

Section 1 - Chemical Product and Company Identification

Product Name Atactic Polypropylene Sheets

CAS# Mixture (Article)

Generic Name Asphalt Coated Polyester Mat & Fiber Glass Mat

Formula Hydrocarbon Mixture (Article)

Chemical Name: Mixture (Article)

Hazard Label RR01 Roll Roofing

Manufacturer Information

Johns Manville
Roofing Systems Group
P.O. Box 5108
Denver, CO 80127 USA

Telephone: 303-978-2000 8:00AM-5:00PM M-F
Internet Address: <http://www.jm.com>
Emergency: 800-424-9300 (Chemtrec, In English)

Trade Names:

APPeX™ 180, 4M, 4S, 4.5M, 4.5M FR, 5S;
BICOR M FR;
BICOR S;
Johns Manville APP Base

TRICOR M FR;
TRICOR S;
TRICOR M FR C

Section 2 - Composition / Information on Ingredients

CAS #	Component	Percent
8052-42-4	Asphalt	20-75
14808-60-7	Crystalline silica (sand)	5-35*
1317-65-3	Calcium carbonate	5-35
Not Available	Mineral Granules	0-35**
Not Available	Polyester fiber	0-35
65997-17-3	Continuous filament glass fibers	0-35
9010-79-1	Ethylene-Propylene co-polymer	5-20
12007-56-6	Calcium borate (Colemanite)	0-25***
9003-07-0	Polypropylene, atactic and isotactic	0-20
9002-88-4	Polyethylene	0-10

Additional Component Information

* Ingredient found only in products with S suffix in trade name (e.g. APPeX™ 5S). Respirable crystalline silica from sand is not expected to be released; sand is adhered to product and is >99.9% too large to become airborne or to be respirable. A surface treatment of sand is used as a parting agent; sand may be replaced with either talc (asbestos-free) or other natural, non-hazardous mineral powder.

** Ingredient found only in products with M suffix in trade name (e.g., APPeX™ 4M). Ceramic-coated granite, contains 35% crystalline silica. Airborne crystalline silica not expected to be released; is encapsulated in relatively large (non-respirable) particles that are adhered to product surface.

*** Products with FR suffix in trade name also contain Colemanite, a naturally-occurring mineral, for fire resistance.

Section 3 - Hazards Identification

Emergency Overview

APPEARANCE AND ODOR: Dark mat with a sand or granular surface. Asphalt odor.

When heated or cut, this product may release dust or fumes. If dust or fumes are inhaled to excess (e.g., in a confined space), they may irritate the upper respiratory tract.

Potential Health Effects

Summary

Due to the large size of the particles, minimal exposure to airborne dust is expected. Primarily a nuisance dust. Asphalt and its fumes can irritate skin, eyes, and upper respiratory tract. See Section 11 for more details.

Inhalation

Irritation of the upper respiratory tract (scratchy throat), coughing, and congestion may occur in extreme exposures.

Skin

Temporary irritation (itching) or redness may occur.

Ingestion

This product is not intended to be ingested (eaten). If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Eyes

Temporary irritation (itching) or redness may occur.

Primary Routes of Entry (Exposure)

Inhalation, skin, and eye contact.

Target Organs

Upper respiratory passages, skin, and eyes.

Medical Conditions Aggravated by Exposure

As with any dust, pre-existing upper respiratory and lung diseases or conditions may be aggravated.

Section 4 - First Aid Measures

First Aid: Inhalation

Remove to fresh air. Drink water to clear throat, and blow nose to remove dust.

First Aid: Skin

Wash gently with soap and warm water to remove dust and fibers. Wash hands before eating or using the restroom.

First Aid: Ingestion

Rinse mouth with water to remove fibers, and drink plenty of water to help reduce the irritation. No chronic effects are expected following ingestion.

First Aid: Eyes

Do not rub or scratch your eyes. Dust particles may cause the eye to be scratched. Flush eyes with large amounts of water for 5-15 minutes. If irritation persists, contact a medical professional.

