

MATERIAL SAFETY DATA SHEET**QUICK IDENTIFIER (In Plant Common Name)**

Rufco-Shield

Manufacturer's Name RAVEN INDUSTRIES INC.
Address P.O. Box 5107
 Sioux Falls, SD 57117

Emergency Telephone Numbers 800-635-3456
 605-335-0174
Other Information 1812 "E" Avenue
 Sioux Falls, SD 57104

Signature of Person Responsible for Preparation


Date Prepared August 10, 2001

Section 1 - IDENTITY

Common Name: (Used on Label) Rufco-Shield
(Trade Name & Synonyms) Rufco-Shield

CAS Number(s) 8052-42-4
 1317-65-3

Chemical Name

Chemical Family resins - polymers

Formula

Section 2 - HAZARDOUS INGREDIENTS

Principal Hazardous Component(s) - Chemical and Common Name	%	Threshold Limit Value (units)
Asphalt (petroleum; bitumen)		0.5mg/m3 TLV-TWA
Calcium Carbonate		5mg/m3 PEL-TWA

Section 3 - PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion Data)

Boiling Point	Not Applicable (N/A)		Specific Gravity	1.883	Vapor Pressure, mmHg	N/A
Percent Volatile by Volume (%)	N/A	Vapor Density	N/A	Evaporation Rate	N/A	
Solubility in Water	Insoluble in Water			Reactivity in Water	N/A	
Appearance and Odor	Black tape with no odor					
Flash Point	320 F	Flammability Limits in Air, by Volume (%)	Lower	Upper	Auto Ignition Temperature	Not Determined
Extinguisher Media	Use Foam or dry chemicals to extinguish fire. Use fog nozzles if water is used. Water streams may cause violent eruptions and spread the burning asphalt. Use water to cool fire exposed containers and structures.					
Special Fire Fighting Proced.	Fire fighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Do not allow run-off from fire fighting to enter drains or water course.					

Unusual Fire and Explosion Hazards Product will burn if exposed to elevated temperatures or fire. Hot asphalt may ignite flammable mixtures on contact. Toxic vapors including hydrogen sulfide may be released upon combustion. Hydrogen sulfide vapors are heavier than air, may accumulate in low areas and flashback if ignited.

Section 4 - PHYSICAL HAZARDS

Stability	Unstable	Conditions to Avoid	Excessive temperatures, greater than 300 F (150 C)
	Stable		

Incompatibility (Materials to Avoid) Strong oxidizers. Avoid water if product is molten

Hazardous Decomposition Products Carbon monoxide, sulfur oxides, hydrogen sulfide, acrolein, aldehydes, ketones and unidentified organic compounds

Hazardous Polymerization	May Occur	Conditions to Avoid	N/A
	Will not Occur		

Section 5 - HEALTH HAZARDS

Threshold	Not Determined					
Limit Value						
Signs and Symptoms of Exposure						
1. Acute Overexposure	Not Determined			2. Chronic Overexposure	Not Determined	
Medical Conditions Generally Aggravated by Exposure	Employees with pre-existing skin and respiratory disorders may be at increased risks from exposure.					
Chemical Listed as Carcinogen or Potential Carcinogen	National Toxicology Program	Asphalt	L.A.R.C. Monographs	Group 2B	OSHA	Not Listed
OSHA Permissible Exposure Limit	None	ACGIH Threshold Limit Value	None	Other Expos. Limit Used	None	
Emergency and First Aid Procedures	Pickup and place into an appropriate container for disposal. If product becomes molten, allow product to cool before picking or scraping up.					
1. Inhalation	No adverse effects expected at ambient temperatures. Vapors released from heating product may cause respiratory irritation. At elevated temperatures hydrogen sulfide may be released. The release of hydrogen sulfide gas in various concentrations may cause irritation of the eyes and respiratory tract, headache, dizziness, nausea and drowsiness. Exposure to high concentrations of hydrogen sulfide can cause respiratory arrest and death.					
2. Eyes	May cause irritation with redness, tearing and blurred vision. Contact with product at elevated temperatures may cause thermal burns.					
3. Skin	May cause irritation, defatting of skin and dermatitis. Contact with product at elevated temperatures may cause thermal burns.					
4. Ingestion	No adverse effects are expected from normal use. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea					

Section 6 - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type)	N/A				
Ventilation	Local Exhaust	Mechanical (General)		Special	Other
N/A	N/A	N/A		N/A	N/A
Protective Gloves	N/A	Eye Protection	N/A		
Other Protective Clothing or Equipment	n/a				

Section 7 - SPECIAL PRECAUTIONS AND SPILL / LEAK PROCEDURES

Precautions to be Taken in Handling and Storage	Store in a cool, well ventilated area away from excessive heat and sources of ignition. Avoid contact with the eyes and skin. This product is not intended to be heated up but if product is heated provide adequate ventilation and avoid breathing vapors and mists. Wash with soap.
Other Precautions	None
Steps to be Taken in Case Material is Released or Spilled	Pick up and place into appropriate container for disposal. If product becomes molten allow product to cool before picking or scraping up.
Waste Disposal Methods	Dispose in accordance with local, state and federal environmental regulations.

IMPORTANT - Do not leave blank spaces. If information is unavailable, unknown or does not apply, so indicate