Section 1 - Product and Company Identification

Hazard Label WARNING label

Company Information
Johns Manville
Insulation Systems
P.O. Box 5108
Denver, CO 80127 USA

Trade Names: Insul-SHIELD® Coated Black Roll, FSK-25 and PSK; Insul-SHIELD® Faced Board

Use: Product is designed for insulating exterior structural wall cavities or curtain walls.

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.

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.

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.

Section 3 - Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>Fiber glass wool</td>
<td>85-98</td>
</tr>
<tr>
<td>25104-55-6</td>
<td>Urea extended phenol-formaldehyde binder (cured)</td>
<td>5-15</td>
</tr>
<tr>
<td>Not Available</td>
<td>FSK and PSK facings</td>
<td>0-6.7</td>
</tr>
<tr>
<td>1333-86-4</td>
<td>Carbon black (encapsulated)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>1309-64-4</td>
<td>Antimony trioxide (may be in facing or adhesive)</td>
<td>&gt;0.1</td>
</tr>
<tr>
<td>50-00-0</td>
<td>Formaldehyde</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>

Component Information
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
Black rolls of inorganic glass fibers bonded with a thermosetting binder.
White boards of inorganic glass fibers bonded with a thermosetting binder.

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.

Section 5 - Fire Fighting Measures

Flash Point: Not applicable
Method Used: Not applicable
Upper Flammable Limit (UFL): Not applicable
Lower Flammable Limit (LFL): Not applicable
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. Inorganic glass fibers are naturally non-combustible and non-flammable.

Extinguishing Media
Carbon dioxide (CO\textsubscript{2}), 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.

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/m\textsuperscript{3}
Total dust 15 mg/m\textsuperscript{3}

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.
Carbon black (encapsulated) (1333-86-4)

ACGIH: 3.5 mg/m\textsuperscript{3} TWA
OSHA: 3.5 mg/m\textsuperscript{3} TWA
Antimony trioxide (may be in facing or adhesive) (1309-64-4)
  ACGIH: 0.5 mg/m³ TWA (related to Antimony)
  OSHA: 0.5 mg/m³ TWA (related to Antimony)

Formaldehyde (50-00-0)
  ACGIH: 0.3 ppm Ceiling
  OSHA: 0.5 ppm Action Level; 0.75 ppm TWA; 2 ppm STEL (Irritant and potential cancer hazard - see 29 CFR 1910.1048)

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.

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

| Appearance: Black rolls | Odor: No significant odor |
| Physical State: Solid | pH: Not applicable |
| Vapor Pressure: Not applicable | Vapor Density: Not applicable |
| Boiling Point: Not applicable | Melting Point: >704°F/1300°C |
| Solubility (H₂O): Nil | Specific Gravity: Variable |
| Freezing Point: Not applicable | Evaporation Rate: 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
  Dust from this product is a mechanical irritant, which means that it may cause temporary 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

Urea extended phenol-formaldehyde binder (cured) (25104-55-6)
Oral LD50 Rat: 7 g/kg

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

Antimony trioxide (may be in facing or adhesive) (1309-64-4)
Oral LD50 Rat: >34600 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 National Toxicology Program (NTP) considers formaldehyde as known to be a human carcinogen. OSHA specifically regulates formaldehyde under 29 CFR 1910.1048.

B: Component Carcinogenicity

Fiber glass wool (Not Available)
ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans
NTP: Reasonably Anticipated To Be A Human Carcinogen (respirable size)
IARC: Group 3 - Not Classifiable (IARC Monograph 81 [2002] (listed under Man-made mineral fibres), Monograph 43 [1988])

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

Antimony trioxide (may be in facing or adhesive) (1309-64-4)
ACGIH: A2 - Suspected Human Carcinogen (production)
IARC: Group 2B - Possibly Carcinogenic to Humans (IARC Monograph 47 [1989])

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

Chronic Toxicity
The U.S. Department of Health and Human Services, National Toxicology Program (NTP 1998, 2000, 2002) classified glass wool (respirable size) as reasonably anticipated to be a human carcinogen, based on sufficient evidence of carcinogenicity in animals. This assessment was originally prepared in 1993-1994 for the 7th Report on Carcinogens (NTP 1994), but has not been updated since then in the 8th, 9th, or 10th Reports on Carcinogens (NTP 1998, 2000, 2002).

