



# Material Safety Data Sheet

Revision Date: 14-Sep-2007

Revision Number: 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** IRONCLAD SUPER SATIN FINISH ENAMEL  
**Product Code** W227  
**Product Class** SOLVENT THINNED PAINT  
**Color** All

**Manufacturer** Benjamin Moore & Co.  
101 Paragon Drive  
Montvale, NJ 07645  
Phone: 201-573-9600  
www.benjaminmoore.com

**Emergency Telephone Number(s)**  
CHEMTREC: 800-424-9300

## 2. COMPOSITION INFORMATION ON COMPONENTS

### Hazardous Components

Chemical Name	CAS-No	Weight % (max)
Limestone	1317-65-3	35
Hydrotreated heavy naptha, petroleum	64742-48-9	35
Titanium dioxide	13463-67-7	25
Kaolin	1332-58-7	5
Silica, amorphous	7631-86-9	5
Ethyl benzene	100-41-4	0.5
Silica, crystalline	14808-60-7	0.5

## 3. HAZARDS IDENTIFICATION

### Emergency Overview

#### WARNING

Vapors may be irritating to eyes, nose, throat, and lungs. May cause skin irritation and/or dermatitis.  
Combustible material.

**Appearance** liquid

**Odor** hydrocarbon

**OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential Health Effects**

**Principal Routes of Exposure** Eye contact, skin contact and inhalation.

**Acute Effects****Eyes**

Contact with eyes may cause irritation.

**Skin**

May cause skin irritation and/or dermatitis.

**Inhalation**

High vapor / aerosol concentrations are irritating to the eyes, nose, throat and lungs and may cause headaches, dizziness, drowsiness, unconsciousness, and other central nervous system effects.

**Ingestion**

Ingestion may cause irritation to mucous membranes. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

**Chronic Effects**

Avoid repeated exposure

Contains: Crystalline Silica which has been determined to be carcinogenic to humans by IARC (1) when in respirable form. Risk of cancer depends on duration and level of inhalation exposure to spray mist or dust from sanding the dried paint.

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** None known

**HMIS**            **Health: 2\***            **Flammability: 2**            **Reactivity: 0**            **PPE: -**

**HMIS Legend**

0 - Minimal Hazard

1 - Slight Hazard

2 - Moderate Hazard

3 - Serious Hazard

4 - Severe Hazard

\* - Chronic Hazard

X - Consult your supervisor or S.O.P. for "Special" handling instructions.

*Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.*

*Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, Benjamin Moore & Co., has chosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.*

**4. FIRST AID MEASURES****General Advice**

If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

**Eye Contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Skin Contact**

Immediate medical attention is not required, Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes, If skin irritation persists, call a physician.

<b>Inhalation</b>	Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapours. If symptoms persist, call a physician.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Notes To Physician</b>	Treat symptomatically.
<b>Protection Of First-Aiders</b>	Use personal protective equipment.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Foam, dry powder or water. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment And Precautions For Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>Specific Hazards Arising From The Chemical</b>	Combustible material. Closed containers may rupture if exposed to fire or extreme heat. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Sensitivity To Mechanical Impact</b>	No
<b>Sensitivity To Static Discharge</b>	Yes
<b>Flash Point Data</b>	
Flash Point (°F)	119
Flash Point (°C)	48.3
Flash Point Method	PMCC
<b>Flammability Limits In Air</b>	
Lower Explosion Limit	Not available
Upper Explosion Limit	Not available

**NFPA**      **Health:** 2      **Flammability:** 2      **Instability:** 0      **Special:** Not Applicable

### NFPA Legend

- 0 - Not Hazardous
- 1 - Slightly
- 2 - Moderate
- 3 - High
- 4 - Severe

*The ratings assigned by Benjamin Moore & Co. are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.*

*Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at [www.nfpa.org](http://www.nfpa.org).*

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Use personal protective equipment. Remove all sources of ignition.
<b>Environmental Precautions</b>	Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.
<b>Methods For Clean-Up</b>	Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.
<b>Other Information</b>	None known