First Aid: Notes to Physician

Substances released from this product during cutting or heating may be irritating, but are not expected to produce any lasting health effects from acute exposures. Treatment should be directed toward removing the source of irritation with symptomatic treatment as necessary.

Section 5 - Fire Fighting Measures

Flash Point: Not applicable

Upper Flammable Limit (UFL): Not applicable

Auto Ignition: Not determined

Rate of Burning: Not determined

General Fire Hazards

Burning of this material will produce thick black smoke

Extinguishing Media

Foam, carbon dioxide (CO₂), dry chemical ABC rated.

Fire Fighting Equipment/Instructions

No special procedures are expected to be necessary for this product. Normal fire fighting procedures should be followed to avoid inhalation of smoke and gases.

Method Used: Not applicable

Lower Flammable Limit (LFL): Not applicable

Flammability Classification: Not determined

Section 6 - Accidental Release Measures

Containment Procedures

Pick up large pieces. Vacuum dusts. If sweeping is necessary, use a dust suppressant such as water. Do not dry sweep dust accumulation. These procedures will help to minimize potential exposures.

Clean-Up Procedures

No additional information available.

Section 7 - Handling and Storage

Handling Procedures

Use protective equipment as described in Section 8 of this material safety data sheet when handling uncontained material.

Storage Procedures

Warehouse storage should be in accordance with package directions, if any. Material should be kept dry, and protected from moisture.

Section 8 - Exposure Controls / Personal Protection**Exposure Guidelines****A: General Product Information**

Due to product form, exposure to hazardous dusts or mists are not expected to occur. Exposure limits are given for reference only.

B: Component Exposure Limits**Asphalt (8052-42-4)**

ACGIH: 0.5 mg/m³ TWA (inhalable fraction, as benzene-soluble aerosol)

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

ACGIH: 0.05 mg/m³ TWA (respirable fraction)

OSHA: 0.1 mg/m³ TWA (respirable dust)

Calcium carbonate (1317-65-3)

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

Continuous filament glass fibers (65997-17-3)

ACGIH: 1 fiber/cm³ TWA (respirable fibers: length > 5 µm, aspect ratio equal to or greater than 3:1, as determined by the membrane filter method at 400-450X magnification (4-mm objective), using phase-contrast illumination.); 5 mg/m³ TWA (inhalable fraction) (related to Continuous filament glass fibers)

PERSONAL PROTECTIVE EQUIPMENT**Personal Protective Equipment: Eyes/Face**

Safety glasses with sideshields are recommended to keep dust out of the eyes.

Personal Protective Equipment: Skin

Leather or cotton gloves are optional.

Personal Protective Equipment: Respiratory

Not required unless used with asphalt or coal tar mastics. In those cases, follow the specific precautions for the material being used.

Ventilation

No special ventilation systems are required when using this product.

Personal Protective Equipment: General

Recommended during installation: Loose-fitting, long-sleeved shirt and long pants and a cap should be worn to protect skin from irritation from dust.

Section 9 - Physical & Chemical Properties

Appearance:	Dark mat with a sand surface	Odor:	asphalt
Physical State:	Solid	pH:	Not applicable
Vapor Pressure:	Not applicable	Vapor Density:	Not applicable
Boiling Point:	>370°C/700°F	Melting Point:	>95°C/200°F
Solubility (H₂O):	Nil	Specific Gravity:	1.2-1.6
Freezing Point:	Not applicable	Evaporation Rate:	Not applicable
Viscosity:	Not applicable	Percent Volatile:	0
VOC:	Not applicable		

Section 10 - Chemical Stability & Reactivity Information**Chemical Stability**

This is a stable material.

Chemical Stability: Conditions to Avoid

Avoid direct exposure to very high heat or flame.

Incompatibility

Strong oxidizing agents, reducing agents, strong acids and alkalis.

