

<b>Section 1 - Product and Company Identification</b>
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Hazard Label WARNING label

**Company Information**

Johns Manville  
Insulation 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:**

13/16" Micro-Aire® Duct Board  
800 Series Spin-Glas® Board Insulations, faced  
Grooved Duct Board  
Mat-Faced Micro-Aire® Duct Board  
Micro-Flex™ Large Diameter Pipe and Tank Wrap  
Microlite® Standard

Micro-Lok® HP  
Micro-Lok® Pipe Insulation  
R Series Microlite® (FSK, PSK, & vinyl faced)  
Spiracoustic Plus™  
SuperDuct™ RC Boards

<b>Section 2 - Hazards Identification</b>
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**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.

**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.

**Ears**

Temporary irritation (itching) or redness may occur.

**Primary Routes of Entry (Exposure)**

Eyes, skin, inhalation (breathing dust and fibers) and ingestion.

**Target Organs**

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

**Medical Conditions Aggravated by Exposure**

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

<b>Section 3 - Composition/Information on Ingredients</b>
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CAS #	Component	Percent
Not Applicable	Continuous Filament Glass Fiber	0-10**
Not Applicable	Fiber Glass Wool	50-98
Not Available	Non-woven, AP, FSK, PSK, or vinyl facings; or vinyl, acrylic, or latex coatings	0-40
Not Available	Urea extended phenol-formaldehyde binder (cured)	2-18*
Not Available	Urea extended phenol-melamine formaldehyde binder (cured)	2-18*
Not Available	Acrylic Coating (present in SuperDuct RC and Spiracoustic Plus™ only)	0-10
50-00-0	Formaldehyde	<1
1333-86-4	Carbon black, bound (present in black products only)	<1

1309-64-4	Antimony trioxide	0.1-3
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**Component Information**

- \* Binder may be either of these.
- \*\* Component of scrim facings

Antimony trioxide (fire retardant) may be present in the facings and/or adhesives. Occupational exposure to airborne antimony trioxide is not expected to occur due to product form(s) and intended use(s). Exposure limit is given for reference only.

Formaldehyde may be released by partial hydrolysis of the urea formaldehyde polymer.

**General Product Description**

Fibrous glass blanket, board, or formed shapes, with or without facings.

**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 gently with soap and water to remove dust and fibers. Alternatively, fibers can be removed from the skin by use of ordinary masking or wrapping tape. Should irritation persist, seek medical attention.

**First Aid: Ingestion**

Rinse mouth with water to remove dust and fibers and drink plenty of water to help reduce irritation. If irritation persists, seek medical attention.

**First Aid: Eyes**

Do not rub or scratch eyes. Dust particles may cause the eye to be scratched. Flush eyes with large amounts of water until irritation subsides. If irritation persists, seek medical attention.

**First Aid: Ears**

Wash exposed skin with soap and water. If irritation develops in the inner ear, 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 applicable

**Auto Ignition:** Not determined

**Rate of Burning:** Not determined

**General Fire Hazards**

There is no potential for spontaneous fire or explosion. Inorganic glass fibers are naturally non-combustible and non-flammable.

**Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>), water, water fog, 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.

**Method Used:** Not applicable

**Lower Flammable Limit (LFL):** Not applicable

**Flammability Classification:** Not determined

**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****Exposure Guidelines****A: General Product Information**

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/m<sup>3</sup>

Total dust 15 mg/m<sup>3</sup>

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.

**B: Component Exposure Limits****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

**Carbon black, bound (present in black products only) (1333-86-4)**

OSHA: 3.5 mg/m<sup>3</sup> TWA  
3.5 mg/m<sup>3</sup> TWA  
ACGIH: 3.5 mg/m<sup>3</sup> TWA

**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: Ears**

Use ear protection (earplugs, hood, or earmuffs) to prevent airborne dust or fibers from entering the ear, if necessary.

**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 NIOSH-approved respirator should be used if ventilation is unavailable, or is inadequate for keeping levels below the applicable exposure limits referenced in Section 8 of this SDS.

**Ventilation**

In fixed manufacturing settings, local exhaust ventilation should be provided at areas of cutting, milling or other processing to remove airborne dust and fibers.

**Personal Protective Equipment: General**

Wear a cap, a loose-fitting, long-sleeved shirt and long pants to protect skin from irritation. Exposed skin areas should be washed with soap and water after handling or working with fiber glass. Clothing should be washed separately from other clothes, and the washer should be rinsed thoroughly (run empty for a complete wash cycle). This will reduce the chances of fiber glass being transferred to other clothing.

**Section 9 - Physical & Chemical Properties**

<b>Appearance:</b> Fibrous glass blanket, board, or formed shapes, with or without facings.	<b>Odor:</b> Mild formaldehyde
<b>Physical State:</b> Solid	<b>pH:</b> Not applicable
<b>Vapor Pressure:</b> Not applicable	<b>Vapor Density:</b> Not applicable
<b>Boiling Point:</b> Not applicable	<b>Melting Point:</b> >704°C/1300°F
<b>Solubility (H<sub>2</sub>O):</b> Nil	<b>Specific Gravity:</b> Variable
<b>VOC:</b> 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****Formaldehyde (50-00-0)**

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

**Carbon black, bound (present in black products only) (1333-86-4)**

Oral LD50 Rat: >15400 mg/kg; Dermal LD50 Rabbit:>3 g/kg

**Antimony trioxide (1309-64-4)**

Oral LD50 Rat: >34600 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 National Toxicology Program (NTP) consider formaldehyde as known to be a human carcinogen. OSHA specifically regulates formaldehyde under 29 CFR 1910.1048.

