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MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT IDENTIFICATION AND USE

Product name: **MACROVIBE M88-H**
Category: Magnesia
Chemical Name: Dry vibratable monolithic refractory
WHMIS class: D2B

Supplier: **Imacro Inc.,**
1254 Plains Rd. East,
Burlington, Ontario,
L7S 1W6

**Technical Information
and Emergency Assistance:** +1-905-634-3133, Mr. Terry Finch (Canada)

SECTION 2. INGREDIENTS AND HAZARDS

This product is the basic loose powder magnesia material available in various packaging, it contains dust. Product is composed of the following mineral phases which also may be contained in dust generated at application and storage:

INGREDIENT NAME	CAS NUMBER	PERCENT	EXPOSURE LIMITS
MAGNESIUM OXIDE	1309-48-4	88 - 90	TLV-TWA: 10 mg/m ³ (respirable)
PHOSPHATE SALT	(10101-89-0, 10124-56-8, 10049-21-5)	0.5 - 3.0	TLV-TWA 10 mg/m ³ PEL-TWA 15 mg/m ³

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SECTION 3. PHYSICAL DATA

Physical state:	Solid
Appearance and Color:	Beige to light beige granular solid
Odor:	Odorless
Bulk density of:	2.1-2.5 g/cm ³
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Evaporation rate:	Not applicable
Boiling point, °C:	Not applicable
Freezing point, °C:	Not applicable
Melting point or interval, °C:	Over 3235 °F
pH	Not applicable

SECTION 4. FIRE AND EXPLOSION DATA

Flammability:	Not flammable. Material will not burn
Means of Extinction:	Not applicable
Flash point and method, °C:	Not applicable
Upper flammability limit, °C:	Not applicable
Lower flammability limit, °C:	Not applicable
Autoignition temperature, °C:	Not applicable
Hazardous combustion products:	Material does not burn
Explosion: sensitivity:	None, not sensitive to mechanical impact or static electrical discharge
Firefighting measures:	None

SECTION 5. REACTIVITY DATA

Chemical stability:	Material is considered stable in normal ambient conditions.
Incompatibility with other substances:	Avoid contact with acids, strong alkalis, powerful oxidizers and fluorine containing compounds
Reactivity, and under what conditions:	Slight exothermic reaction with acids, alkalis, oxidizers
Hazardous decomposition products:	No

SECTION 6. TOXICOLOGICAL PROPERTIES

Route of entry:	Inhalation, skin contact, skin absorption, eye contact, ingestion
Inhalation:	Yes
- <i>Effect of acute exposure:</i>	Irritation to nose, throat, lungs, sneezing. Overwhelming exposure to dust can cause coughing, chest pains, and difficulty in breathing
- <i>Effect of chronic exposure:</i>	Prolonged exposure may cause risk of lung disease (i.e. pneumoconiosis)
Skin contact:	Yes
- <i>Effect of acute exposure:</i>	Possible irritation.
- <i>Effect of chronic exposure:</i>	May evoke drying and cracking of skin
Skin absorption:	No
Eye contact:	Yes
- <i>Effect of acute exposure:</i>	May cause irritation, redness and pain
Ingestion:	No adverse effects expected
Irritancy of product:	Irritant to skin, eyes, throat, mucous membranes
Sensitization to product:	May cause allergic, sneezing and coughing
Carcinogenicity:	Not available
Reproductive toxicity:	Not available
Teratogenicity:	Not available
Synergistic products:	No

SECTION 7. PREVENTATIVE MEASURES

Personal protective equipment: Normal workplace equipment as appropriate to operation being performed or installed

Gloves: Wear gloves

Respirator: Minimum requirement approved by NIOSH is a mask (e.g. disposable dust mask shown below) or atmosphere-supplying respirators:



Eye: Minimum requirement is safety glasses CSA Class1A (e.g. CR-39 plastic below):



Footwear: Normal workplace protection. Meet CSA standard Z 195

Clothing: Normal workplace coveralls. Long sleeves, cover hair with cap under hard hat to avoid dusting of hair

Engineering controls: Local good ventilation should be used to ensure that exposures to dust or smoke are kept below recommended limits during application or use of this product in service or installation

Leak and spill procedures: Remove the spilled product by sweeping or dry handling to dry metal or plastic container which would be sealed for reclamation or disposal. Prevent entry into waterways

Waste disposal: Follow local codes and regulations

Handling procedures and equipment: Pallets and drums are used with lifting equipment. Keep in well-closed container in cool dry ventilated area.

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**Storage requirements:**

Keep well-closed. Store in well-ventilated dry area, away from source of water. Refer to local codes and regulations. The intended use of this material is direct placement on molten metal (steel), typically without removing it from a closed bag. To the extent possible, do not open bags or handle material directly, in order to avoid generation of airborne dust. Use engineering controls (general or local exhaust) to capture dust generated in use

Special shipping information:

Shipped in closed container. Packaging Group II

SECTION 8. FIRST AID MEASURES

Skin contact:

Wash skin by flushing with running water and soap. Seek medical attention if irritation persists

Inhalation

Remove patient to fresh air. If patient is not breathing, administer respiration. Seek medical attention.

Eye contact:

Flush eyes immediately with running water for at least 15 minutes, holding lids open. Seek medical attention necessary. Ensure medical staff is aware of the identity of product involved

Ingestion:

Do not induce vomiting. Seek medical attention.

SECTION 9. PREPARATION DATE OF MSDSⁱ

Prepared by
IMACRO Inc.
Prepared
[64]

July 22nd, 2013

ⁱ The MSDS has been prepared, according to the hazard criteria of the Controlled Products Regulations (CRP) and the MSDS contains all of the information required by CPR. IMACRO Inc. extends no warranties, makes no representation and assumes no responsibility as to the accuracy or suitability of this information for application to the purchaser's or user's intended purposes or for consequences of its use. Final determination of suitability of the material is the sole responsibility of the user