

Section 1 - Product and Company Identification

Hazard Label CAUTION

Company Information

Johns Manville
Roofing Systems
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Trade Names:

Fiber Glass Base Sheet;	GB 607;	GlasPly® Premier;	Ventsulation® Felt
Fiber Glass Felts;	GlasBase™;	GlasTite® Flexible;	
GB 605;	GlasPly® IV;	PermaPly® 28;	

Use: Used in hot applied built-up and modified bitumen roofing systems.

Section 2 - Hazards Identification

Emergency Overview

Inhalation of excessive amounts of dust from the product may cause temporary upper respiratory irritation and/or congestion--remove individual to fresh air.

In high temperature applications, treatment, curing, or in geographic areas of high heat and humidity, this product may release gases irritating to the eyes, nose and throat. In confined or poorly ventilated areas, use air supplied respirators during the first heat-up cycles.

Inhalation

Temporary mechanical irritation may occur upon exposure to dust or fibers released from cutting this product.

Irritation of the upper respiratory tract, coughing, and congestion may occur in extreme exposures. Severe irritation of the mouth, nose, and throat, as well as signs of central nervous system depression (drowsiness, dizziness, headache), may occur upon inhalation of vapors or gases.

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

Medical Conditions Aggravated by Exposure

Pre-existing chronic respiratory, skin, or eye diseases or conditions.

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent
64742-93-4	Asphalt, oxidized	20-75
Not Available	Continuous Filament Glass Fiber Mat with Urea Formaldehyde Binder (see JM MSDS # 1013)	0-35
Not Available	Continuous filament glass fibers (encapsulated)	0-35
16389-88-1	Dolomite (CaMg(CO3)2)	0-35**
14808-60-7	Crystalline silica (sand)	0-35*
1317-65-3	Calcium carbonate	0-35**
1332-58-7	Kaolin	0-20**
14807-96-6	Magnesium silicate backing (asbestos-free talc)	0-10***
Not Available	Polyester/continuous filament glass scrim (encapsulated)	0-9***
50-00-0	Formaldehyde	<0.1

Component Information

- * GlasBase, GlasTite®, PermaPly® 28, and Ventsulation® Felt have sand backing which contains crystalline silica.
- **Binder may be one of these
- *** Component of Glas-Tite Flexible Flashing.

Free formaldehyde released only with high temperature and humidity. Temperatures >32°C/90°F.

General Product Description

Dark mat with either a talc, sand, or kraft paper surface. Asphalt odor.

Section 4 - First Aid Measures

First Aid: Inhalation

If dust is inhaled in excess of exposure limits referenced in section 8 of this safety data sheet, remove individual to fresh air. Drink water to clear throat, and blow nose to remove dust. A saline spray in the nose may help clear any fibers.

First Aid: Skin

Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.

First Aid: Ingestion

Product is not intended to be ingested or eaten. If this product is ingested, do not induce vomiting and seek medical attention immediately.

First Aid: Eyes

Flush eyes with large amounts of water until irritation subsides. If irritation persists, seek medical attention.

First Aid: Notes to Physician

Dust from the product may cause mechanical irritation of the eyes, skin, and upper respiratory tract. Treat symptomatically.

Irritating gases may be released under conditions of high heat or humidity. At high levels, these could cause severe upper respiratory and eye irritation. Formaldehyde gas is a skin and respiratory sensitizer. 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 determined

Auto Ignition: Not determined

Rate of Burning: Not determined

General Fire Hazards

There is no potential for spontaneous fire or explosion.

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.

NFPA Ratings for Health - Flammability - Reactivity are: 1 - 1 - 0

Section 6 - Accidental Release Measures

Clean-Up 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.

Section 7 - Handling and Storage

Handling Procedures

Use protective equipment as described in Section 8 of this safety data sheet when handling uncontained material. Handle in accordance with good industrial hygiene and safety practices.

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

The Occupational Safety and Health Administration (OSHA) has not adopted specific occupational exposure standards for fiber glass. Fiber glass is treated as a nuisance dust and is regulated by OSHA as a particulate not otherwise regulated (total dust) shown in CFR 1910.1000 Table Z-3.

Respirable fraction 5 mg/m³
Total dust 15 mg/m³

JM has adopted the fiber glass industry voluntary Product Stewardship Program (PSP), formerly the NAIMA-OSHA Health and Safety Partnership Program (HSPP). Under the PSP, JM recommends that exposures be limited to the voluntary concentration of 1 f/cc TWA for fibers longer than 5 microns with a diameter less than 3 microns. This will help minimize potential irritation effects. The PSP also includes the PPE recommendations described below.

Crystalline silica (sand) (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)

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)

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)

Magnesium silicate backing (asbestos-free 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)

Formaldehyde (50-00-0)

OSHA: 0.75 ppm TWA
0.5 ppm Action Level; 0.75 ppm TWA; 2 ppm STEL (Irritant and potential cancer hazard - see 29 CFR 1910.1048)
3 ppm TWA (unless specified in 1910.1048)
ACGIH: 0.3 ppm Ceiling

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. See also Personal Protective Equipment: General, below.

Personal Protective Equipment: Respiratory

A respirator should be used if ventilation is unavailable, or is inadequate for keeping dust levels below the applicable exposure limits referenced in Section 8 of this SDS. Wear a NIOSH-certified disposable or reusable particulate respirator with an efficiency rating of N95 or higher (per 42 CFR 84) when dust concentrations exceed the applicable exposure limits. Operations such as sawing, blowing, tear out, and spraying may generate airborne dust concentrations requiring a higher level of respiratory protection. For exposures up to 50 times the established exposure limits use a full-face respirator, rated N99 or higher.