Hazardous Decomposition

The decomposition products from this material are those that would be expected from any organic (carbon-containing) material. These decomposition products may include carbon dioxide, carbon monoxide, and carbon particles.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Acute Toxicity

A: General Product Information

Prolonged skin contact may cause slight irritation. Under normal conditions of use, dust is not expected to be generated. If power equipment is used to cut or saw the product, dust may be generated. Dust and fumes from this product are irritants and may cause transitory irritation to exposed areas such as eyes, skin, and upper respiratory passages.

B: Component Analysis - LD50/LC50

Asphalt (8052-42-4)

Oral LD50 Rat: >5000 mg/kg; Dermal LD50 Rabbit: >2000 mg/kg

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

Oral LD50 Rat: 500 mg/kg

Calcium borate (Colemanite) (12007-56-6)

Oral LD50 Rat: 5600 mg/kg

Polyethylene (9002-88-4)

Inhalation LC50 Mouse: 12 g/m³/30M

Carcinogenicity

A: General Product Information

Note: Due to the product form, exposures to hazardous dusts or fumes are not expected to occur. Exposure limits are given for reference only.

B: Component Carcinogenicity

Asphalt (8052-42-4)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (as benzene soluble aerosol)

IARC: Group 3 - Not Classifiable (IARC Supplement 7, 1987; Monograph 35, 1985)

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

ACGIH: A2 - Suspected Human Carcinogen

NTP: Known Carcinogen (related to Silica, crystalline (respirable size)) (Select Carcinogen)

IARC: Group 1 - Known Human Carcinogen (IARC Monograph 68, 1997, listed under Crystalline silica, inhaled in the form of quartz or cristobalite from occupational sources)

Continuous filament glass fibers (65997-17-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (related to Continuous filament glass fibers)

IARC: Group 3 - Not Classifiable (IARC Monograph 43, 1988; Monograph 81, 2002)

Polypropylene, atactic and isotactic (9003-07-0)

IARC: Group 3 - Not Classifiable (IARC Supplement 7, 1987; Monograph 19, 1979)

Polyethylene (9002-88-4)

IARC: Group 3 - Not Classifiable (IARC Supplement 7, 1987; Monograph 19, 1979)

Chronic Toxicity

Respirable crystalline silica from sand is not expected to be released; sand is adhered to product and is >99.9% too large to become airborne or to be respirable. Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Several studies have been conducted to determine the risk of cancer to workers exposed to dusts which contain crystalline silica. However, these studies did not consider other factors or elements that workers may be exposed to. Therefore, the causes of the excess deaths due to cancer could not be precisely determined. Further studies are being conducted to determine the risk of cancer when working with crystalline silica products. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

Asphalt (asphalt CAS # 8052-42-4 and oxidized asphalt 64742-93-4; bitumens): In 1985/87, IARC (International Agency for Research on Cancer) concluded the following: (a) Bitumens are not classifiable as to their carcinogenicity to humans (Group 3). (b) Extracts of steam- and air-refined bitumens are possibly carcinogenic to humans (Group 2B). IARC found that evidence for carcinogenicity from animal studies was: inadequate for undiluted air-refined bitumens; limited for steam-refined and cracking-residue bitumens; sufficient for extracts of steam-refined and air-refined bitumen. IARC found that human evidence for carcinogenicity of asphalt fumes was inadequate. Studies of roofers indicated an excess of cancers; however, IARC concluded that, since roofers may be exposed also to coal-tar pitches and other materials, "the excess cancer risk cannot be attributed specifically to bitumens." In 1994, a published review of 20 epidemiology studies of asphalt workers and roofers agreed with IARC, that current human evidence is inadequate for the carcinogenicity of asphalt fumes in humans. Trace amounts of polynuclear aromatic hydrocarbons (PAHs) may be present in some asphalts and can be released upon excessive heating, which results in thermal cracking of the asphalt compounds. Some of these PAHs have been identified as having the potential to induce carcinogenic and reproductive health effects.

