

Section 1 - Product and Company Identification

Hazard Label CAUTION label

Company InformationJohns 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: JM TPO Coated Metal

Section 2 - Hazards Identification**Emergency Overview**

Under normal conditions of use and handling, this product is not expected to create any health or safety hazards.

Inhalation

Not expected under normal conditions of use. However, irritation of the upper respiratory tract (scratchy throat), coughing, and congestion may occur in extreme exposures.

Skin

Not expected under normal conditions of use.

Ingestion

This product is not intended to be ingested (eaten). If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Eyes

Not expected under normal conditions of use.

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent
1309-37-1	Iron	76-81
Not Available	JM TPO Membrane (JM SDS #3214)	15-20
1314-13-2	Zinc	<5
Not Available	Non-hazardous Adhesive	5-10
7440-47-3	Chromium	<0.3
7439-97-6	Mercury	<0.0025
7439-92-1	Lead	<0.01
7782-49-2	Selenium	<0.004

Component Information

Under normal conditions of use and handling, this product is not expected to create any health or safety hazards. Processing of this product can result in formation of vapors or fumes that may be irritating to eyes, skin, & respiratory system.

General Product Description

Odorless white, gray or tan metallic solid.

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

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

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

None required

Section 5 - Fire Fighting Measures**Flash Point:** Not applicable**Upper Flammable Limit (UFL):** Not applicable**Auto Ignition:****Rate of Burning:** Not determined**General Fire Hazards**

There is no potential for spontaneous fire or explosion.

Extinguishing Media

Class D dry chemical or sand.

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:** Non Flammable**Section 6 - Accidental Release Measures****Clean-Up Procedures**

Pick up large pieces. Vacuum dusts.

Section 7 - Handling and Storage**Handling Procedures**

Avoid breathing fumes or dust from cutting or grinding this material. The use of high speed rotary cutting tools may create excessive dusts. Avoid dust inhalation through adequate ventilation and the use of respiratory protection.

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**

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**Iron (1309-37-1)**OSHA: 10 mg/m3 TWA
10 mg/m3 TWA (fume)
ACGIH: 5 mg/m3 TWA (respirable fraction)**Zinc (1314-13-2)**OSHA: 5 mg/m3 TWA (fume); 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
5 mg/m3 TWA (fume); 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
ACGIH: 2 mg/m3 TWA (respirable fraction)
10 mg/m3 STEL (respirable fraction)**Chromium (7440-47-3)**OSHA: 1 mg/m3 TWA
1 mg/m3 TWA
ACGIH: 0.5 mg/m3 TWA**Mercury (7439-97-6)**OSHA: 0.05 mg/m3 TWA (vapor)
ACGIH: 0.025 mg/m3 TWA
Skin - potential significant contribution to overall exposure by the cutaneous route**Lead (7439-92-1)**OSHA: 50 µg/m3 TWA
50 µg/m3 TWA (as Pb); 30 µg/m3 Action Level (as Pb, Poison - see 29 CFR 1910.1025)
ACGIH: 0.05 mg/m3 TWA

Selenium (7782-49-2)

OSHA: 0.2 mg/m3 TWA

0.2 mg/m3 TWA

ACGIH: 0.2 mg/m3 TWA

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

Wear safety glasses with side shields. Wear chemical goggles for fumes which may arise from thermal processing.

Personal Protective Equipment: Skin

Wear impervious gloves for prolonged contact. The use of protective coveralls and long sleeved clothing is recommended for prolonged or repeated contact. Wash thoroughly after use.

Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively remove and prevent buildup of dusts or processing fumes, appropriate NIOSH approved respirator must be provided.

Ventilation

Under normal handling and use, exposure to hazardous ingredients is unlikely due to the product form. The exposure limits provided are for reference purposes in the event that dusts are generated. Keep formation of airborne dusts to a minimum.

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: Odorless white, gray or tan metallic solid.

Odor: No odor

Physical State: Solid

pH: Not applicable

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Boiling Point: Not determined

Specific Gravity: 7

Solubility (H₂O): Insoluble

Evaporation Rate: Not applicable

Freezing Point: Not applicable

Percent Volatile: 0

Section 10 - Stability & Reactivity Information
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Stability

These products are not reactive.

Stability: Conditions to Avoid

Avoid generation of dusts.

