Section 1 - Product and Company Identification

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:

Appliance Spin-Glas® (ASG);
CM-24;
CM-26;
Exact-O-Board®;
Flex-Glas™ PC;
Microlite® Duct Wrap;
Microlite® MW;
Microlite® TC;
Microlite® WH;
Microlite® XP;
Microlite®;
Range Spin-Glas®;
Spin-Glas® (SG) 22-32;
Spin-Glas® All Types;
Spin-Glas® Board Equipment Insulation;
Spin-Glas® Water Heater (SG-WH);
Tuf-Glas™;
Tuf-Skin® II;
Tuf-Skin®;
Valulite™

Section 2 - Composition / Information on Ingredients

CAS #	Component	Percent
65997-17-3	Fiber Glass Wool	50-99
Not Available	Urea extended phenol-formaldehyde binder (cured)	1-20**
Not Available	Urea extended phenol-melamine formaldehyde binder(cured)	1-20**
1333-86-4	Carbon black (encapsulated)	0-20*
Not Available	Phenol-formaldehyde binder (cured)	1-6***
50-00-0	Formaldehyde	<1

Component Related Regulatory Information

Glass filaments, Glass wool fiber, Fibrous glass.
*Carbon black is a component of some black products only and is encapsulated within binder or coatings. Note: Due to the product form, exposures to hazardous dusts or fumes are not expected to occur. Exposure limits are given for reference only.
** For trade names other than Range Spin-Glas®, binder may be any of these.
*** Range Spin-Glas® binder.
Some products have facings of kraft paper, vinyl, or other materials.

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

Section 3 - Hazards Identification

Emergency Overview

APPEARANCE AND ODOR: Fibrous glass blanket or board; white, gold-to-yellow, orange, black, or black with an amber or black core; with or without non-woven facings. No significant odor.

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

Potential Health Effects

Summary

Breathing dust from this product may cause a scratchy throat, congestion, and slight coughing. Getting dust or fibers on the skin, or in the eyes may cause itching, rash, or redness. Additional health and safety information is provided in Section 11 of this material safety data sheet.

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.

Absorption
Not applicable

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)
Inhalation (breathing dust), 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 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 water to remove dust. Wash hands before eating or using the restroom.

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 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: Ears
Wash exposed skin with soap and water. If irritation develops in the inner ear, seek medical attention.

First Aid: Notes to Physician
This product is a mechanical irritant, and is not expected to produce any chronic 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
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.

Extinguishing Media
Carbon dioxide (CO_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/m3
Total dust 15 mg/m3

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

ACGIH: 3.5 mg/m3 TWA
OSHA: 3.5 mg/m3 TWA

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)

Exposure Limits for Chemicals which may be generated during processing

Methyl isocyanate (624-83-9)

ACGIH: 0.02 ppm TWA
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 0.02 ppm TWA; 0.05 mg/m3 TWA
Prevent or reduce skin absorption
NIOSH: 0.02 ppm TWA; 0.05 mg/m3 TWA
Potential for dermal absorption

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 prevent skin contact and irritation. Barrier creams may also be used to reduce skin contact and irritation caused by fiber glass.

Personal Protective Equipment: Respiratory

A respirator should be used if ventilation is unavailable, or is inadequate for keeping dust and fiber levels below the applicable exposure limits. In those cases, use a NIOSH-certified disposable or reusable particulate respirator with an efficiency rating of N95 or higher (under 42 CFR 84) when working with this product. For exposures up to five times the established exposure limits use a quarter-mask respirator, rated N95 or higher; and for exposures up to ten times the established exposure limits use a half-mask respirator (e.g., MSA's DM-11, Racal's Delta N95, 3M's 8210), rated N95 or higher. Operations such as sawing, blowing, tear out, and spraying may generate airborne fiber 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.

Ventilation

In fixed manufacturing settings, local exhaust ventilation should be provided at areas of cutting to remove airborne dust and fibers. General dilution ventilation should be provided as necessary to keep airborne dust and fibers below the applicable exposure limits and guidelines. 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

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 warm 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:	White, gold-to-yellow, orange, black, or black with an amber or black core; fibrous glass blanket or board.	**Odor:**	No significant odor
Physical State:	Solid	**pH:**	Not applicable
Vapor Pressure:	Not applicable	**Vapor Density:**	Not applicable
Boiling Point:	Not applicable	**Melting Point:**	>704ºC/1300ºF
Solubility (H_2O):	Nil	**Specific Gravity:**	Variable
Freezing Point:	Not applicable	**Evaporation Rate:**	Not applicable
Percent Volatile:	0	**VOC:**	Less than or equal to 0.00661 g/L

Section 10 - Stability & Reactivity Information

Stability

This is a stable material. This product is not reactive.

