Selection & Specification Data

Generic Type
Aliphatic Acrylic Polyurethane

Description
Thin film, high gloss finish with exceptional weathering performance characteristics. Used extensively in virtually all industrial markets, 134 HG provides a smooth, durable finish that has superior resistance to corrosion, abrasion and chemical exposure.

Features
- High solids, low VOC content
- Excellent weatherability
- Far exceeds SSPC Paint 36 specification for a Level 3 urethane
- Available in a variety of colors including metallic-pigmented colors
- Excellent flow characteristics allow for application by spray or roller
- Superior impact and abrasion resistance
- Indefinite recoatability
- VOC compliant to current AIM regulations

Color
Refer to Carboline Color Guide. Certain colors, particularly in non-leaded safety oranges, reds and yellows may require multiple coats for adequate hiding. Check color suitability before use.

Finish
Gloss

Primer
Refer to Substrates & Surface Preparation

Topcoats
Carbothane® 130 Clear Coat when required

Dry Film
2.0-3.0 mils (50-75 μ)

Thickness
May be applied up to 4 mils (100 μ) as needed

Solids Content
By Volume: 70% ± 2%

Theoretical Coverage Rate
1123 ml ft² (27.5 m²/l at 25 μ)

VOC Values
As supplied: 2.2 lbs./gal (264 g/l)
Thinned: 25 oz/gal w/#25: 3.06 lbs./gal (336 g/l)
25 oz/gal w/#214: 2.9 lbs./gal (348 g/l)
25 oz/gal w/#215: 3.0 lbs./gal (362 g/l)
These are nominal values and may vary slightly with color.

Dry Temp. Resistance
Continuous: 200°F (93°C)
Non-Continuous: 250°F (121°C)
Discoloration and loss of gloss is observed above 200°F (93°C).

* The alignment of aluminum flakes in aluminum-filled finishes is very dependent on application conditions and techniques. Care must be taken to keep conditions as constant as possible to reduce variations in final appearance. It is also advisable to work from a single batch of material since variations can occur from batch to batch. For more information consult Carboline Technical Service Department.

Substrates & Surface Preparation

General
Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating. For all surfaces prime with specific Carboiline primer as recommended by your Carboline sales representative. Refer to the specific primer’s Product Data Sheet for detailed requirements of the specified primer.

Galvanized Steel
Prime with specific Carboiline primer as recommended by your Carboline Sales Representative. Refer to the specific primer’s Product Data Sheet for substrate preparation requirements.

Previously Painted Surfaces
Lightly sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 “X-Scribe” adhesion test.

Performance Data

<table>
<thead>
<tr>
<th>Test Method</th>
<th>System</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM D4541 Adhesion</td>
<td>Blasted Steel</td>
<td>2562 psi (Pneumatic)</td>
</tr>
<tr>
<td></td>
<td>1 ct. Epoxy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ct. 134 HG</td>
<td></td>
</tr>
<tr>
<td>ASTM D3359 Adhesion</td>
<td>Blasted Steel</td>
<td>5A</td>
</tr>
<tr>
<td></td>
<td>1 ct. Epoxy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ct. 134 HG</td>
<td></td>
</tr>
<tr>
<td>ASTM D4060 Abrasion</td>
<td>Blasted Steel</td>
<td>70 mg, loss after 1000 cycles, CS17 wheel, 1000 gm load</td>
</tr>
<tr>
<td></td>
<td>1 ct. 134 HG</td>
<td></td>
</tr>
<tr>
<td>ASTM G26 Weatherometer</td>
<td>Blasted Steel</td>
<td>No blistering, rusting or cracking; gloss retention of 85%; color change of 1 McAdam unit after 2000 hours.</td>
</tr>
<tr>
<td></td>
<td>1 ct. Epoxy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ct. 134 HG</td>
<td></td>
</tr>
<tr>
<td>ASTM G53</td>
<td>Blasted Steel</td>
<td>No rusting, blistering or loss of adhesion; less than 5% gloss loss after 3000 hours</td>
</tr>
<tr>
<td>ASTM B117 Salt Fog</td>
<td>Blasted Steel</td>
<td>No rusting, blistering, loss of bond or any measurable creepage from the scribe after 3000 hours.</td>
</tr>
<tr>
<td></td>
<td>1 ct. Org. Zinc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ct. Epoxy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ct. 134 HG</td>
<td></td>
</tr>
<tr>
<td>ASTM D3363 Hardness</td>
<td>Blasted Steel</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>1 ct. Epoxy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 ct. 134 HG</td>
<td></td>
</tr>
<tr>
<td>ASTM D870 Water/Saltwater Resistance</td>
<td>Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG</td>
<td>No rusting in the scribe; no blistering, softening or discoloration after either 30 days of freshwater immersion or 30 days of salt water immersion at 75°F.</td>
</tr>
</tbody>
</table>

March 2011 replaces December 2009

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE. EXPRESS OR IMPLIED. STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Carbothane® are registered trademarks of Carboline Company.
Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modification to these guidelines to achieve the desired results.

