

SAFETY DATA SHEET

Section 1 – Chemical Product and Company Identification
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Product name(s): Ply 4, Ply 6, Arrow Base, Z Base, MG2 Base and Arrow 43#, Mineral Surface Roofing (MSR), Channel Vent Base

Trade Name(s): Ply, Base sheets, MSR

Mid-States Asphalt and Cant Strip, Inc.
1637 51st Ave.
Tuscaloosa, AL 35401, USA

Emergency Contacts:

For Chemical Emergency Only (spill, leak, fire, exposure or accident) call CHEMTREC at 800-424-9300.

For all other inquiries about these products, call: 800-489-2391 (8am-5pm CT)

Section 2 – Composition / Information on Ingredients

Emergency Overview:

Under United States Regulations (29 CFR 1900.1200 – OSHA Hazard Communication Standard) the products listed above are exempt as articles under normal conditions of use. In Canada, these products are considered manufactured articles under the Workplace Hazardous Materials Information System (WHMIS) and are exempt. Under normal conditions of use the products listed in this SDS are not expected to pose a physical hazard or health risk to humans. These products do not contain any form of asbestos materials. The component exposure limits and other information in this document are provided for abnormal or emergency circumstances such as heating (above 250°F), burning, cutting, sanding and/or grinding when there is a potential for exposure to these components.

GHS-US Classification

H303 – May be harmful if swallowed
H315 – Causes skin irritation
H320 – Causes eye irritation
H335/336 – May cause respiratory irritation

GHS-US Labeling



Health Hazard

Potential Health Effects

Inhalation:

Inhalation of vapors, fumes or mists of the products in abnormal or emergency circumstances may be irritating to the respiratory system. See Section 8 for exposure controls

Skin Contact:

Contact with hot product may cause thermal burns. Prolonged or repeated contact may cause dryness and irritation of the skin. Long-term skin exposure to asphalt can increase sensitivity to the sun, and may cause discoloration.

Eye Contact:

Fumes created when hot liquid asphalt is used to apply, repair or maintain these products may cause severe irritation, redness, or blurred vision. Contact with hot product in abnormal or emergency circumstances may cause thermal burns and severe eye damage.

Ingestion:

These products may be harmful or fatal if swallowed. They may cause dizziness, in-coordination, headache, nausea and vomiting. Small amounts of these products, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Medical Conditions Aggravated by Exposure:

Chronic respiratory or skin conditions may temporarily worsen from exposure to emissions from these products in abnormal or emergency conditions.

Section 3 – Hazards Identification

CAS Number	Component	Percent by Weight
8052-42-4	Petroleum Asphalt	0-60
64742-93-4	Oxidized Asphalt	0-75
Not available	Dry Roofing Felt	0-45
65997-17-3	Fiberglass mat	1-5
50-00-0	Formaldehyde (within the fiberglass)	<0.1
14808-60-7	Crystalline silica (sand)	0-25
1317-65-3	Calcium Carbonate (encapsulated)	0-35
N/A	SBS Polymers	2-10
Not available	Crushed Minerals (roofing granules)	25-45

*These products contain trace amounts of polynuclear aromatic compounds, some of which are listed as hazardous under various Federal, State, and international laws and regulations.

Component Related Regulatory Information

Emissions from these products in abnormal or emergency circumstances may be regulated, have exposure limits or other information identified as the following; Asphalt (8052-42-4), Oxidized Asphalt (64742-93-4), Crystalline Silica (14808-60-7), Formaldehyde (50-00-0), Nuisance particulates.

Note: See Section 8 of SDS for exposure limit data for these ingredients.

Appearance and Odor: A black paper or sand surface with a slight petroleum odor.

Section 4 – First Aid Measures

Inhalation:

Move person to fresh air. Administer cardiac or pulmonary resuscitation (CPR) if a pulse is not detectable or if unable to breathe. Provide oxygen if breathing is difficult. Obtain immediate medical assistance.