A NIOSH approved respirator must be used if vapor concentrations exceed exposure limits.

Ventilation

Local exhaust or general dilution ventilation may be required to maintain exposures below the applicable exposure limits. The need for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

Personal Protective Equipment: General

Protective equipment should be provided as necessary to prevent irritation of the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 8.

Section 9 - Physical & Chemical Properties

Appearance:	Dark mat. May have talc, sand, or kraft surface	Odor:	Asphalt odor
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:	Variable
Freezing Point:	Not determined	Solids Content:	Not applicable
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Percent Volatile:	0	VOC:	Not Determined

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

These products are not reactive.

Hazardous Decomposition

May form carbon dioxide and carbon monoxide.

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.

Exposure to formaldehyde may cause eye and upper respiratory irritation, and possible respiratory or skin sensitization (allergy). If sensitization occurs, subsequent exposures to formaldehyde may worsen asthma or other respiratory problems, and cause allergic-type reactions.

B: Component Analysis - LD50/LC50**Asphalt, oxidized (64742-93-4)**

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

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

Oral LD50 Rat: 500 mg/kg

Formaldehyde (50-00-0)

Inhalation LC50 Rat: 0.578 mg/L/4H; Oral LD50 Rat:500 mg/kg

Carcinogenicity**A: General Product Information**

Exposure to formaldehyde has been associated with the development of nasopharyngeal cancer in laboratory animals and humans. Formaldehyde has been classified as a known human carcinogen, Group 1, by the International Agency for Research on Cancer (IARC). The US Occupational Safety and Health Administration (OSHA) and the US National Toxicology Program (NTP) consider formaldehyde to have carcinogenic potential. OSHA specifically regulates formaldehyde under 29 CFR 1910.1048.

B: Component Carcinogenicity**Crystalline silica (sand) (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))

Continuous filament glass fibers (encapsulated)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (listed under Synthetic Vitreous Fibers)
IARC: Group 3 - Not Classifiable (IARC Monograph 81 [2002] (listed under Man-made mineral fibres), Monograph 43 [1988])

Kaolin (1332-58-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Magnesium silicate backing (asbestos-free 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])

Formaldehyde (50-00-0)

ACGIH: A2 - Suspected Human Carcinogen
OSHA: 0.5 ppm Action Level; 0.75 ppm TWA; 2 ppm STEL (Irritant and potential cancer hazard - see 29 CFR 1910.1048)
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Group 1 - Known Human Carcinogen

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.

Continuous Filament Glass Fiber: No chronic health effects are known to be associated with exposure to continuous filament fiber glass. Results from epidemiologic studies have not shown any increases in respiratory disease or cancer. The International Agency for Research on Cancer (IARC) has classified continuous filament fiber glass as a Group 3 substance, not classifiable as to its carcinogenicity to humans. Because of the large diameter of continuous filament fibers, these products 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**Asphalt, oxidized (64742-93-4)**

72 Hr EC50 Selenastrum capricornutum: 56 mg/L

Magnesium silicate backing (asbestos-free talc) (14807-96-6)

96 Hr LC50 Brachydanio rerio: >100 g/L [semi-static]

Formaldehyde (50-00-0)

96 Hr LC50 Brachydanio rerio: 41 mg/L [static]

96 Hr EC50 water flea: 20 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L

Section 13 - Disposal Considerations

US EPA Waste Number & Descriptions

General Product Information

Waste should be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

Disposal Instructions

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

Section 14 - Transport Information

International Transport Regulations

These products are not classified as dangerous goods according to international transport regulations.

Section 15 - Regulatory Information

US Federal Regulations

A: General Product Information

SARA 311 Status. The following SARA 311 designations apply to this product: Immediate (acute) health hazard. Delayed (chronic) health hazard.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Formaldehyde (50-00-0)

SARA 302: 500 lb TPQ

CERCLA: 100 lb final RQ; 45.4 kg final RQ

State Regulations

A: General Product Information

The glass fibers in this product are not known to be regulated. 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
Crystalline silica (sand)	14808-60-7	No	No	Yes	Yes	Yes	Yes
Calcium carbonate	1317-65-3	No	No	Yes	Yes	Yes	Yes
Kaolin	1332-58-7	No	No	Yes	Yes	Yes	Yes
Magnesium silicate backing (asbestos-free talc)	14807-96-6	Yes	No	Yes	Yes	Yes	Yes
Formaldehyde	50-00-0	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 (sand) (adhered to product and is >99.9% too large to become airborne or to be respirable)	14808-60-7
Formaldehyde	50-00-0
Methyl Carbamate (trace)	598-55-0

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).

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 (sand)	14808-60-7	1 %
Continuous filament glass fibers (encapsulated)	Not Available	1 % (related to Fibrous glass)

WHMIS Classification

This is not a WHMIS controlled product. 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**

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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
7/1/00	3005-1.0000	New MSDS Authoring System
01/10/01	3005-1.0100	Update crystalline silica Sect. 8 (ACGIH exposure guideline) and Sect. 11 (ACGIH suspected carcinogen).
04/10/03	3005-1.0101	Sect. 1: Deleted Permastop Vapour Retarder Roof Defender. Sect. 2 Ingredients: deleted ethanalamine.
07/01/03	3005-1.0102	Sect. 1, deleted discontinued trade name: Roof Defender™ Fiber Glass Base Sheet.
05/07/04	3005-1.0103	Sect. 13 waste edit. Regulatory update. Minor edits.
06/10/04	3005-1.0104	Sect. 1 removed GlasKap® and placed on MSDS 3003.
09/03/04	3005-1.0106	Sect. 1 label ID edit.
12/12/08	3005-1.0107	Regulatory update. SDS updated to GHS format.

End of Sheet 3005