General Guidelines:

Spray Application (General)

This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Conventional Spray

Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

Airless Spray

Pump Ratio: 30:1 (min.)
GPM Output: 3.0 (min.)
Material Hose: 3/8" I.D. (min.)
Tip Size: .015-.017"
Output PSI: 2100-2400
Filter Size: 60 mesh

*Teflon packings are recommended and available from the pump manufacturer.

Brush & Roller (General)

Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 75°F (24°C).

Brush

Recommended for touch-up only. Use a medium, natural bristle brush.

Roller

Use a short-nap mohair roller cover with phenolic core.

Mixing & Thinning

Mixing

Power mix Part A separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Ratio (By Volume)

4:1 Ratio (A to B)

Thinning

Spray: Up to 25 oz/gal (20%) w/ #214 or #25
Brush: Up to 25 oz/gal (20%) w/ #215
Roller: Up to 25 oz/gal (20%) w/ #215

Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Carbothane® #236E may also be used to thin this product to minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance.

Pot Life

4 Hours at 75°F (24°C) and less at higher temperatures.

Pot life ends when coating becomes too viscous to use. MOISTURE CONTAMINATION WILL SHORTEN POT LIFE AND CAUSE GELLATION.

Cleanup & Safety

Cleanup

Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety

Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation

When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA / NIOSH approved respirator.

Cleanup & Safety Cont.

Caution

This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

Application Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Material</th>
<th>Surface</th>
<th>Ambient</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>60°-85°F (16°-29°C)</td>
<td>65°-85°F (18°-29°C)</td>
<td>65°-85°F (18°-29°C)</td>
<td>40-60%</td>
</tr>
<tr>
<td>Minimum</td>
<td>50°F (10°C)</td>
<td>35°F (2°C)</td>
<td>35°F (2°C)</td>
<td>10%</td>
</tr>
<tr>
<td>Maximum</td>
<td>100°F (38°C)</td>
<td>120°F (49°C)</td>
<td>95°F (35°C)</td>
<td>85%</td>
</tr>
</tbody>
</table>

Industry standards are for substrate temperatures to be at least 5°F (3°C) above the dew point.

Caution: This product is moisture sensitive in the liquid stage and during initial cure. Protect from direct moisture (rain or dew) contact during initial curing period. Excessive exposure to moisture may result in a loss of gloss and/or microbubbling of the product.

Curing Schedule

<table>
<thead>
<tr>
<th>Surface Temp. &amp; 50% Relative Humidity</th>
<th>Dry to Handle</th>
<th>Minimum Dry to Recoat*</th>
<th>Final Cure</th>
</tr>
</thead>
<tbody>
<tr>
<td>35°F (2°C)</td>
<td>36 Hours</td>
<td>36 Hours</td>
<td>14 Days</td>
</tr>
<tr>
<td>50°F (10°C)</td>
<td>16 Hours</td>
<td>16 Hours</td>
<td>10 Days</td>
</tr>
<tr>
<td>75°F (24°C)</td>
<td>8 Hours</td>
<td>8 Hours</td>
<td>7 Days</td>
</tr>
<tr>
<td>90°F (32°C)</td>
<td>4 Hours</td>
<td>4 Hours</td>
<td>5 Days</td>
</tr>
</tbody>
</table>

These times are based on a 2.0 mil (50 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure.

*Maximum recoat times are indefinite. Surface must be clean and dry. As part of good painting practice it is recommended to test for adhesion by wiping the surface with Thinner 214 or 215. If the film shows a slight “tack” the surface is inadequate hiding. Avoid excessive re-brushing or re-coating, for best results, tie-in within 10 minutes at 75°F (24°C).

Packaging, Handling & Storage

Shipping Weight

(Approximate) 1 Gallon Kit 5 Gallon Kit
13 lbs (5kg) 57 lbs (26 kg)

Flash Point (Setaflash)  Carboline 134 HG Part A: 50°F (10°C) Urethane Converter 811 Part B: 106°F (41°C)

Storage (General)  Store Indoors.