Skin Contact:

If hot material strikes skin, immediately drench or immerse the area in water to assist cooling. If available, apply iced water or ice packs to the burned area. DO NOT try to remove asphalt from burn after it has cooled. Seek medical attention. Medical personnel can soften and remove cooled asphalt with petroleum jelly or mineral oil. For contact with cold material, clean exposed skin with waterless hand cleaner, then wash with mild soap and water. If irritation persists, seek medical attention.

Eye Contact:

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Ingestion:

DO NOT induce vomiting. Prevent aspiration of material into lungs. Seek immediate medical attention.

Chronic Effects in Abnormal or Emergency Circumstances:

Occupational exposures to asphalt, oxidized asphalt, silica and formaldehyde, which may occur from these products during abnormal conditions of use or emergencies, have been found to be probable or known human carcinogens, and may cause serious irreversible lung disease and other non-cancerous effects. See Section 11 of this SDS

Notes to Physician:

This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

Section 5 – Fire Fighting Measures

Flash Point: >535°F (279°C)

Upper Flammability Limit: Not available

Rate of Burning: Not available

Auto Ignition Temperature: >650°F (343°C)

Flash Point Method: C.O.C.

Lower Flammability Limit: Not available

Flammability Classification: Combustible

Extinguishing Media:

Use dry chemical, foam and carbon dioxide. Use water to cool fire-exposed containers and to protect personnel.

Unusual Fire & Explosion Hazards:

Treat as hydrocarbon type fire. Hot asphalt may ignite flammable materials on contact. DO NOT direct water into a container or directly onto hot asphalt, a vessel or a storage tank containing asphalt as it may cause violent eruptions and spreading of hot asphalt.

Fire-Fighting Instructions:

Use self-contained breathing apparatus (SCBA) and full bunker turnout gear in a sustained fire. Wear protective clothing ensemble as defined in NFPA 1500 (1997, or as updated).

Hazardous Combustion Products:

Primary combustion products are carbon monoxide, carbon dioxide and water. Combustion products may include sulfur oxides and hydrogen sulfide. Other undetermined compounds could be released in small quantities.

Section 6 – Accidental Release Measures
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Containment Procedures:

Contain spills with an inert absorbent material such as soil, sand or oil dry.

These materials will settle out of the air. They can then be scooped up or vacuumed for disposal as a non-hazardous waste. These materials will sink and disperse along the bottom of waterways and ponds. They cannot easily be removed after becoming waterborne however, they are considered non-hazardous in water.

Clean-Up Procedures:

Solidify with inert absorbent materials such as sand or oil dry, pick up and put into suitable container for disposal. Check with local authorities for approval to dispose of this material.

Response Procedures:

Isolate area. Keep unnecessary personnel away.

Section 7 – Handling and Storage

Do not get these materials in your eyes or on your skin and minimize exposure to fumes from heated material. Wash exposed areas thoroughly after handling these products. Keep these products from sparks or open flame. Use these products with adequate ventilation.

Hydrogen sulfide may be emitted from heated asphalt. Prolonged breathing (greater than 1 hour) of concentrations of hydrogen sulfide around 50 ppm can produce eye and respiratory tract (mouth, nose and throat) irritation and at high concentrations (around 300 ppm) is considered immediately dangerous to life and health.

Since the sense of smell becomes rapidly insensitive to hydrogen sulfide, its odor cannot be relied upon as an indicator of its concentration. Use ventilation or work upwind from source of

fumes or vapors. Use supplied air respirators or self-contained breathing apparatus if the PEL or TLV for hydrogen sulfide (10 ppm, 8hr TWA) is exceeded.

Storage Procedures:

Store away from heat and all ignition sources and open flames in accordance with applicable laws and regulations.