Hazardous Decomposition

The decomposition products from this material are those that would be expected from any organic (carbon-containing) material, and are mainly derived from pyrolysis, or burning, of the resin. These decomposition products may include carbon monoxide, carbon dioxide, carbon particles, and traces of hydrogen cyanide. Methyl Isocyanate may be generated in hot end-use applications.

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.

B: Component Analysis - LD50/LC50

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

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

Formaldehyde (50-00-0)

Inhalation LC50 Rat: 0.578 mg/L/4H; Inhalation LC50 Rat: 250 ppm/4H; Oral LD50 Rat: 100 mg/kg; Dermal LD50 Rabbit: 270 mg/kg

Component Carcinogenicity

Fiber Glass Wool (65997-17-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A 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])

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 Carcinogen (Possible Select Carcinogen)
IARC: Group 1 - Known Human Carcinogen (IARC Monograph 88 [2006], Monograph 62 [1995], Supplement 7 [1987])

Chronic Toxicity

Fiber Glass Wool: 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. This is a reversal of the IARC finding in 1987 of a Group 2B designation (possibly carcinogenic to humans) based on earlier studies in which animals were injected with large quantities of fiber glass. NTP and ACGIH have not yet reviewed the IARC reclassification or the most current fiber glass health research; at this time, both agencies continue to classify glass wool based on the earlier animal injection studies.

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

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, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the EPA.

Disposal Instructions

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

Section 14 - Transportation Information

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

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
Fiber Glass Wool (¹related to Mineral wool fiber) (²related to Fibrous glass)	65997-17-3	Yes¹	No	Yes¹	Yes	Yes²	Yes¹
Carbon black (encapsulated)	1333-86-4	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 #
Fiber Glass Wool (¹related to Mineral wool fiber) (²related to Fibrous glass)	65997-17-3
Formaldehyde	50-00-0

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.

International Regulations

A: General Product Information

These products are considered articles under both U.S. and international product regulations and as such, these products and their ingredients 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
Fiber Glass Wool	65997-17-3	1 % (related to Fibrous glass)
Carbon black (encapsulated)	1333-86-4	1 %
Formaldehyde	50-00-0	0.1 %

WHMIS Classification

Controlled Product Classification: D2A based on the IARC classification of formaldehyde (Group 1).
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.

Date	MSDS #	Reason
08/01/00	1001-1.0000	New MSDS authoring system.
01/08/01	1001-1.010	Minor regulatory update (per LOLI)
1/9/02	1001-2.0000	Update Sections 3, 11, 15 for IARC 2001 re-classification of fiber glass wool to Group 3, not classifiable as to carcinogenicity to humans.

06/05/02	1001-2.0001	Sect. 2, added acrylic resin for Formaldehyde-free product. Sect. 3 APPEARANCE, inserted "white" for Formaldehyde-free product.
02/27/03	1001-2.0002	Sect. 11 corrected for IARC 2002.
04/30/03	1001-2.0003	Sect. 1: Add "Range-Glas® XG" and "Microlite® XG" new trade names.
06/02/03	1001-2.0004	Sect. 1: Changed manufacturer to Performance Materials Div. Moved XG products to separate MSDS 1201. Updated for carbon black Prop. 65: Sect. 2 and 11.
01/07/04	1001-2.0005	Sect. 1 Changed OEM to Specialty, Sect. 11 Deleted carcinogen statement.
04/30/04	1001-2.0006	Minor regulatory update (LOLI)
06/21/04	1001-2.0007	Sect 3 removed 'green' and replaced it with 'amber or black core'. Updated hazard label from 'FBG-003' to 'FGW-01'.
08/02/05	1001-2.0008	Section 2 addition of trade name Tuf-Glas™. Minor edits throughout.
10/06/05	1001-2.0009	Section 1, removed Microlite AWP from trade names. Obsolete product.
01/16/07	1001-2.0011	Added Methyl Isocyanate to sections 8 and 10 based on analysis. Section 9 added VOC content for products based on analysis. Added article statement in Section 15.
07/02/07	1001-2.0112	Added Microlite Duct Wrap to trade names. Addition of WHMIS classification.

This is the end of MSDS # 1001