## 7. HANDLING AND STORAGE

<b>Handling</b>	Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Wear personal protective equipment. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from open flames, hot surfaces and sources of ignition.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Keep in properly labeled containers.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Exposure Limits

#### Hazardous Components

Chemical Name	ACGIH	OSHA
Limestone	N/E	PEL 5 mg/m <sup>3</sup> Respirable fraction. PEL 15 mg/m <sup>3</sup> Total dust.
Hydrotreated heavy naphtha, petroleum	N/E	N/E
Titanium dioxide	TWA: 10 mg/m <sup>3</sup>	PEL 15 mg/m <sup>3</sup> Total dust.
Kaolin	TWA: 2 mg/m <sup>3</sup> Respirable fraction.	PEL 5 mg/m <sup>3</sup> Respirable fraction. PEL 15 mg/m <sup>3</sup> Total dust.
Silica, amorphous	N/E	N/E
Ethyl benzene	TWA 100 ppm STEL: 125 ppm	PEL 435 mg/m <sup>3</sup> / 100 ppm
Silica, crystalline	TWA: 0.025 mg/m <sup>3</sup> Respirable fraction.	N/E

#### Legend

ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits  
 OSHA - Occupational Safety & Health Administration Exposure Limits  
 N/E - Not Established

<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas.
<b>Personal Protective Equipment</b>	
<b>Eye/Face Protection</b>	Safety glasses with side-shields.
<b>Skin Protection</b>	Long sleeved clothing. Protective gloves.

**Respiratory Protection** In case of insufficient ventilation wear suitable respiratory equipment. When spraying the product or applying in confined areas, wear a NIOSH approved respirator specified for paint spray or organic vapors.

**Hygiene Measures** Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. When using do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	liquid
<b>Odor</b>	hydrocarbon
<b>Density (lbs/gal)</b>	9.58 - 11.52
<b>Specific Gravity</b>	1.15 - 1.38
<b>pH</b>	Not available
<b>Viscosity (centistokes)</b>	Not available
<b>Evaporation Rate</b>	Not available
<b>Vapor Pressure</b>	Not available
<b>Vapor Density</b>	Not available
<b>Wt. % Solids</b>	67.6 - 73.3
<b>Vol. % Solids</b>	50.3 - 51.8
<b>Wt. % Volatiles</b>	26.7 - 32.4
<b>Vol. % Volatiles</b>	48.2 - 49.7
<b>VOC (g/L)</b>	< 400.0
<b>Boiling Point (°F)</b>	365
<b>Boiling Point (°C)</b>	185
<b>Freezing Point (°F)</b>	Not available
<b>Freezing Point (°C)</b>	Not available
<b>Flash Point (°F)</b>	119
<b>Flash Point (°C)</b>	48.3
<b>Flash Point Method</b>	PMCC
<b>Upper Explosion Limit</b>	Not available
<b>Lower Explosion Limit</b>	Not available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions. Hazardous polymerisation does not occur.
<b>Conditions To Avoid</b>	Keep away from open flames, hot surfaces, static electricity and sources of ignition.
<b>Incompatible Materials</b>	Incompatible with strong acids and bases and strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapors.
<b>Possibility Of Hazardous Reactions</b>	None under normal conditions of use.

## 11. TOXICOLOGICAL INFORMATION

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### **Product**

Repeated or prolonged exposure to organic solvents may lead to permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

#### **Component**

##### Limestone

LD50 Oral: 6,450 mg/kg (Rat) vendor data

##### Hydrotreated heavy naphtha, petroleum

LD50 Oral: > 5,000 mg/kg (Rat) vendor data

LD50 Dermal: > 3,000 mg/kg (Rabbit)

##### Titanium dioxide

LD50 Oral: > 24000 mg/kg (Rat)

LD50 Dermal: > 10000 mg/m<sup>3</sup> (Rabbit)

LC50 Inhalation (Dust): > 6.82 mg/L (Rat, 4 hr.)