Section 8 – Exposure Controls / Personal Protection

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

ACGIH, OSHA and NIOSH exposure limit lists have been checked for those components with CAS registry numbers listed in Section 2 of this MSDS

Petroleum asphalt (8052-42-4)

ACGIH: 0.5 mg/m³ TLV-TWA, benzene-extractable, inhalable particulate (or equivalent method)

OSHA: Total dust: 15mg/m³ PEL-TWA; respirable fraction: 5 mg/m³ PEL-TWA (related to particulates not otherwise regulated, PNOR)

NIOSH: 5mg/m³ Recommended Exposure Limit (REL), measured as a 15 minute ceiling (fumes)

Asphalt, oxidized (64742-93-4)

ACGIH: 0.5 mg/m³ TLV-TWA; (Fume)

OSHA: Total dust: 15mg/m³ PEL-TWA; respirable fraction: 5 mg/m³ PEL-TWA (related to particulates not otherwise regulated, PNOR)

NIOSH: 5 mg/m³ REL, measured as a 15 minute ceiling (fumes)

Crystalline silica (sand), (14808-60-7)

ACGIH: 0.025 mg/m³ TLV-TWA (respirable fraction)

OSHA: 0.1 mg/m³ PEL-TWA (respirable dust)

NIOSH: 50 µg/m³ REL as a TWA for up to 10 hours/day during a 40-hour workweek (respirable fraction)

Formaldehyde

ACGIH – 0.3ppm TLV-STEL

OSHA – 0.75 ppm, 8-hour TWA; 2 ppm, 15-minute STEL

NIOSH – REL; 0.016 ppm, 8-hour TWA; 0.1 ppm, 15-minute ceiling

Ventilation:

Provide sufficient local and/or general exhaust ventilation to maintain exposure levels below the PELs or TLVs in abnormal or emergency circumstances.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection:

If ventilation is not sufficient to control exposures below TLV or PEL, use an appropriate properly fitted NIOSH approved respirator. If irritation occurs or if the PEL or TLV for asphalt fume is exceeded, use any half-facepiece, air purifying respirator equipped with a combination R100 or P100 filter and an organic vapor (OV) cartridge.

Use respiratory protection in accordance with your company's respiratory protection program, local regulations and OSHA regulations under 29 CFR 1910.134.

Skin Protection:

A loose fitting, long sleeved cotton shirt and long cotton pants are recommended. Heat insulated, leather or lined neoprene coated gloves should be worn when working with hot asphalt materials.

Eyes/Face Protective Equipment:

Wear safety glasses or goggles. Also wear a face shield where splash hazard exists.

Work Practices:

Handle with good industrial hygiene and safety practices. These include avoiding any unnecessary exposure and removal of the material from the skin, eyes and clothing. Wash hands and arms frequently, shower after exposure and wash work clothes when soiled.

In case of exposure to or contact with hot asphalt, see Section 4.

These products may be applied, repaired or maintained using hot liquid asphalt and these operations may result in worker exposures to asphalt fumes or emissions via inhalation or dermal absorption. Although there is no evidence that the fumes and emissions that occur in these operations emanate from these products, roofing contractors and workers using hot liquid asphalt in the application, repair or maintenance of these products should adhere to the equipment and work practice recommendations published by NIOSH. See DHHS (NIOSH) Publication No. 2003-107, entitled "Reducing Roofers' Exposure to Asphalt Fumes". The publication is available on NIOSH's website at: <http://www.cdc.gov/niosh/docs/2003-107/pdfs/2003-107.pdf>.

Section 9 – Physical & Chemical Properties

Appearance: Fibrous membrane

Physical State: Solid

Vapor Pressure (mm Hg @ 20°C): N/A

Boiling Point: >1000°F (>538°C)

Specific Gravity (Water=1): 1.08>1.11

Viscosity: Solid at room Temperature

Melting Point: Not Applicable

Odor: Petroleum

pH: Not applicable

Vapor Density (Air=1): Not applicable

Solubility (H₂O): Insoluble

Freezing Point: Not available

Percent Volatile: 0%

Section 10 – Chemical Stability & Reactivity Information

Stability:

This is a stable material.