Continuous Filament Glass Fiber: No chronic health effects are known to be associated with exposure to continuous filament fiber glass. Long-term epidemiologic studies do not show any increases in respiratory cancer or other disease among employees who manufacture this product. In 1987, the International Agency for Research on Cancer (IARC) classified continuous filament fiber glass as a Group 3 substance, "not classifiable as to its carcinogenicity to humans." In 2001, IARC re-affirmed this designation. Because of the large diameter of continuous filament fibers, these fibers are not considered respirable.

Section 12 - Ecological Information**Ecotoxicity****A: General Product Information**

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Section 13 - Disposal Considerations**US EPA Waste Number & Descriptions****A: General Product Information**

Wastes are not hazardous as defined by the Resource Conservation and Recovery Act (RCRA; 40 CFR 261). Comply with state and local regulations for disposal of solid wastes. If you are unsure of the regulations, contact your local Public Health Department, or the local offices of the Environmental Protection Agency (EPA).

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

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

Section 14 - Transportation Information

Shipping Name: This product is not classified as hazardous for transportation.

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

SARA 311/312: This product is not classified as hazardous under SARA 311/312.

B: Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations**A: General Product Information**

Asphalt fumes may contain trace amounts of the following California Proposition 65 Listed Substances as known to the state of California to cause cancer or reproductive effects: Poly nuclear aromatic hydrocarbons (benz(a)anthracene, benzo(b)fluoranthene, benzo(j)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene).

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Asphalt	8052-42-4	Yes	No	Yes	Yes	Yes	Yes
Crystalline silica (sand)	14808-60-7	No	No	Yes	Yes	Yes	Yes
Calcium carbonate	1317-65-3	No	No	Yes	Yes	No	Yes
Continuous filament glass fibers	65997-17-3	No	No	No	Yes	No	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
WARNING! This product contains a chemical known to the state of California to cause cancer.

Crystalline silica (sand) CAS# 14808-60-7

A: TSCA Status

This product and its components are listed on the TSCA 8(b) inventory.

None of the components listed in this product are listed on the TSCA Export Notification 12(b) list.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Asphalt	8052-42-4	Yes	Yes	Yes
Crystalline silica (sand)	14808-60-7	Yes	Yes	Yes
Calcium carbonate	1317-65-3	Yes	No	Yes
Continuous filament glass fibers	65997-17-3	Yes	Yes	Yes
Calcium borate (Colemanite)	12007-56-6	Yes	No	Yes
Ethylene-Propylene co-polymer	9010-79-1	Yes	Yes	No
Polypropylene, atactic and isotactic	9003-07-0	Yes	Yes	No
Polyethylene	9002-88-4	Yes	Yes	No

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Crystalline silica (sand)	14808-60-7	1 %

Section 16 - Other Information

Other Information

Prepared for:
Johns Manville
Roofing Systems Group
P. O. Box 5108
Denver, CO USA 80217-5108

Prepared by:
Johns Manville Technical Center
P.O. Box 625005
Littleton, CO USA 80162-5005

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Date	MSDS #	Reason
08/01/00	3133-1.0000	New MSDS authoring system.
01/12/01	3133-1.0100	Update crystalline silica Sect. 8 (ACGIH exposure guideline) and Sect. 11 (ACGIH suspected carcinogen). Update asphalt ACGIH TWA.
11/12/02	3133-1.0101	Sect. 2: Products designated as Articles per TSCA and CEPA. Sect. 11: revise IARC Group 3 for asphalt. Update trade names.
08/21/03	3133-1.0102	Sect. 1, Deleted obsolete product name, Roof Defender APP Cap Sheet.
05/10/04	3133-1.0103	Regulatory update. Minor edits.
07/26/05	3133-1.0104	Section 1: Bicor S FR changed to Bicor S
12/28/05	3133-1.0105	Regulatory update. Minor edits in Section 8 Exposure and Section 15 WHMIS.
8/15/2011	3133-1.0106	Revise MSDS.

This is the end of MSDS # 3133