Section 1 - Product and Company Identification

Hazard Label CAUTION

Company Information

Johns Manville
Roofing Systems
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:

Dibiflash;
Dibiten™;
Poly/4.5 FR;
Poly/4.5;
Poly/4;
Poly/5;
Polygum Smooth

Section 2 - Hazards Identification

Summary

Due to the large size of the particles, minimal exposure to airborne dust is expected. Primarily a nuisance dust.

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

Nose (nasal passages), throat, lungs, skin, eyes

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent
64742-93-4	Asphalt, oxidized	50-65
9003-07-0	Polypropylene	10-25
Not Available	Colemanite	0-25**
1317-65-3	Calcium carbonate	1-20*
14808-60-7	Crystalline silica	0.1-15*
1308-38-9	Chromium (III) oxide	<0.9***
1309-37-1	Iron oxide	1-5*
1317-80-2	Rutile (TiO2)	1-5*
1332-58-7	Kaolin	1-5*
1333-86-4	Carbon black (bound in product matrix)	1-5*
1344-09-8	Sodium silicate	1-5*
64742-52-5	Petroleum distillates, hydrotreated heavy naphthenic	1-5
9010-79-1	Ethylene-Propylene polymer	1-5
14807-96-6	Talc	0-5*
Not Available	Polyethylene film (encapsulated)	<1

Component 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.

** Component of FR products only.

*** Chromium (III) oxide is present only in gray, white, and desert blend colored roof granules.

General Product Description

Various colored mats with a variety of surfaces: slate, flakes, roofing granules, slag, sand, or talc; asphalt odor.

Section 4 - First Aid Measures

First Aid: Inhalation

First Aid: Skin

Wash gently with soap and warm water. Wash hands before eating, smoking, or using the restroom. Do not eat or drink while working with this product.

First Aid: Ingestion

Product is not intended to be ingested or eaten. If this product is ingested, irritation of the gastrointestinal (GI) tract may occur, and should be treated symptomatically. Rinse mouth with water, 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

This product is not expected to cause any chronic health effects. Treatment should be directed toward removing the source of irritation with symptomatic treatment as necessary.

Section 5 - Fire Fighting Measures

Flash Point: Not applicable
Method Used: Not applicable
Upper Flammable Limit (UFL): Not determined
Lower Flammable Limit (LFL): Not determined
Auto Ignition: Not determined
Flammability Classification: Not determined
Rate of Burning: Not determined

General Fire Hazards

There is no potential for spontaneous fire or explosion.

Extinguishing Media

Carbon dioxide (CO_2), dry chemical.

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.

Section 6 - Accidental Release Measures

Clean-Up Procedures

Pick up large pieces. Vacuum dusts.

Section 7 - Handling and Storage

Storage Procedures

Warehouse storage should be in accordance with package directions, if any. Material should be kept clean, dry, and in original packaging.

Section 8 - Exposure Controls / Personal Protection

A: Component Exposure Limits

Calcium carbonate (1317-65-3)

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

Crystalline silica (14808-60-7)

OSHA: 0.1 mg/m3 TWA (respirable dust)
((250)/(%SiO2 + 5) mppcf TWA (respirable)); ((10)/(%SiO2 + 2) mg/m3 TWA (respirable));
((30)/(%SiO2 + 2) mg/m3 TWA (total dust))
ACGIH: 0.025 mg/m3 TWA (respirable fraction)

Carbon black (bound in product matrix) (1333-86-4)
OSHA: 3.5 mg/m3 TWA
3.5 mg/m3 TWA
ACGIH: 3.5 mg/m3 TWA

Iron oxide (1309-37-1)
OSHA: 10 mg/m3 TWA (fume)
10 mg/m3 TWA (fume)
ACGIH: 5 mg/m3 TWA (respirable fraction)

Kaolin (1332-58-7)
OSHA: 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
ACGIH: 2 mg/m3 TWA (respirable fraction, particulate matter containing no asbestos and <1% crystalline silica)

Talc (14807-96-6)
OSHA: 2 mg/m3 TWA (respirable dust, less than 1% crystalline silica)
20 mppcf TWA (if 1% quartz or more, use quartz limit)
ACGIH: 2 mg/m3 TWA (respirable fraction, particulate matter containing no asbestos and <1% crystalline silica)

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face
Safety glasses with side shields are recommended to keep dust out of the eyes.

Personal Protective Equipment: Skin
Leather or cotton gloves should be worn to protect against mechanical abrasion.

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
None required

Section 9 - Physical & Chemical Properties

Appearance:	Various colored mats with a variety of surfaces.	**Odor:**	Asphalt odor
Physical State:	solid	**pH:**	Not applicable
Vapor Pressure:	Not applicable	**Vapor Density:**	Not applicable
Boiling Point:	370ºC/700ºF	**Melting Point:**	95ºC/200ºF
Solubility (H_2O):	Insoluble	**Specific Gravity:**	1.2-1.6
Freezing Point:	Not Applicable	**Solids Content**	Not applicable
Evaporation Rate:	Not applicable	**Viscosity:**	Not applicable
Percent Volatile:	0	**VOC:**	Not applicable

Section 10 - Stability & Reactivity Information

Stability
These products are not reactive.

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Acute Toxicity

A: General Product Information
If dust evolves from this product during use it may cause temporary mechanical irritation or scratchiness of the throat and/or itching of the eyes and skin.