Conditions to avoid:

Do not allow hot, molten asphalt to contact water as this may cause violent eruptions and spreading of hot asphalt.

Incompatible Materials:

These products may react with strong oxidizing agents and water.

Hazardous Decomposition Products:

Primary combustion products are carbon monoxide, carbon dioxide and water. Combustion products may include sulfur oxides and hydrogen sulfide.

Hazardous Polymerization:

Will not occur.

Section 11 – Toxicological Information

Acute and Chronic Toxicity:

A: General Product Information

Contact with hot product may cause thermal burns. Long-term skin exposure to asphalt can increase sensitivity to the sun and cause discoloration. If ingested, may cause mouth, throat and gastrointestinal tract irritation and upset with possible nausea, vomiting and diarrhea. Small amounts of these products, if aspirated into the lungs, may cause mild to severe injury. See Section 8 for exposure controls.

B: Component Analysis – LD50/LC50

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Asphalt	5000 mg/kg Rat	2000 mg/kg Rabbit	
Quartz (Crystalline Silica)	500 mg/kg Rat		
Formaldehyde	100 mg/kg Rat	270 mg/kg Rat	0.578 mg/L Rat 4 h 250 ppm Rat 4h

Carcinogenicity:**A: General Information**

Asphalt: The International Agency for Research on Cancer (IARC) has classified occupational exposures to oxidized bitumens (asphalts) and their emissions during roofing as being probably carcinogenic to humans (Group 2 A). Based primarily on studies of lung cancer in humans, IARC concluded that there was 'limited evidence' carcinogenicity among workers exposed to asphalt and asphalt emissions during roofing. In studies of skin tumors in experimental animals exposed dermally to asphalt materials, IARC found 'limited evidence' of carcinogenicity for oxidized asphalt, and 'sufficient evidence' of carcinogenicity for fume condensates of oxidized asphalt.'

Based on a 2000 review of health effects literature, NIOSH concluded that roofing asphalt fumes are a potential occupational carcinogen.

Silica: Crystalline silica is considered a hazard by inhalation. The (IARC) has classified crystalline silica as carcinogenic to humans (Group 1). The National Toxicology Program (NTP) has classified silica as known to be a human carcinogen. These classifications are based on the findings of increased lung cancer risks in epidemiological studies of workers exposed to respirable crystalline silica, and in laboratory animal studies (inhalation and intratracheal instillation). The carcinogenicity of crystalline silica has not been classified by the Occupational Safety and Health Administration (OSHA). Excessive exposure to respirable crystalline silica can also cause serious and irreversible non-cancerous lung disease including silicosis. Acute effects of inhalation exposures to respirable crystalline silica include irritation of the eyes, nose and throat.

Formaldehyde: IARC and NTP have classified formaldehyde as a known human carcinogen based principally on studies in humans, including "sufficient evidence" that formaldehyde causes nasopharyngeal cancer, "limited evidence" for cancer of the nasal cavity and paranasal sinuses, and "strong but not sufficient evidence" for leukemia. Inhalation exposure to formaldehyde can cause eye, nose, and throat irritation, bronchitis, and effects on the nasal cavity. Other effects observed in association with exposure to high levels of formaldehyde include coughing, wheezing, chest pains, and bronchitis. Ingestion exposure to formaldehyde in humans has resulted in corrosion of the gastrointestinal tract and inflammation and ulceration of the mouth, esophagus, and stomach. Repeated dermal contact with liquid solutions of formaldehyde has resulted in skin irritation and allergic contact dermatitis in humans.

B: Component Carcinogenicity

ACGIH, IARC, OSHA and NTP carcinogen lists were checked for those components with CAS registry numbers.

