

**Section 1 - Product and Company Identification**

Hazard Label CAUTION label

**Company Information**Johns Manville  
Roofing Systems  
P.O. Box 5108  
Denver, CO 80127 USATelephone: 303-978-2000 8:00AM-5:00PM M-F  
Internet Address: <http://www.jm.com>  
Emergency: 800-424-9300 (Chemtrec, In English)**Trade Names:** Fibrated Aluminum Roof Coating**Use:** Used to coat bituminous roof surfaces**Section 2 - Hazards Identification****Inhalation**

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**

Drying of skin, dermatitis, and blistering may occur following prolonged exposures.

**Ingestion**

This product is not intended to be ingested under normal conditions of use. May be harmful if swallowed. May cause gastrointestinal irritation and disturbances. May cause effects similar to those for inhalation exposure. Aspiration into the lungs may cause lung inflammation and other lung injury.

**Eyes**

Irritation, redness, and burning in eyes may occur.

**Primary Routes of Entry (Exposure)**

Inhalation, skin, and eye contact.

**Target Organs**

Skin, eye, lungs, central nervous system (CNS), respiratory system, kidney, liver.

**Medical Conditions Aggravated by Exposure**

Pre-existing eye, skin, respiratory, central nervous system (CNS), liver and kidney diseases or conditions.

**Section 3 - Composition/Information on Ingredients**

CAS #	Component	Percent
64742-93-4	Asphalt, oxidized	50-90
8052-42-4	Asphalt	30-80
64742-95-6	Petroleum naphtha, light aromatic	10-50
8052-41-3	Stoddard solvent (mineral spirits)	10-50
7429-90-5	Aluminum foil	5-15
Trade Secret	Mineral Fibers	2-10
1317-65-3	Calcium carbonate	2-10
63449-39-8	Chlorinated paraffins	<3*
Trade Secret	Additives	0-5

**Component Information**

\*This is a Long Chain Chlorinated Paraffin (LCCP).

**General Product Description**

Black liquid. Strong petroleum solvent odor.

**Section 4 - First Aid Measures****First Aid: Inhalation**

Remove to fresh air. If symptoms persist contact a physician.

**First Aid: Skin**

Remove contaminated clothing. Wash exposed areas with soap and water. If irritation develops or persists, seek medical attention. Launder contaminated clothing before reuse.

**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**

Treatment for inhalation, skin contact, or ingestion should be symptomatic. Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias.

**Section 5 - Fire Fighting Measures**

**Flash Point:** 104°F

**Upper Flammable Limit (UFL):**

**Auto Ignition:** No Data

**Rate of Burning:** Not determined

**General Fire Hazards**

CAUTION: Combustible liquid and vapor.

Keep away from heat, sparks, and flame. Material is highly volatile and readily gives off vapors which are heavier than air and may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Keep container closed. Use with adequate ventilation.

**Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>), dry chemical.

**Fire Fighting Equipment/Instructions**

Use NIOSH-approved self-contained breathing apparatus operating in the pressure demand mode and full fire fighting protective clothing. Avoid inhalation of vapors.

**Method Used:**

**Lower Flammable Limit (LFL):**

**Flammability Classification:**

**Section 6 - Accidental Release Measures**

**Containment Procedures**

Remove all sources of ignition. Evacuate and ventilate spill area. Dam spill area with sand, earth, or other suitable absorbent. Prevent entry of material into sewers, other water sources, or land areas. Wear full protective clothing and respiratory protection during clean-up as required to maintain exposures below the applicable exposure limit. Shovel absorbed material into containers in well-ventilated area.

**Clean-Up Procedures**

Place in closable container for disposal.

**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. Product should be kept in a cool and dry area in original packaging. Do not freeze.

**Section 8 - Exposure Controls / Personal Protection**

**Exposure Guidelines**

**A: General Product Information**

Protective equipment should be provided as necessary to prevent inhalation of vapors, prolonged skin contact, and to keep exposure levels below the applicable exposure limits.

