product contains the following chemicals above the de minimus concentration(s) which requires notification to the Environmental Protection Agency (EPA) per 40 CFR 707, subpart D, if any person intends to export:

- None

Country	Regulation	All Components Listed
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Canada Domestic Substance List	No
Canada	Canada Non-Domestic Substances List (NDSL)	No
China	China Inventory of Existing Chemical Substances	No
EU	EU REACH List of Registered Intermediates	No
EU	EU REACH List of Pre-Registered Substances	No
EU	EU REACH List of Registered Substances	No
Japan	Japanese Existing and New Chemical Substances List	No
South Korea	South Korea Existing Chemicals Inventory	No
Philippines	Philippines Inventory of Chemicals and Chemical	No
USA	USA TSCA Inventory list section 8(b)	No

- None

# 16. Other Information

Legend	
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
ADR/RID	European Agreement for transport of dangerous goods by road (ADR) and by rail (RID)
CAS No.	Chemical Abstract Service Registry Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act, AKA "Superfund"
DOT	Department of Transportation (USA)
HCS	OSHA Hazard Communication Standard (29 CFR 1910.1200)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IMDG	International Maritime Dangerous Goods

SDS for: Raven 155 Part B

MSHA Mine Safety and Health Administration

N.A. Not ApplicableN.D. Not DeterminedN.E. Not Established

NFPA National Fire Protection Association

NIOSH National Institute for Occupational Safety and Health

NTP National Toxicology Program

OSHA Occupational Safety and Health Administration (USA)

PEL Permissible Exposure Limit

SARA Superfund Amendments and Reauthorization Act of 1986 (40 CFR)
STEL Short Term Exposure Limit (15 minute Time Weighted Average)

TDG Canada Transport of Dangerous Goods regulations

TLV Threshold Limit Value TWA Time Weighted Average

WHMIS Canada Workplace Hazardous Materials Information System

### **Hazardous Material Information System (HMIS)**

## **National Fire Protection Association (NFPA)**



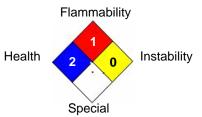
**HMIS & NFPA Hazard Rating Legend** 

\* = Chronic Health Hazard

0 = INSIGNIFICANT 1 = SLIGHT

2 = MODERATE

3 = HIGH



#### Disclaimer

RAVEN LINING SYSTEMS MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO ANY INFORMATION PRESENTED HEREIN, ALL OF WHICH IS PROVIDED "AS IS". TO THE MAXIMUM EXTENT PERMITTED BY LAW, RAVEN EXPRESSLY EXCLUDES ALL WARRANTIES, OBLIGATIONS, REPRESENTATIONS, LIABILITIES, TERMS AND CONDITIONS (WHETHER THEY ARE EXPRESS OR IMPLIED, OR ARISE IN CONTRACT, STATUTE, OR OTHERWISE, AND IRRESPECTIVE OF THE NEGLIGENCE OF RAVEN, ITS EMPLOYEES OR AGENTS) IN CONNECTION WITH THE INFORMATION PRESENTED HEREIN. RAVEN MAKES NO REPRESENTATIONS OR WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PURPOSE, NONINFRINGEMENT OR CONFORMITY WITH DESCRIPTION OR SAMPLE.

Reviewer Revision

Date Prepared: 10/28/2015

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