**B: Component Carcinogenicity****Continuous Filament Glass Fiber**

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])

**Fiber glass wool**

NTP: Not listed.

IARC: Group 3 - Not Classifiable (IARC Monograph 81 [2002] (listed under Man-made mineral fibres), Monograph 43 [1988])

**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: Known to be a human carcinogen  
IARC: Group 1 - Known Human Carcinogen

**Carbon black, bound (present in black products only) (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])

**Antimony trioxide (1309-64-4)**

ACGIH: A2 - Suspected Human Carcinogen (production)  
IARC: Group 2B - Possibly Carcinogenic to Humans (IARC Monograph 47 [1989])

**Chronic Toxicity**

**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.

**Fiber Glass Wool (non-durable glass fibers):**

In October 2001, IARC classified fiber glass wool as Group 3, "not classifiable as to its carcinogenicity to humans." The 2001 decision was based on current human and animal research that shows no association between inhalation exposure to dust from fiber glass wool and the development of respiratory disease

In 2011, the National Toxicology Program (NTP, a component of the United States Department of Health and Human Services) issued its *12th Report on Carcinogens* (Report). The Report makes clear that any glass fibers that have been successfully assessed in an animal study and shown no cancer hazard are NOT among those "certain" fibers and NOT listed in the Report.

The glass fibers comprising the products on this MSDS have either been successfully assessed by appropriate animal protocols and / or have modeled Kdis values such that they are considered non-durable and the current human and animal research that shows no association between inhalation exposure to dust from fiber glass wool and the development of respiratory disease is applicable to these fibers.

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

No data available for this product.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity****Formaldehyde (50-00-0)**

96 Hr LC50 Pimephales promelas: 22.6-25.7 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 1510 µg/L [static]; 96 Hr LC50 Brachydanio rerio: 41 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.032-0.226 ml/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 100-136 mg/L [static]; 96 Hr LC50 Pimephales promelas: 23.2-29.7 mg/L [static]  
96 Hr EC50 water flea: 20 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L

**Carbon black, bound (present in black products only) (1333-86-4)**

24 Hr EC50 Daphnia magna: >5600 mg/L

**Antimony trioxide (1309-64-4)**

96 Hr LC50 Pimephales promelas: >80 mg/L [static]; 96 Hr LC50 Brachydanio rerio: >1000 mg/L [static]  
72 Hr EC50 Selenastrum capricornutum: 67 mg/L  
48 Hr EC50 Daphnia magna: >1000 mg/L

**Section 13 - Disposal Considerations****US EPA Waste Number & Descriptions****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.

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

**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  
SARA 313: 0.1 % de minimis concentration  
CERCLA: 100 lb final RQ; 45.4 kg final RQ

**Antimony trioxide (1309-64-4)**

CERCLA: 1000 lb final RQ; 454 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
Formaldehyde	50-00-0	Yes	No	Yes	Yes	Yes	Yes
Carbon black, bound (present in black products only)	1333-86-4	Yes	No	Yes	Yes	Yes	Yes
Antimony trioxide	1309-64-4	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 #
Fiber Glass Wool ('related to Fibrous glass)	Not Applicable
Formaldehyde	50-00-0
Antimony trioxide	1309-64-4

**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
Continuous Filament Glass Fiber	Not Applicable	1 % (related to Fibrous glass)
Fiber Glass Wool	Not Applicable	1 % (related to Fibrous glass)
Formaldehyde	50-00-0	0.1 %

**WHMIS Classification**

Controlled Product Classification: D2A

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
04/28/04	1009-2.0106	Regulatory update. Minor edits.
05/20/04	1009-2.0107	Sect. 1 Removal of discontinued trade names: 824 CAN Spin-Glas®; 830 CAN Spin-Glas®; Acoustic Backing Board; BS 476, EcoTherm™ Industrial Pipe Insulation; Fabricated Duct Board; Permacote Spiracoustic™; Pipe and Tank Insulation; Rigid Round™ (faced); Spiracoustic™; SuperRound®.
08/05/04	1009-2.0108	Sect. 1 Label ID edit. Removal of discontinued trade name, Micro-Flex CTS.
03/22/05	1009-2.0108	Sect. 1 addition of Insul-SHIELD® Coated Black from MSDS 1010. Addition of Blended Blowing Wool. Edits to Sect. 2 for new additions.
10/03/05	1009-2.0110	Section 1, SuperVane was removed. Discontinued product.
11/17/05	1009-2.0111	Regulatory update. Minor edits in Sections 8, 11, and 15. Removed all revision notes prior to 2004. Revision notes are stored in database archives.
01/31/07	1009-2.0112	Addition of Micro-Lok HP to trade names. Updates made throughout SDS for current trade names listed on this SDS. Section 15 TSCA 12b edits. Removed DBDO. These products are articles under TSCA and DBDO does not need to be reported under TSCA 12b.
06/26/07	1009-2.0113	Addition of Micromat Rx to trade names. Minor edits throughout. Addition of WHMIS classification in section 15.
04/28/08	1009-2.0114	Updated SDS to GHS format.
03/16/09	1009-2.0115	Addition of 13/16" Micro-Aire® Duct Board to trade names.
11/23/09	1009-2.0116	Removed Zeston Hi-Lo Temp® Insulation Inserts from trade names.
09/07/2011	1009-2.02	Regulatory Update
09/08/2011	1009-2.03	Correction sect. 8 respiratory
01/11/2013	1009-2.04	Update trade names and toxicological information in section 11.

**Material Name: Fiber Glass Wool Commercial & Industrial Insulation**

**Safety Data Sheet  
ID: 1009**

End of Sheet 1009