Petroleum asphalt (8052-42-4)

ACGIH: A4 – Not Classifiable as a Human Carcinogen (related to Asphalt fumes)

Oxidized Asphalt (64742-93-4)

IARC: Occupational exposure to oxidized asphalt and its emissions during roofing is probably carcinogenic to humans (Group 2A).

ACGIH: A4 – Not Classifiable as a Human Carcinogen (related to asphalt fumes)

Respirable Crystalline Silica (14808-60-7)

IARC: Carcinogenic to humans (Group 1)

NTP: Known to be a human carcinogen

ACGIH: Suspected Human Carcinogen (Class A2)

Formaldehyde:

IARC: Carcinogenic to humans (Group 1)

NTP: Known to be a human carcinogen

ACGIH: Suspected Human Carcinogen (Class A2)

Section 12 – Ecological Information
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Ecotoxicity:

No data available for these products. These products are not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Section 13 – Disposal Considerations

US EPA Waste Number & Descriptions:**A: General Product Information**

Material, if discarded, is not a characteristic hazardous waste under RCRA.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for the components of these products.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal and Provincial Environmental Regulations.

Section 14 – Transportation Information
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US DOT Information (Cold product)

Shipping Name: Not regulated as hazardous material for transportation.

TDG Information

Shipping Name: Not regulated as hazardous material for transportation.

Additional Transportation Regulations:

No additional information available.

Section 15 – Regulatory Information
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US Federal Regulations:**A: General Product Information**

OSHA status: These products are considered articles not subject to 29CFR 1910.1200 (OSHA Hazard Communication Standard).

These products contain trace amounts of polynuclear aromatic compounds, some of which are listed as hazardous under various Federal, State, and international laws and regulations.

B: Component Analysis

These materials contain trace amounts of formaldehyde and polycyclic aromatic compounds (PACs) listed under SARA 313.

SARA 311/312

Acute Health Hazard: Yes

Chronic Health Hazard: Yes

Fire Hazard: No

Sudden Release of Pressure Hazard: No

Reactive Hazard: No

State Regulations:**A: General Product Information**

No additional information available.

B: Component Analysis – State

The following components listed in Section 2 of this MSDS appear on one or more state hazardous substance lists:

Component	CAS number
Petroleum asphalt	8052-42-4
Silica Quartz (SiO ₂)	14808-60-7
Formaldehyde	50-00-0

These products contain trace amounts of polynuclear aromatic compounds, some of which are listed as hazardous under various State laws and regulations

The following statement is provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! These products contain chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

Other Regulations:

A: General Product Information

All components identified in Section 2 of this MSDS are either listed on the US EPA TSCA Inventory, or are exempt from listing.

All components identified in Section 2 of this MSDS are either listed on the Canadian DSL, or are exempt from listing.

B: Component Analysis – Inventory

Component	CAS Number	TSCA	DSL	EINECS
Petroleum asphalt	8052-42-4	Yes	Yes	Yes
Silica Quartz (SiO ₂)	14808-60-7	Yes	Yes	Yes
Formaldehyde	50-00-0	Yes	Yes	Yes

C: Component Analysis – WHMIS

WHMIS Status: Not Controlled

WHMIS Classification: None

Section 16 – Other Information

HMIS and NFPA Hazard Ratings:	Category	HMIS	NFPA
	Health	1	1
	Flammability	1	1
	Reactivity	0	0

NFPA Unusual Hazards: No water

HMIS personal Protection: To be supplied by user depending upon use.

Key/Legend:

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; DSL = Canadian Domestic Substance List; EINECS = European Inventory of New and Existing Chemical Substances; WHMIS = Workplace Hazardous Materials Information System; CAA = Clean Air Act



Revision Summary:

This is a revised SDS, which replaces (revision 04/2010) with up-dated contact and regulatory and product information. Read this information carefully.

Get Mid-States Asphalt SDS electronically via Internet: <http://www.msarroof.com> or by calling 1-800-489-2391.

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