**B: Component Exposure Limits**

**Asphalt (8052-42-4)**

ACGIH: 0.5 mg/m<sup>3</sup> TWA (fume, inhalable fraction, as benzene soluble aerosol)

**Stoddard solvent (mineral spirits) (8052-41-3)**

OSHA: 500 ppm TWA; 2900 mg/m<sup>3</sup> TWA

100 ppm TWA; 525 mg/m<sup>3</sup> TWA

ACGIH: 100 ppm TWA

**Aluminum foil (7429-90-5)**

OSHA: 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)  
15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)  
ACGIH: 1 mg/m<sup>3</sup> TWA (respirable fraction)

**Calcium carbonate (1317-65-3)**

OSHA: 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)  
15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

**PERSONAL PROTECTIVE EQUIPMENT****Personal Protective Equipment: Eyes/Face**

Safety glasses with side shields, chemical goggles, or a face shield is required.

**Personal Protective Equipment: Skin**

Impervious gloves such as nitrile rubber should be used to help prevent excessive skin contact.

**Personal Protective Equipment: Respiratory**

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**

<b>Appearance:</b>	Black	<b>Odor:</b>	Solvent odor
<b>Physical State:</b>	liquid	<b>pH:</b>	Not applicable
<b>Vapor Pressure:</b>	3	<b>Vapor Density:</b>	>4
<b>Boiling Point:</b>	300-350° F	<b>Melting Point:</b>	Not applicable
<b>Solubility (H<sub>2</sub>O):</b>	Insoluble	<b>Specific Gravity:</b>	0.8-0.99
<b>Solids Content</b>	8.07 lbs/gal	<b>Evaporation Rate:</b>	0.2 @ 77°F
<b>Percent Volatile:</b>	42	<b>VOC:</b>	<400 g/L calculated

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

These products are not reactive.

**Incompatibility**

Strong acids, alkalis, and oxidizing agents

**Hazardous Decomposition**

May form carbon dioxide, carbon monoxide, halogenated hydrocarbons, nitrogen oxides, various hydrocarbons.

**Hazardous Polymerization**

Will not occur.

**Section 11 - Toxicological Information****Acute Toxicity****A: General Product Information**

Vapors from this product may cause eye and upper respiratory irritation, dry throat and mouth, nausea, headache, dizziness, drowsiness, and coma in extreme cases. Prolonged exposures may lead to liver and kidney injury.

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

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

**Asphalt (8052-42-4)**

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

**Petroleum naphtha, light aromatic (64742-95-6)**

Inhalation LC50 Rat: >5.2 mg/L/4H; Inhalation LC50 Rat:3400 ppm/4H; Oral LD50 Rat:8400 mg/kg; Dermal LD50 Rabbit:>2000 mg/kg

**Chlorinated paraffins (63449-39-8)**

Oral LD50 Mouse: 21800 mg/kg; Oral LD50 Rat:26100 mg/kg; Dermal LD50 Rabbit:>10 mL/kg

**Carcinogenicity****A: General Product Information**

Long Chain Chlorinated Paraffins (LCCPs) should not be classified as potential human carcinogens according to toxicological testing performed by the National Toxicology Program. The follow excerpt from information provided on the National Toxicology Program cancer testing.

Carcinogenicity - Results of the National Toxicology Program's (NTP) cancer testing of two CPs -- a C12 chain length, 60% chlorine CP and a C23 chain length, 43% chlorine CP -- were announced in August 1985. NTP interpreted these studies to show:

On the basis of these cancer studies, the NTP concluded "there is sufficient evidence for the carcinogenicity of chlorinated paraffins C12 60% chlorine) in experimental animals." Thus, the short-chain material that was tested was listed as a suspect carcinogen by NTP in the Fifth Annual Report on Carcinogens, released in late 1989.

Based on its review of the NTP studies, the International Agency for Research on Cancer (IARC Monograph, Vol. 48) concluded:

Chlorinated paraffins of average carbon chain length C12 and average degree of chlorination approximately 60% are possibly carcinogenic to humans (Group 2B) (IARC Monograph, Volume 48). The IARC Group 2B rating reflects the dual consideration of the absence of any human data suggesting CPs cause cancer and the sufficiency of evidence for carcinogenicity in experimental animals exposed to C12 60 % chlorinated CP. The Group 2B classification is limited to the short-chain, C12 60% material.