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information
No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
Carbon black (encapsulated) (1333-86-4)
24 Hr EC50 Daphnia magna: >=5600 mg/L

Antimony trioxide (may be in facing or adhesive) (1309-64-4)
96 Hr LC50 Pimephales promelas: 833.0 mg/L; 96 Hr LC50 Lepomis macrochirus: 530 mg/L; 96 Hr LC50 Brachydanio rerio: >1000 mg/L [static]
72 Hr EC50 Selenastrum capricornutum: 67 mg/L
7 Hr EC50 Pseudomonas putida: >3.5 mg/L
48 Hr EC50 Daphnia magna: >1000 mg/L

Formaldehyde (50-00-0)
96 Hr LC50 Pimephales promelas: 24.1 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 0.10 mg/L [flow-through]; 96 Hr LC50 Brachydanio rerio: 41 mg/L [static]
5 min EC50 Photobacterium phosphoreum: 9.0 mg/L; 15 min EC50 Photobacterium phosphoreum: 7.26 mg/L; 25 min EC50 Photobacterium phosphoreum: 6.81 mg/L; 30 min EC50 Photobacterium phosphoreum: 16.5 mg/L; 1 Hr EC50 Vibrio harveyi: 1.2 mg/L; 5 Hr EC50 Vibrio harveyi: 3.7 mg/L; 72 Hr EC50 Colpoda aspera: 5.39 mg/L
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
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).

Antimony trioxide (may be in facing or adhesive) (1309-64-4)
CERCLA: 1000 lb final RQ; 454 kg final RQ

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:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>CA</th>
<th>FL</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon black (encapsulated)</td>
<td>1333-86-4</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Antimony trioxide (may be in facing or adhesive)</td>
<td>1309-64-4</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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 | Not Available
Antimony trioxide (may be in facing or adhesive) | 1309-64-4
Formaldehyde | 50-00-0

**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:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber glass wool</td>
<td>Not Available</td>
<td>1 % (related to Fibrous glass)</td>
</tr>
</tbody>
</table>

**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

Prepared for:
Johns Manville
Insulation Systems
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.

<table>
<thead>
<tr>
<th>Date</th>
<th>MSDS #</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/01/00</td>
<td>1010-1.0000</td>
<td>New MSDS authoring system.</td>
</tr>
<tr>
<td>01/08/01</td>
<td>1010-1.0100</td>
<td>16-rev-01</td>
</tr>
<tr>
<td>03/09/01</td>
<td>1010-1.0101</td>
<td>Add EasyFit™ trade name</td>
</tr>
<tr>
<td>08/13/01</td>
<td>1010-1.0102</td>
<td>Sect. 2: Component/Information on Ingredients, added acrylic thermoset resin.</td>
</tr>
<tr>
<td>12/21/01</td>
<td>1010-2.0000</td>
<td>Update Sections 3, 11, &amp; 15 for IARC 2001 re-classification of fiber glass wool to Group 3.</td>
</tr>
<tr>
<td>03/12/02</td>
<td>1010-2.0001</td>
<td>Sect. 1 Added trade names.</td>
</tr>
<tr>
<td>11/18/02</td>
<td>1010-2.0002</td>
<td>Sect. 1 added 5 trade names. Changed RID to BID.</td>
</tr>
<tr>
<td>02/12/03</td>
<td>1010-2.0003</td>
<td>Sect. 1: deleted 14 product names no longer sold with UPF binder (now sold only with acrylic binder; see MSDS 1021).</td>
</tr>
<tr>
<td>01/08/04</td>
<td>1010-2.0004</td>
<td>Sect. 1. Changed RID to BID.</td>
</tr>
<tr>
<td>Date</td>
<td>ID</td>
<td>Changes</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>03/23/05</td>
<td>1010-2.0005</td>
<td>Sect. 1, trade name removals: Basement Wall Insulation, Microlite L, Mobinsul, Multi-Purpose Insulation, Pan-Insul, PEBS Blanket, Rich-R Gold, Rich-R Blowing Wool, Sill Sealer, Spin Glass &amp; UMBI. Insul-SHIELD changed to Insul-SHIELD, Faced Boards. Insul-SHIELD Black (Coated) was moved to MSDS 1009.</td>
</tr>
<tr>
<td>03/10/08</td>
<td>1010-2.0006</td>
<td>Removed the following trade names: Commercial Building Insulation; Fiber Glass Building Insulation; ITP Concrete Wall Insulation®; Laminated Metal Building Insulation; Residential Building Insulation. Updated SDS to GHS format.</td>
</tr>
<tr>
<td>09/07/2011</td>
<td>1010-2.0007</td>
<td>Regulatory update</td>
</tr>
<tr>
<td>09/08/2011</td>
<td>1010-2.0008</td>
<td>Correction sect. 8 respiratory</td>
</tr>
</tbody>
</table>

End of Sheet 1010