

**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

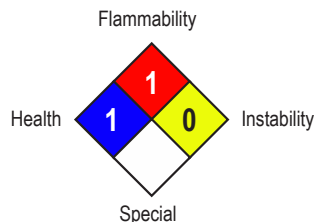
**2. Hazards Identification**

- 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 contain 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

**Extinguishing 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.

**Respiratory Protection:** Wear a NIOSH approved respirator for dusts or fumes 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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**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

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