HOHMANN & BARNARD, INC.
a MiTek company

SAFETY DATA SHEET

1. Identification

Product Identifier: **Malleable Iron Inserts**

Manufacturer:

Hohmann & Barnard, Inc.
30 Rasons Court
Hauppauge, NY 11788
(631) 234-0600
www.h-b.com

Telephone Numbers
During normal business hours call: (800) 645-0616
24-hour emergency call Chemtrec: (800) 255-3924

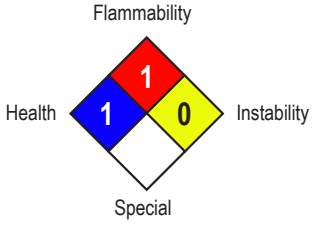
2. Hazards Identification

- There are no chemical hazards from these castings in solid form.
- Dust or fumes generated by machining, grinding, or welding of the casting will put contaminants in the air. Since the casting is more than 90 percent iron, most of the dust of fume will be iron or iron oxide.
- High production dry machining of malleable iron castings usually requires local exhaust ventilation.
- •Flame cutting, arc gouging, or welding of the casting generates iron oxide fume. Inhalation of too much iron oxide fume over a long time can cause siderosis, sometimes called “iron pigmentation” of the lung. It can be seen on a chest x-ray but causes little or no disability. Also see the Safety Data Sheet for welding rod being used.
- Since these castings contain up to 0.1 percent chromium, airborne contaminants from machining or welding will certain traces of chromium dust or fume. If total welding fume is adequately controlled, chromium will also be controlled.
- Water insoluble hexavalent chromium is classified as a human carcinogen by the ACGIH. Approximately 66% of the total chromium in welding fume is hexavalent, and only 5% of that is insoluble. Overexposure to hexavalent chromium is not likely if general welding fume is controlled. (The alloy and its dust does not contain insoluble hexavalent chromium.) IARC classifies hexavalent chromium as Class 1, i.e. that there is positive evidence that it can cause human lung cancer.
- Other toxic metals in the alloy are present in small amounts that will not represent a hazard if total dust and fume are adequately controlled.
- Grinding castings that have not been cleaned or that contain embedded silica will generate significant amounts of dust containing free silica, which can cause silicosis. Good local ventilation is frequently required to prevent over-exposure in this situation. If good ventilation is not available, use a NIOSH-approved dust respirator. IARC has classified crystalline silica as a Class 2A carcinogen, probably capable of causing lung cancer.

Hazardous Material Information System (HMIS)

Health	1
Flammability	1
Physical Hazard	0
Personal Protection	X

National Fire Protection Association (NFPA)



HMIS & NFPA Hazard Rating Legend

* = CHRONIC HEALTH HAZARD
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

POTENTIAL HEALTH EFFECTS:

Eyes: Metal particles in the eyes may cause irritation if not removed.

Breathing: Prolonged or repeated overexposure to dust or fumes from these castings may cause the following health effects.

- Iron: Siderosis, “iron pigmentation” of the lung, which can be seen in a chest x-ray, which can be seen in a chest x-ray but causes little or no disability.
- Chromium (hexavalent chromium in fume from welding or arcing): Lung cancer.
- Breathing excessive amounts of silica dust for a long time can cause silicosis. Silicosis causes shortness of breath, reduced capacity to do work, and weakens the defenses against other lung diseases. IARC has listed crystalline silica as Class 2A, probably can cause lung cancer.

Noise: Grinding or machining castings is noisy. The OSHA limit for noise averaged over eight hours is 90 decibels (dBA). A hearing conservation program is required if exposure is over 85 dBA. If noise is at or above 90 dBA, you should wear ear muffs or ear plugs

CARCINOGENICITY:

INGREDIENT	OSHA	NTP	IARC	TARGET ORGAN
Chromium	N	Y	3	Lung
Hexavalent	N	Y	1	Lung

Y = Listed as Human Carcinogen. **N =** Not Listed as a Human Carcinogen.

Code for IARC (International Agency for Research on Cancer) evidence for human carcinogenicity:
1 = positive **2A =** probable **2B =** possible **3 =** not classified **4 =** probably negative.

Elements having a listed percentage greater than zero will be present in all grades. Those having a value of "0" may not be present in certain grades.

