Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name**
IRONCLAD LATEX LOW LUSTRE METAL & WOOD ENAMEL

**Product Code**
363

**Product Class**
WATER 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight % (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>20</td>
</tr>
<tr>
<td>Kaolin</td>
<td>1332-58-7</td>
<td>10</td>
</tr>
<tr>
<td>Ethylene glycol mono-2-ethylhexyl ether</td>
<td>1559-35-9</td>
<td>5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>5</td>
</tr>
<tr>
<td>Zinc phosphate</td>
<td>7779-90-0</td>
<td>5</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>5</td>
</tr>
<tr>
<td>Diethylene glycol monomethyl ether</td>
<td>111-77-3</td>
<td>5</td>
</tr>
<tr>
<td>Sodium nitrite</td>
<td>7632-00-0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

**Emergency Overview**
Vapors may be irritating to eyes, nose, throat, and lungs. May cause skin irritation and/or dermatitis.

**Appearance** liquid

**Odor** little or no odor

**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. May be absorbed through the skin in harmful amounts.

Inhalation
May cause irritation of respiratory tract.

Ingestion
May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Contains ethylene glycol which may cause birth defects.

Chronic Effects
Repeated contact may cause allergic reactions in very susceptible persons. Can be absorbed through skin. May cause liver damage. May cause kidney damage.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions
None known

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 choosen 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
No hazards which require special first aid measures.

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation
Move to fresh air. If symptoms persist, call a physician.

Ingestion
Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary.

Notes To Physician
Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment And Precautions For Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific Hazards Arising From The Chemical

Closed containers may rupture if exposed to fire or extreme heat.

Sensitivity To Mechanical Impact

No

Sensitivity To Static Discharge

No

Flash Point Data

<table>
<thead>
<tr>
<th>Flash Point (°F)</th>
<th>250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point (°C)</td>
<td>121</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>PMCC</td>
</tr>
</tbody>
</table>

Flammability Limits In Air

| Lower Explosion Limit | No data available |
| Upper Explosion Limit  | No data available |

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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

Environmental Precautions

Prevent further leakage or spillage if safe to do so.

Methods For Clean-Up

Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Other Information

None known

7. HANDLING AND STORAGE

Handling

Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage

Keep container tightly closed. Keep out of the reach of children.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Hazardous Components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>10 mg/m³ - TWA</td>
<td>15 mg/m³ - TWA total</td>
</tr>
<tr>
<td>Kaolin</td>
<td>2 mg/m³ - TWA</td>
<td>15 mg/m³ - TWA total</td>
</tr>
<tr>
<td>Ethylene glycol mono-2-ethylhexyl ether</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>100 mg/m³ - Ceiling</td>
<td>N/E</td>
</tr>
<tr>
<td>Zinc phosphate</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Carbon black</td>
<td>3.5 mg/m³ - TWA</td>
<td>3.5 mg/m³ - TWA</td>
</tr>
<tr>
<td>Diethylene glycol monomethyl ether</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Sodium nitrite</td>
<td>N/E</td>
<td>N/E</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Eye/Face Protection</th>
<th>Safety glasses with side-shields.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Protection</td>
<td>Protective gloves and impervious clothing.</td>
</tr>
<tr>
<td>Respiratory Protection</td>
<td>In case of insufficient ventilation wear suitable respiratory equipment.</td>
</tr>
</tbody>
</table>

Hygiene Measures
Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>little or no odor</td>
</tr>
<tr>
<td>Density (lbs/gal)</td>
<td>8.9 - 10.4</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.06 - 1.25</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity (centistokes)</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Wt. % Solids</td>
<td>40 - 60</td>
</tr>
<tr>
<td>Vol. % Solids</td>
<td>30 - 50</td>
</tr>
<tr>
<td>Wt. % Volatiles</td>
<td>40 - 60</td>
</tr>
<tr>
<td>Vol. % Volatiles</td>
<td>50 - 70</td>
</tr>
<tr>
<td>VOC Regulatory Limit (g/L)</td>
<td>&lt; 250</td>
</tr>
<tr>
<td>Boiling Point (°F)</td>
<td>212</td>
</tr>
<tr>
<td>Boiling Point (°C)</td>
<td>100</td>
</tr>
<tr>
<td>Freezing Point (°F)</td>
<td>32</td>
</tr>
</tbody>
</table>
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<table>
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<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezing Point (°C)</td>
<td>0</td>
</tr>
<tr>
<td>Flash Point (°F)</td>
<td>250</td>
</tr>
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<td>121</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>PMCC</td>
</tr>
<tr>
<td>Upper Explosion Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower Explosion Limit</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

- Chemical Stability: Stable under normal conditions.
- Conditions To Avoid: Prevent from freezing.
- Incompatible Materials: No materials to be especially mentioned.
- Hazardous Decomposition Products: None under normal use.
- Possibility Of Hazardous Reactions: None under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

- **Acute Toxicity**
  - **Product**
    - No information available
  - **Component**
    - **Titanium dioxide**
      - LD50 Oral: > 24000 mg/kg (Rat)
      - LD50 Dermal: > 10000 mg/m³ (Rabbit)
      - LC50 Inhalation (Dust): > 6.82 mg/L (Rat, 4 hr.)
    - **Kaolin**
      - LD50 Oral: > 5000 mg/kg (Rat)
    - **Ethylene glycol**
      - LD50 Oral: 4700 mg/kg (Rat)
      - LD50 Dermal: 9530 µg/L (Rabbit)
    - **Carbon black**
      - LD50 Oral: > 15400 mg/kg (Rat)
      - LD50 Dermal: > 3000 mg/kg (Rabbit)
    - **Diethylene glycol monomethyl ether**
      - LD50 Oral: 7,190 mg/kg (Rat)
      - LD50 Dermal: 2,500 µL/kg (Rabbit)
Chronic Toxicity

Carcinogenicity

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td></td>
<td>2B - Possible Human Carcinogen</td>
<td></td>
<td>Listed</td>
</tr>
<tr>
<td>Carbon black</td>
<td></td>
<td>2B - Possible Human Carcinogen</td>
<td></td>
<td>Listed</td>
</tr>
<tr>
<td>Sodium nitrite</td>
<td></td>
<td>2A - Probable Human Carcinogen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 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.”

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
12. ECOLOGICAL INFORMATION

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

Ethylene glycol
LC50: 8050 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, 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

ICAO / IATA
Not regulated

IMDG / IMO
Not regulated

15. REGULATORY INFORMATION

International Inventories
United States TSCA
Yes - All components are listed or exempt.
Canada DSL
No - Not all of the components are listed.

Federal Regulations

SARA 311/312 hazardous categorization
- Acute Health Hazard: Yes
- Chronic Health Hazard: Yes
- Fire Hazard: No
- 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:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight % (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>5</td>
</tr>
<tr>
<td>Sodium nitrite</td>
<td>7632-00-0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight % (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>5</td>
</tr>
<tr>
<td>Diethylene glycol monomethyl ether</td>
<td>111-77-3</td>
<td>5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Louisiana</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Kaolin</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon black</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Diethylene glycol monomethyl ether</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium nitrite</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

Prepared By
Product Stewardship Department
Benjamin Moore & Co.
360 Route 206 - P.O. Box 4000
Flanders, NJ 07836
866-690-1961

Revision Date: 21-Jan-2010
Revision Summary Not available

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End of MSDS