IARC concluded that there was "limited evidence" for the carcinogenicity of a commercial chlorinated paraffin product of average carbon chain length C23 and average degree chlorination 43% in experimental animals. IARC did not suggest any conclusions regarding the carcinogenic potential to humans of the C23 material or of any other chlorinated paraffin compound.

As part of a Toxic Release Inventory rulemaking, EPA conducted an in-depth review of the NTP research on the C23 long-chain CP product. The Agency found NTP's initial characterization incorrect and concluded that "long-chain chlorinated paraffins should not be classified as potential carcinogens." (59 FR 61462)

**B: Component Carcinogenicity****Asphalt (8052-42-4)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free)

IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 35 [1985] (steam-refined cracking-residue and air-refined))

**Aluminum foil (7429-90-5)**

ACGIH: A4 - Not Classifiable as a 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.

**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

**Petroleum naphtha, light aromatic (64742-95-6)**

96 Hr LC50 Oncorhynchus mykiss: 9.22 mg/L

48 Hr EC50 Daphnia magna: 6.14 mg/L

**Chlorinated paraffins (63449-39-8)**

96 Hr LC50 Oncorhynchus mykiss: 520 mg/L; 96 Hr LC50 Lepomis macrochirus: >300 mg/L

**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****International Transport Regulations**

**DOT:** Combustible Liquid per 173.150(f) Fibrated Aluminum Roof Coating, 5 gal

UN1133, Adhesives, 3, PG II FP 40C, Fibrated Aluminum Roof Coating, >119 gal (bulk)

**IATA & IMDG:** UN1133, Adhesives, 3, PG II FP 40C, Fibrated Aluminum Roof Coating, 5 Gal

**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).

**Aluminum foil (7429-90-5)**

SARA 313: 1.0 % de minimis concentration (dust or fume only)

**State Regulations****A: General Product Information**

Other state regulations may apply. Check individual state requirements.

WARNING: This product contains a substance known to the state of California to cause cancer:

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).

**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
Asphalt	8052-42-4	Yes	No	Yes	Yes	Yes	Yes
Stoddard solvent (mineral spirits)	8052-41-3	Yes	No	Yes	Yes	Yes	Yes
Aluminum foil	7429-90-5	Yes	No	Yes	Yes	Yes	Yes
Calcium carbonate	1317-65-3	No	No	Yes	Yes	Yes	Yes
Chlorinated paraffins	63449-39-8	No	No	Yes	No	No	No

**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.

**B: Component Analysis - Inventory**

Component	CAS #	TSCA	DSL	EINECS
Asphalt, oxidized	64742-93-4	Yes	Yes	Yes
Asphalt	8052-42-4	Yes	Yes	Yes
Stoddard solvent (mineral spirits)	8052-41-3	Yes	Yes	Yes
Petroleum naphtha, light aromatic	64742-95-6	Yes	Yes	Yes
Aluminum foil	7429-90-5	Yes	Yes	Yes
Calcium carbonate	1317-65-3	Yes	No	Yes
Chlorinated paraffins	63449-39-8	Yes	Yes	Yes

Clay, hydrous CAS 12174-11-7 is exempt from the TSCA inventory for one of the following two reasons:

- 1) It is a naturally occurring substance that is removed by simple extraction methods from Fuller's Earth (CAS# 8031-18-3), and such substances are exempt from listing on the TSCA inventory.
- 2) It is the hydrated form of Magnesium Aluminum Silicate (CAS# 1327-43-1), and hydrates are not subject listing on the TSCA inventory.

**Component Analysis - WHMIS IDL**

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

Component	CAS #	Minimum Concentration
Stoddard solvent (mineral spirits)	8052-41-3	1 %
Aluminum foil	7429-90-5	1 %

**WHMIS Classification**

Controlled Product Classification: B3,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:  
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Prepared by:  
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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.

**Material Name: Fibrated Aluminum Roof Coating**

**Safety Data Sheet  
ID: 3319**

<b>Date</b>	<b>MSDS #</b>	<b>Reason</b>
06/17/10	3319-1.0000	New SDS for new product.
06/25/10	3319-1.0001	Edit to chlorinated paraffin.

End of Sheet 3319