



# Material Safety Data Sheet

Revision Date: 24-Feb-2010

Revision Number: 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** IRONCLAD ALKYD LOW LUSTRE METAL & WOOD ENAMEL  
**Product Code** C163  
**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)
Nepheline syenite	37244-96-5	25
Titanium dioxide	13463-67-7	20
Stoddard solvent	8052-41-3	15
Hydrotreated heavy naphtha, petroleum	64742-48-9	15
Distillates, petroleum, hydrotreated light	64742-47-8	15
Talc	14807-96-6	10
Iron oxide	1309-37-1	10
Zinc oxide	1314-13-2	10
Zinc phosphate	7779-90-0	5
Carbonic acid, Magnesium salt (1:1)	546-93-0	5
Carbon black	1333-86-4	5
Ethyl benzene	100-41-4	0.5
Cobalt bis(2-ethylhexanoate)	136-52-7	0.5

## 3. HAZARDS IDENTIFICATION

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Emergency Overview

WARNING

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

Rags, steel wool or waste soaked with this product may spontaneously catch fire if improperly discarded.

Appearance liquid

Odor solvent

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

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions None known

HMIS Health: 1\* 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

<b>General Advice</b>	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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>	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. Call a physician immediately.
<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)	105
Flash Point (°C)	41
Flash Point Method	PMCC
<b>Flammability Limits In Air</b>	
Lower Explosion Limit	Not available
Upper Explosion Limit	Not available

**NFPA**      **Health:** 1      **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**

- Personal Precautions**      Use personal protective equipment. Remove all sources of ignition.
- Environmental Precautions**      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.
- Methods For Clean-Up**      Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.
- Other Information**      None known

**7. HANDLING AND STORAGE**

- Handling**      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.
- Storage**      Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Keep in properly labeled containers.  
  
**DANGER** - Rags, steel wool or waste soaked with this product may spontaneously catch fire if improperly discarded. Immediately after use, place rags, steel wool or waste in a sealed water-filled metal container.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Exposure Limits**

**Hazardous Components**

Chemical Name	ACGIH	OSHA
Nepheline syenite	N/E	5 mg/m <sup>3</sup> - TWA (nuisance dust)
Titanium dioxide	10 mg/m <sup>3</sup> - TWA	15 mg/m <sup>3</sup> - TWA total

Stoddard solvent	100 ppm - TWA	2900 mg/m <sup>3</sup> - TWA 500 ppm - TWA
Hydrotreated heavy naphtha, petroleum	N/E	N/E
Distillates, petroleum, hydrotreated light	N/E	N/E
Talc	2 mg/m <sup>3</sup> - TWA	20 mppcf - TWA
Iron oxide	5 mg/m <sup>3</sup> - TWA	10 mg/m <sup>3</sup> - TWA
Zinc oxide	2 mg/m <sup>3</sup> - TWA 10 mg/m <sup>3</sup> - STEL	15 mg/m <sup>3</sup> - TWA total 5 mg/m <sup>3</sup> - TWA
Zinc phosphate	N/E	N/E
Carbonic acid, Magnesium salt (1:1)	N/E	15 mg/m <sup>3</sup> - TWA total 5 mg/m <sup>3</sup> - TWA
Carbon black	3.5 mg/m <sup>3</sup> - TWA	3.5 mg/m <sup>3</sup> - TWA
Ethyl benzene	100 ppm - TWA 125 ppm - STEL	100 ppm - TWA 435 mg/m <sup>3</sup> - TWA
Cobalt bis(2-ethylhexanoate)	N/E	N/E

**Legend**

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

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

**Eye/Face Protection**

Safety glasses with side-shields.

**Skin Protection**

Long sleeved clothing. Protective gloves.

**Respiratory Protection**

In operations where exposure limits are exceeded, use a NIOSH approved respirator that has been selected by a technically qualified person for the specific work conditions. 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>	solvent
<b>Density (lbs/gal)</b>	10.0 - 11.6
<b>Specific Gravity</b>	1.2 - 1.4
<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>	60 - 80
<b>Vol. % Solids</b>	40 - 60
<b>Wt. % Volatiles</b>	20 - 40
<b>Vol. % Volatiles</b>	40 - 60
<b>VOC Regulatory Limit (g/L)</b>	< 380
<b>Boiling Point (°F)</b>	322
<b>Boiling Point (°C)</b>	161
<b>Freezing Point (°F)</b>	Not available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Freezing Point (°C)	Not available
Flash Point (°F)	105
Flash Point (°C)	41
Flash Point Method	PMCC
Upper Explosion Limit	Not available
Lower Explosion Limit	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

### 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**

##### Nepheline syenite

Sensitization: No sensitizing effects known.