Hazardous Decomposition

Metal fumes and certain noxious gases, such as carbon monoxide may be produced at temperatures above the melting point or during welding or burning operations. Carbon monoxide, carbon dioxide, and other toxic fumes may be produced during welding or burning operations.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Acute Toxicity**A: General Product Information**

Processing of this product can include formation of dusts, particulates, or fumes which may be irritating to eyes, skin, and respiratory system.

Iron dust, in the form of metallic iron or iron oxides, can irritate the eyes and respiratory tract.

Zinc poisoning can cause anemia, lethargy, and dizziness. Inhalation of zinc fumes may cause metal fume fever.

Chromium metals and its divalent and trivalent compounds are of low toxicity. Adverse reactions on the skin may include dermatitis for a chromium sensitive individual. Exposure to chromium metals does not give rise to pulmonary fibrosis or pneumoconiosis.

B: Component Analysis - LD50/LC50**Iron (1309-37-1)**

Oral LD50 Rat: >10000 mg/kg

Zinc (1314-13-2)

Oral LD50 Rat: >5000 mg/kg

Selenium (7782-49-2)

Oral LD50 Rat: 6700 mg/kg

Component Carcinogenicity**Iron (1309-37-1)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 1 [1972])

Chromium (7440-47-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Monograph 49 [1990] (listed under Chromium and Chromium compounds), Supplement 7 [1987])

Mercury (7439-97-6)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Monograph 58 [1993])

Lead (7439-92-1)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

OSHA: 50 µg/m³ TWA (as Pb); 30 µg/m³ Action Level (as Pb, Poison - see 29 CFR 1910.1025)

NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)

IARC: Group 2A - Probably Carcinogenic to Humans (IARC Monograph 87 [2006] evaluates inorganic lead compounds as Group 2A and organic lead compounds as Group 3).

Selenium (7782-49-2)

IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 9 [1975])

Chronic Toxicity

Chronic exposure to iron inhalation (iron oxide) leads to accumulation in the lungs and a characteristic stippled appearance on X-rays. This condition, called siderosis, is considered benign in that it does not interfere with lung function and does not predispose to other disease.

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

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity**Mercury (7439-97-6)**

96 Hr LC50 Oncorhynchus mykiss: 0.16 mg/L; 96 Hr LC50 Lepomis macrochirus: 0.16 mg/L

96 Hr EC50 water flea: 5.0 µg/L

Lead (7439-92-1)

96 Hr LC50 Pimephales promelas: 6.5 mg/L

48 Hr EC50 water flea: 600 µg/L

Section 13 - Disposal Considerations**US EPA Waste Number & Descriptions****General Product Information**

This product or dusts created from it may be a hazardous waste due to the chromium and zinc content which may exceed the California thresholds. Product testing is recommended prior to proper disposal.

This product or dusts created from it may be a Federal hazardous waste due to the chromium and/or selenium content which may exceed the EPA TCLP thresholds. Product testing is recommended prior to proper disposal.

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).

Chromium (7440-47-3)

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Mercury (7439-97-6)

SARA 313: 1.0 % Supplier notification limit
CERCLA: 1 lb final RQ; 0.454 kg final RQ

Lead (7439-92-1)

CERCLA: 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Selenium (7782-49-2)

CERCLA: 100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

State Regulations**A: General Product Information**

WARNING: This product contains a substance known to the state of California to cause cancer: Formaldehyde, present in adhesive (trace) 50-00-0

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
Iron	1309-37-1	Yes	No	Yes	Yes	Yes	Yes
Zinc	1314-13-2	Yes	No	Yes	Yes	Yes	Yes
Chromium	7440-47-3	Yes	No	Yes	Yes	Yes	Yes
Mercury	7439-97-6	Yes	No	Yes	Yes	Yes	Yes
Lead	7439-92-1	Yes	No	Yes	Yes	Yes	Yes
Selenium	7782-49-2	Yes	No	Yes	No	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.

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

TSCA Status

This product and its components are listed on the TSCA 8(b) inventory.

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
Iron	1309-37-1	1 %
Zinc	1314-13-2	1 %
Chromium	7440-47-3	0.1 %

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**

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.

Date	MSDS #	Reason
08/06/07	3233-1.0000	New MSDS.
10/16/08	3233-1.0001	Updated SDS with new product information. SDS updated to GHS format.

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