B: Component Analysis - LD50/LC50

Asphalt, oxidized (64742-93-4)
Oral LD50 Rat: >5000 mg/kg; Dermal LD50 Rabbit:>2000 mg/kg

Crystalline silica (14808-60-7)
Oral LD50 Rat: 500 mg/kg

Carbon black (bound in product matrix) (1333-86-4)
Oral LD50 Rat: >15400 mg/kg; Dermal LD50 Rabbit:>3 g/kg

Sodium silicate (1344-09-8)
Oral LD50 Rat: 1153 mg/kg; Dermal LD50 Rabbit:>4640 mg/kg

Iron oxide (1309-37-1)
Oral LD50 Rat: >10000 mg/kg

Petroleum distillates, hydrotreated heavy naphthenic (64742-52-5)
Inhalation LC50 Rat: 2.18 mg/L/4H; Oral LD50 Rat:>5000 mg/kg; Dermal LD50 Rabbit:>2000 mg/kg

Component Carcinogenicity

Polypropylene (9003-07-0)
IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 19 [1979])

Crystalline silica (14808-60-7)
ACGIH: A2 - Suspected Human Carcinogen
NTP: Known Human Carcinogen (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))

Carbon black (bound in product matrix) (1333-86-4)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Group 2B - Possibly Carcinogenic to Humans (IARC Monograph 93 [in preparation], Monograph 65 [1996])

Iron oxide (1309-37-1)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 1 [1972])

Chromium (III) oxide (1308-38-9)
IARC: Group 3 - Not Classifiable (IARC Monograph 49 [1990], Supplement 7 [1987], Monograph 23 [1980], Monograph 2 [1973])

Kaolin (1332-58-7)
ACGIH: A4 - Not Classifiable as a Human Carcinogen

Talc (14807-96-6)
ACGIH: A4 - Not Classifiable as a Human Carcinogen (containing no asbestos fibers)
IARC: Group 3 - Not Classifiable (IARC Monograph 93 [in preparation] (inhaled), Supplement 7 [1987], Monograph 42 [1987])

Chronic Toxicity

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.

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.

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Asphalt, oxidized (64742-93-4)
72 Hr EC50 Selenastrum capricornutum: 56 mg/L

Carbon black (bound in product matrix) (1333-86-4)
24 Hr EC50 Daphnia magna: >5600 mg/L

Sodium silicate (1344-09-8)
96 Hr LC50 Lepomis macrochirus: 301-478 mg/L; 96 Hr LC50 Brachydanio rerio:3185 mg/L [semi-static]
96 Hr EC50 Daphnia magna: 216 mg/L

Petroleum distillates, hydrotreated heavy naphthenic (64742-52-5)
96 Hr LC50 Pimephales promelas: >5000 mg/L
48 Hr EC50 Daphnia magna: >1000 mg/L

Talc (14807-96-6)
96 Hr LC50 Brachydanio rerio: >100 g/L [semi-static]

Section 13 - Disposal Considerations

US EPA Waste Number & Descriptions

A: General Product Information

This product is not expected to be a hazardous waste when it is disposed of according to the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Product characterization after use is recommended to ensure proper disposal under federal and/or state requirements.

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 - Transport Information

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

Other state regulations may apply. Check individual state requirements.

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, oxidized	64742-93-4	No	No	No	No	Yes	No
Calcium carbonate	1317-65-3	No	No	Yes	Yes	Yes	Yes
Crystalline silica	14808-60-7	No	No	Yes	Yes	Yes	Yes
Carbon black (bound in product matrix)	1333-86-4	Yes	No	Yes	Yes	Yes	Yes
Iron oxide	1309-37-1	Yes	No	Yes	Yes	Yes	Yes
Chromium (III) oxide	1308-38-9	No	No	Yes	No	Yes	No
Rutile (TiO2)	1317-80-2	No	No	No	No	No	Yes
Kaolin	1332-58-7	No	No	Yes	Yes	Yes	Yes
Talc	14807-96-6	Yes	No	Yes	Yes	Yes	Yes

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.

Component	CAS #
Crystalline silica	14808-60-7

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.

International Regulations

A: General Product Information

These products are considered articles under both U.S. and international product regulations and as such, these products do not require registration or notification on the various country-specific inventories.

B: Component Analysis - WHMIS IDL

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

Component	CAS #	Minimum Concentration
Crystalline silica	14808-60-7	1 %
Carbon black (bound in product matrix)	1333-86-4	1 %
Iron oxide	1309-37-1	1 %
Chromium (III) oxide	1308-38-9	1 %

WHMIS Classification

Controlled Product Classification: D2A, based on the IARC classification of crystalline silica.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations. This SDS contains all the information required by the Controlled Products Regulations.

Section 16 - Other Information

Other Information

Prepared for:
Johns Manville
Roofing Systems

P. O. Box 5108
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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	3135-1.0000	New MSDS authoring system.
01/12/01	3135-1.0100	Update crystalline silica Sect. 8 (ACGIH exposure guideline) and Sect. 11 (ACGIH suspected carcinogen).
08/08/01	3135-1.0101	Trade Names - Deleted Mineral and Mineral FR - Discontinued
1/21/02	3135-1.0102	Sect. 1: Dibiten™ listed as a separate trade name. Dibiten logo discontinued.
05/10/04	3135-1.0103	Regulatory update. Minor edits.
12/28/05	3135-1.0104	Regulatory update. Minor edits in Section 15 WHMIS.
06/16/10	3135-1.0105	Regulatory update. Updated SDS to GHS format.

End of Sheet 3135