##### 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.)

##### Stoddard solvent

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

LD50 Dermal: > 3160 mg/kg (Rabbit)

LC50 Inhalation (Vapor): > 6.1 mg/L (Rat)

##### Hydrotreated heavy naphtha, petroleum

LD50 Oral: > 5,000 mg/kg (Rat) vendor data  
 LD50 Dermal: > 3,000 mg/kg (Rabbit)

Distillates, petroleum, hydrotreated light

LD50 Oral: > 5,000 mg/kg (Rat)  
 LD50 Dermal: > 3,000 mg/kg (Rabbit)

Talc

Sensitization: No information available

Iron oxide

LD50 Oral: > 5000 mg/kg (Rat) vendor data

Zinc oxide

LD50 Oral: > 8437 mg/kg (Rat)  
 LC50 Inhalation (Dust): > 5700 mg/m<sup>3</sup> (Rat, 4 hr.)

Carbon black

LD50 Oral: > 15400 mg/kg (Rat)  
 LD50 Dermal: > 3000 mg/kg (Rabbit)

Ethyl benzene

LD50 Oral: 3500 mg/kg (Rat)  
 LD50 Dermal: > 5000 mg/kg (Rabbit)  
 LC50 Inhalation (Vapor): 55000 mg/m<sup>3</sup> (Rat, 2 hr.)  
 Sensitization: No sensitizing effects known.

**Chronic Toxicity**

**Carcinogenicity**

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

<b>Chemical Name</b>	<b>ACGIH</b>	<b>IARC</b>	<b>NTP</b>	<b>OSHA Carcinogen</b>
Titanium dioxide		2B - Possible Human Carcinogen		Listed
Carbon black		2B - Possible Human Carcinogen		Listed
Ethyl benzene	A3	2B - Possible Human Carcinogen		Listed
Cobalt bis(2-ethylhexanoate)		2B - Possible Human Carcinogen		

- Although IARC has classified titanium dioxide as possibly carcinogenic to humans (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."
- Cobalt and cobalt compounds are listed as possible human carcinogens by IARC (2B). However, there is inadequate evidence of the carcinogenicity of cobalt and cobalt compounds in humans.

**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**

Titanium dioxide

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

Ethyl benzene

LC50: 12.1 mg/L (Fathead Minnow - 96 hr.)

**Acute Toxicity to Aquatic Invertebrates**

Ethyl benzene

EC50: 1.8 mg/L (Daphnia magna - 48 hr.)

**Acute Toxicity to Aquatic Plants**

Ethyl benzene

EC50: 4.6 mg/L (Green algae (Scenedesmus subspicatus), 72 hrs.)

**13. DISPOSAL CONSIDERATIONS**



### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method** Dispose of in accordance with federal, state, 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**

<b>Proper Shipping Name</b>	Paint
<b>Hazard Class</b>	3
<b>UN-No</b>	UN1263
<b>Packing Group</b>	III

In the US this material may be reclassified as a Combustible Liquid and is not regulated in containers of less than 119 gallons (450 liters) via surface transportation (refer to 49CFR173.120(b)(2) for further information).

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

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

### 15. REGULATORY INFORMATION

#### International Inventories

<b>United States TSCA</b>	Yes - All components are listed or exempt.
<b>Canada DSL</b>	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>
Zinc oxide	1314-13-2	10
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
Cobalt bis(2-ethylhexanoate)	136-52-7	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**

<u>Chemical Name</u>	<u>Massachusetts</u>	<u>New Jersey</u>	<u>Pennsylvania</u>	<u>Louisiana</u>	<u>Rhode Island</u>
Titanium dioxide	X	X	X		X
Stoddard solvent	X	X	X		X
Talc	X	X	X		X
Iron oxide	X	X	X		X
Zinc oxide	X	X	X		X
Carbonic acid, Magnesium salt (1:1)	X				X
Carbon black	X	X	X		X
Ethyl benzene	X	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  
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Disclaimer

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**End of MSDS**