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

2. COMPOSITION INFORMATION ON COMPONENTS

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS-No</th>
<th>Weight % (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepheline syenite</td>
<td>37244-96-5</td>
<td>25</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>20</td>
</tr>
<tr>
<td>Stoddard solvent</td>
<td>8052-41-3</td>
<td>15</td>
</tr>
<tr>
<td>Hydrotreated heavy naphtha, petroleum</td>
<td>64742-48-9</td>
<td>15</td>
</tr>
<tr>
<td>Distillates, petroleum, hydrotreated light</td>
<td>64742-47-8</td>
<td>15</td>
</tr>
<tr>
<td>Taic</td>
<td>14807-96-6</td>
<td>10</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>1309-37-1</td>
<td>10</td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>1314-13-2</td>
<td>10</td>
</tr>
<tr>
<td>Zinc phosphate</td>
<td>7779-80-0</td>
<td>5</td>
</tr>
<tr>
<td>Carbonic acid, Magnesium salt (1:1)</td>
<td>546-93-0</td>
<td>5</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>5</td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>100-41-4</td>
<td>0.5</td>
</tr>
<tr>
<td>Cobalt bis(2-ethylhexanoate)</td>
<td>136-52-7</td>
<td>0.5</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION
3. HAZARDS IDENTIFICATION

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

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
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation
Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. Call a physician immediately.

Ingestion
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.

Notes To Physician
Treat symptomatically

Protection Of First-Aiders
Use personal protective equipment

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Foam, dry powder or water. 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
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.

Sensitivity To Mechanical Impact
No

Sensitivity To Static Discharge
Yes

Flash Point Data
| Flash Point (°F) | 105 |
| Flash Point (°C) | 41 |
| Flash Point Method | PMCC |

Flammability Limits In Air
| Lower Explosion Limit | Not available |
| Upper Explosion Limit | Not available |
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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepheline syenite</td>
<td>N/E</td>
<td>5 mg/m³ - TWA (nuisance dust)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>10 mg/m³ - TWA</td>
<td>15 mg/m³ - TWA total</td>
</tr>
<tr>
<td>Substance</td>
<td>Threshold Value</td>
<td>STEL Value</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Stoddard solvent</td>
<td>100 ppm - TWA</td>
<td>2900 mg/m³ - TWA</td>
</tr>
<tr>
<td>Hydrotreated heavy naphtha, petroleum</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Distillates, petroleum, hydrotreated light</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Talc</td>
<td>2 mg/m³ - TWA</td>
<td>20 mppcf - TWA</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>5 mg/m³ - TWA</td>
<td>10 mg/m³ - TWA</td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>2 mg/m³ - TWA</td>
<td>15 mg/m³ - TWA</td>
</tr>
<tr>
<td>Zinc phosphate</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Carbonic acid, Magnesium salt (1:1)</td>
<td>N/E</td>
<td>15 mg/m³ - TWA</td>
</tr>
<tr>
<td>Carbon black</td>
<td>3.5 mg/m³ - TWA</td>
<td>3.5 mg/m³ - TWA</td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>100 ppm - TWA</td>
<td>100 ppm - TWA</td>
</tr>
<tr>
<td>Cobalt bis(2-ethylhexanoate)</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**

- **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

- **Appearance**: liquid
- **Odor**: solvent
- **Density (lbs/gal)**: 10.0 - 11.6
- **Specific Gravity**: 1.2 - 1.4
- **pH**: Not available
- **Viscosity (centistokes)**: Not available
- **Evaporation Rate**: Not available
- **Vapor Pressure**: Not available
- **Vapor Density**: Not available
- **Wt. % Solids**: 60 - 80
- **Vol. % Solids**: 40 - 60
- **Wt. % Volatiles**: 20 - 40
- **Vol. % Volatiles**: 40 - 60
- **VOC Regulatory Limit (g/L)**: < 380
- **Boiling Point (°F)**: 322
- **Boiling Point (°C)**: 161
- **Freezing Point (°F)**: Not available
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezing Point (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point (°F)</td>
<td>105</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>41</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>PMCC</td>
</tr>
<tr>
<td>Upper Explosion Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosion Limit</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions. Hazardous polymerisation does not occur.

Conditions To Avoid
Keep away from open flames, hot surfaces, static electricity and sources of ignition.

Incompatible Materials
Incompatible with strong acids and bases and strong oxidizing agents.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating gases and vapors.

Possibility Of Hazardous Reactions
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/m³ (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
**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>Ethyl benzene</td>
<td>A3</td>
<td>2B - Possible Human Carcinogen</td>
<td></td>
<td>Listed</td>
</tr>
<tr>
<td>Cobalt bis(2-ethylhexanoate)</td>
<td></td>
<td>2B - Possible 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."
• 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

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Paint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>UN-No</td>
<td>UN1263</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>United States TSCA</th>
<th>Yes - All components are listed or exempt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada DSL</td>
<td>Yes - All components are listed or exempt.</td>
</tr>
</tbody>
</table>

Federal Regulations

SARA 311/312 hazardous categorization

<table>
<thead>
<tr>
<th>Acute Health Hazard</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

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:
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>Zinc oxide</td>
<td>1314-13-2</td>
<td>10</td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>100-41-4</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.

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></td>
</tr>
<tr>
<td>Stoddard solvent</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Talc</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron oxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Carbonic acid, Magnesium salt (1:1)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Carbon black</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</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.
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