**This constituent, a toxic chemical, makes this product subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. Quantity threshold amounts are 25,000 pounds for manufacturing, importing or processing and 10,000 pounds for otherwise using the listed chemical. Chemicals marked ** are reportable only if in the form of dust or fume.*

GHS Ratings:

Inhalation Toxicity: 2A
Carcinogenicity: 1A
Repeated Organ Exposure: 1

GHS Hazards:

H331 Toxic if dust is inhaled
H350i May cause cancer if inhaled
H372 Causes damage to organs through prolonged or repeated exposure

GHS Precautions:

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
P281 Use personal protective equipment as required
P284 Wear respiratory protection
P310 Immediately call a POISON CENTER or doctor/physician
P314 Get medical advice/attention if you feel unwell
P320 Specific treatment is urgent (see section 4)
P304+P340
IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing
P308+P313
IF exposed or concerned: Get medical advice/attention
P405 Store locked up
P403+P233
Store in a well-ventilated place. Keep container tightly closed
P501 Dispose of contents/container according to local regulation

Signal Word: Danger

3. Composition/Information on Ingredients

INGREDIENT	CAS NO.	PERCENT	TLV (mg/m3)	PEL (mg/m3)
Carbon	7440-44-0	2.0-3.0	N/E	N/E
Chromium	7440-47-3	0.02-0.10		
Chromium (II) Compounds as Cr			0.5	0.5
Chromium (III) Compounds as Cr			0.5	0.5
Chromium Metal as Cr			0.5	1
Chromium VI Compounds Certain Water Insoluble as Cr			0.05	N/E
Chromic Acid and Chromates CL as Cr			N/E	0.1
Chromium Compounds Water soluble as Cr			0.05	N/E
Iron	7439-89-6	92.9 - 96.6		
Iron Oxide Fume (FE2O3) as Fe			5	10
Silicon	7440-21-3	0.8 - 2.0		
Total Dust			10	10
Respirable Fraction			N/E	5

4. First-Aid Measures

Eyes: Metal particles should be removed by a trained individual such as a nurse or physician.
Skin: N/A
Inhalation *(Fumes from welding)*: Move to fresh air
Ingestion: N/A

5. Fire-fighting measures

Castings will not burn or explode

Ignition Temp: No dat found
Extinguising Media: No dat found
Hazardous Combustion Products: No dat found
Fire Fighting Procedures: No dat found
Fire Fighter Protection: No dat found
Unusual Fire and Explosion Hazards: No dat found

6. Accidental release measures

Steps to be taken in case of spill or release: If damaged, return castings to vendor or send to scrap reclaimer. Collected dust from machining, welding, etc., may be classed as a “hazardous waste” depending on circumstances. Consult local authorities regarding disposal.

Waste Disposal Methods: No dat found
Clean Water Act Requirements: No dat found
Resource Conservation and Recovery Act (RCRA) Requirements: No dat found

7. Handling and storage

Keep dry to reduce rusting

8. Exposure controls/personal protection

Engineering Controls: xx
Administrative Controls: xx

PERSONAL PROTECTIVE EQUIPMENT

Protective Gloves: Work gloves advisable for handling castings.
Eye Protection: Safety glasses with side shields and/or face shields for particles (grinding). Welding goggles or helmet for welding.
Resperitiory Protection: Wear a NIOSH approved respirator for dusts or fumeb if concentration exceeds the TLV or PEL.
Other Equipment: Wear a protective apron and gauntlets if arc-air gouging or cutting, or welding castings. If noise is at or above 90 dBA, you should wear ear muffs or ear plugs.

VENTILATION

Provide general ventilation and/or local exhaust if necessary to maintain concentrations below the TLVs.

9. Physical and chemical properties

Physical Description: Solid, silver gray in color, no odor
Vapor Pressure: N/A
Solubility in Water: N/A
% Volatile by Volume: N/A
Boiling Point: 2750oC for iron
Vapor Density: N/A
Specific Gravity: 7.86 for iron
Evaporation Rate: N/A

10. Stability and reactivity

Stability: Stable
Hazardous Decomposition: Iron may cause violent decomposition of hydrogen peroxide (52% by weight or greater)
Hazardous Polymerization: Will not occur
Conditions to Avoid: No data found
Incompatible Materials: Hydrogen peroxide (52% by weight or greater)

11. Toxicological information

Routes of entry: Inhalation
Target ORgans: Lungs
Overexposure: Prolonged or repeated overexposure to dust or fumes from these castings may cause the following health effects.

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- Breathing excessive amounts of silica dust for a long time can cause silicosis. Silicosis causes shortness of breath, reduced capacity to do work, and weakens the defenses against other lung diseases. IARC has listed crystalline silica as Class 2A, probably can cause lung cancer.

Carcinogenicity:

INGREDIENT	OSHA	NTP	IARC	TARGET ORGAN
Chromium	N	Y	3	Lung
Hexavalent	N	Y	1	Lung

12. Ecological Information

No data found.

13. Disposal Considerations

Dust may be classed as a “hazardous waste”. Consult local authorities regarding disposal.

14. Transport information
No data found.

15. Regulatory Information
No data found.

16. Other information
Issue Date: May 31, 2015
Revision Date: May 31, 2015
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