##### Kaolin

LD50 Oral: > 5000 mg/kg (Rat)

##### Silica, amorphous

LD50 Oral: > 10000 mg/kg (Rat)

LD50 Dermal: 2,000 mg/kg (Rabbit)

LC50 Inhalation (Dust): > 2 mg/L

##### Ethyl benzene

LD50 Oral: 3500 mg/kg (Rat)

LD50 Dermal: 17800 µg/L (Rabbit)

LC50 Inhalation (Vapor): 55000 mg/m<sup>3</sup> (Rat, 2 hr.)

##### Silica, crystalline

LD50 Oral: > 22,500 mg/kg (Rat) vendor data

### Chronic Toxicity

#### **Carcinogenicity**

The information below indicates whether each agency has listed any ingredient as a carcinogen:

Chemical Name	ACGIH	IARC	NTP	OSHA Carcinogen
Titanium dioxide		2B Possible carcinogen.		
Silica, amorphous		3 Classification not possible from current data.		
Ethyl benzene		2B Possible carcinogen.		

Chemical Name	ACGIH	IARC	NTP	OSHA Carcinogen
Silica, crystalline		1 Human carcinogen.	Known carcinogen.	

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists  
 IARC - International Agency for Research on Cancer  
 NTP - National Toxicity Program  
 OSHA - Occupational Safety & Health Administration

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity Effects**

**Product**

Acute Toxicity to Fish  
 No information available

Acute Toxicity to Aquatic Invertebrates  
 No information available

Acute Toxicity to Aquatic Plants  
 No information available

**Component**

Acute Toxicity to Fish  
 No information available

Titanium dioxide  
 LC50: >1000 mg/L (Fathead Minnow - 96 hr.)

Acute Toxicity to Aquatic Invertebrates  
 No information available

Acute Toxicity to Aquatic Plants  
 No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Method**

Dispose of in accordance with federal, state, provincial, and local regulations. Dry, empty containers may be recycled in a can recycling program. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

**14. TRANSPORT INFORMATION**

DOT Not regulated

## 14. TRANSPORT INFORMATION

**ICAO / IATA** Contact Benjamin Moore & Co. for further information.

**IMDG / IMO** Contact Benjamin Moore & Co. for further information.

## 15. REGULATORY INFORMATION

### International Inventories

**United States TSCA** Yes - All components are listed or exempt.

**Canada DSL** Yes - All components are listed or exempt.

### Federal Regulations

#### SARA 311/312 hazardous categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<u>Chemical Name</u>	<u>CAS-No</u>	<u>Weight % (max)</u>
Ethyl benzene	100-41-4	0.5

*This product may contain trace amounts of (other) SARA reportable chemicals. Contact Benjamin Moore & Co. for further information.*

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

<u>Chemical Name</u>	<u>CAS-No</u>	<u>Weight % (max)</u>
Ethyl benzene	100-41-4	0.5

*This product may contain trace amounts of (other) HAPs chemicals. Contact Benjamin Moore & Co. for further information.*

### State Regulations

#### California Proposition 65

*This product may contain small amounts of materials known to the state of California to cause cancer or reproductive harm.*

**State Right-to-Know**

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Louisiana	Rhode Island
Limestone	X		X		X
Titanium dioxide	X	X	X		X
Kaolin	X		X		X
Silica, amorphous	X	X	X		
Ethyl benzene	X	X	X		X
Silica, crystalline	X	X	X		

**Legend**

X - Listed

**16. OTHER INFORMATION**

**WARNING!** If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to [www.epa.gov/lead](http://www.epa.gov/lead).

**Prepared By**

Product Stewardship Department  
Benjamin Moore & Co.  
360 Route 206 - P.O. Box 4000  
Flanders, NJ 07836  
973-252-2593

**Revision Date:**

14-Sep-2007

**Revision Summary**

Not available

## Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, provincial, and local laws and regulations.

**End of MSDS**