Storage Temperature & Humidity  40°-110°F (4°-43°C) 0-80% Relative Humidity

Shelf Life

Part A: Min. 36 months at 75°F (24°C)
Part B: Min. 24 months at 75°F (24°C)

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Material Safety Data Sheet

Section 1 - Chemical Product / Company Information

Product Name: CARBOTHANE 134 HG PART A MIXED METAL OXIDE  
Revision Date: 08/01/2005
Identification Number: PLMSDS 0859A1YL  
Supercedes: 05/19/2005
Product Use/Class: Aliphatic Acrylic Polyurethane - FOR INDUSTRIAL USE ONLY
Preparer: Regulatory, Department
Manufacturer: Carboline Company  
350 Hanley Industrial Ct.  
St. Louis, MO 63144

Section 2 - Composition / Information On Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Weight % Less Than ACGIH TLV-TWA</th>
<th>ACGIH TLV-STEL</th>
<th>OSHA PEL-TWA</th>
<th>OSHA CEIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>COBALT COMPOUND</td>
<td>1345-16-0</td>
<td>40.0</td>
<td>0.02 MGM3</td>
<td>NE</td>
<td>.05 MG/M3</td>
</tr>
<tr>
<td>NICKEL ANTIMONY COMPOUND</td>
<td>8007-18-9</td>
<td>35.0</td>
<td>0.2 MGM3</td>
<td>NE</td>
<td>0.1 MGM3</td>
</tr>
<tr>
<td>MICROCRYSTALLINE SILICA</td>
<td>014808-60-7</td>
<td>30.0</td>
<td>0.05 MG/M3</td>
<td>N/E</td>
<td>0.1 MG/M3</td>
</tr>
<tr>
<td>BUTYL ACETATE</td>
<td>123-86-4</td>
<td>15.0</td>
<td>150 PPM</td>
<td>200 PPM</td>
<td>710 MGM3</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>10.0</td>
<td>50 PPM</td>
<td>N/E</td>
<td>150 PPM</td>
</tr>
<tr>
<td>META-XYLENE</td>
<td>000108-38-3</td>
<td>5.0</td>
<td>434 Mg/M3</td>
<td>651 Mg/M3</td>
<td>434 Mg/M3</td>
</tr>
<tr>
<td>ALIPHATIC DIOL TRADE SECRET</td>
<td></td>
<td>5.0</td>
<td>25 PPM</td>
<td>N/E</td>
<td>25 PPM</td>
</tr>
<tr>
<td>CHROME ANTIMONY COMPOUND</td>
<td>68186-90-3</td>
<td>5.0</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>100-41-4</td>
<td>5.0</td>
<td>100 PPM</td>
<td>125 PPM</td>
<td>435 MGM3</td>
</tr>
<tr>
<td>PARA-XYLENE</td>
<td>000106-42-3</td>
<td>5.0</td>
<td>434 Mg/M3</td>
<td>651 Mg/M3</td>
<td>434 Mg/M3</td>
</tr>
<tr>
<td>PM ACETATE</td>
<td>108-65-6</td>
<td>5.0</td>
<td>100PPM</td>
<td>NE</td>
<td>150PPM</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview: FLAMMABLE liquid and vapor. Contains SILICA which can cause cancer. Risk of Cancer depends on duration and level of exposure. This product contains MIXED METAL OXIDE Pigments which are the result of high temperature calcination of the component substances. Due to their unique crystalline structure, the properties of these pigments do not necessarily reflect the properties of the component metals or oxides. Some compounds of the metals used in the manufacturing of these pigments have demonstrated various toxic properties. However, there is no evidence that these pigments have these toxic characteristics. IARC has classified Cobalt and Cobalt compounds as possibly carcinogenic to humans. (Class 2B, Monograph #52). IARC considers Nickel compounds to be carcinogenic to humans (Monograph #49).

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: Direct skin contact may cause irritation. May cause allergic skin
Effects Of Overexposure - Inhalation: Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache, or nausea. May cause nose and throat irritation.

Effects Of Overexposure - Ingestion: Harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Crystalline silica is known to cause silicosis, a noncancerous lung disease. Exposure is by route of inhalation. If material is in a liquid matrix it is unlikely to be inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

Medical Conditions Prone to Aggravation by Exposure: If you have a condition that could be aggravated by exposure to dust or organic vapors, see a physician prior to use.

Section 4 - First Aid Measures

First Aid - Eye Contact: If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

First Aid - Skin Contact: In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Launder clothing before reuse. If rash or irritation develops, consult a physician.

First Aid - Inhalation: If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

First Aid - Ingestion: If swallowed do not induce vomiting. Seek immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point, F: 50F (10C)  Lower Explosive Limit, %: 0.8
Setaflash  Upper Explosive Limit, %: 10.4

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: Flammable Liquid. Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flames and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and to wear conductive and non-sparking shoes.


Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow exposure controls/personal protection guidelines in Section 8. Contain and soak up residual with an absorbent (clay or sand). Take up absorbant material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section 15 for SARA Title III
Section 7 - Handling And Storage

Handling: Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Do not breathe vapors. Wash thoroughly after handling. If pouring or transferring materials, ground all containers and tools. Do not weld, heat, cut or drill on full or empty containers. Use only in accordance with Carboline application instructions, container label and Product Data Sheet. Avoid breathing vapors or spray mist.

Storage: Keep away from heat, sparks, open flames and oxidizing agents. Keep containers closed. Store in a cool, dry place with adequate ventilation.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).

Respiratory Protection: Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NISOH approved supplied air respirator. Follow all current OSHA requirements for respirator use.

Skin Protection: Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

Eye Protection: Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

Other protective equipment: Eye wash and safety showers should be readily available.

Hygienic Practices: Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

(See section 16 for abbreviation legend)

Section 9 - Physical And Chemical Properties

Boiling Range: 232F (111C) - 284 F (140 C)  
Odor: Solvent  
Appearance: Viscous Liquid, Various Colors  
Solubility in H2O: N/D  
Freeze Point: N/D  
Vapor Pressure: N/D  
Physical State: Liquid  

Vapor Density: Heavier than Air  
Odor Threshold: N/D  
Evaporation Rate: Slower Than Ether  
Specific Gravity: app. 1.63  
PH: N/D  

Section 10 - Stability And Reactivity

Conditions To Avoid: Heat, sparks and open flames.

Incompatibility: Keep away from strong oxidizing agents, heat and open flames.
Hazardous Decomposition Products: Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>COBALT COMPOUND</td>
<td>1345-16-0</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>NICKEL ANTIMONY COMPOUND</td>
<td>8007-18-9</td>
<td>&gt;10,000 MG/KG ORAL RAT</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>MICROCRYSTALLINE SILICA</td>
<td>014808-60-7</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>BUTYL ACETATE</td>
<td>123-86-4</td>
<td>7.4 G/KG RABBIT ORAL</td>
<td>&gt;1800 PPM/6H INHALATION</td>
</tr>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>5.0 G/KG RAT ORAL, 14G/KG RABBIT DERMAL 8000 PPM/4HRS, RAT, INHALATION</td>
<td></td>
</tr>
<tr>
<td>META-XYLENE</td>
<td>000108-38-3</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>ALIPHATIC DIOL</td>
<td>TRADE SECRET</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>CHROME ANTIMONY COMPOUND</td>
<td>68186-90-3</td>
<td>10,000 MG/KG, ORAL, RAT</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>100-41-4</td>
<td>3500 MG/KG RAT, ORAL</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>PARA-XYLENE</td>
<td>000106-42-3</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>PM ACETATE</td>
<td>108-65-6</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
</tbody>
</table>

Section 12 - Ecological Information

Ecological Information: No data

Section 13 - Disposal Information

Disposal Information: Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

Section 14 - Transportation Information

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name</th>
<th>Packing Group</th>
<th>DOT Technical Name</th>
<th>Hazard Subclass</th>
<th>DOT Hazard Class</th>
<th>Resp. Guide</th>
<th>DOT UN/NA Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paint</td>
<td>II</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>128</td>
<td>1263</td>
</tr>
</tbody>
</table>

Section 15 - Regulatory Information

CERCLA - SARA HAZARD CATEGORY

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

SARA SECTION 313
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

### Chemical Name | CAS Number
---|---
COBALT COMPOUND | 1345-16-0
NICKEL ANTIMONY COMPOUND | 8007-18-9
TOLUENE | 108-88-3
META-XYLENE | 000108-38-3
CHROME ANTIMONY COMPOUND | 68186-90-3
ETHYL BENZENE | 100-41-4
PARA-XYLENE | 000106-42-3

### TOXIC SUBSTANCES CONTROL ACT

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

### Chemical Name | CAS Number
---|---
PARA-XYLENE | 000106-42-3

### U.S. STATE REGULATIONS AS FOLLOWS:

#### NEW JERSEY RIGHT-TO-KNOW

The following materials are non-hazardous, but are among the top five components in this product.

### Chemical Name | CAS Number
---|---
ACRYLIC COPOLYMER | TRADE SECRET
AZO PIGMENT | 82199-12-0

#### PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

### Chemical Name | CAS Number
---|---
ACRYLIC COPOLYMER | TRADE SECRET
AZO PIGMENT | 82199-12-0
AZO PIGMENT | 2786-76-7
TITANIUM DIOXIDE | 013463-67-7
POLYMER NON HAZARDOUS | TRADE SECRET
ORGANIC PIGMENT | 31837-42-0
BENZIMIDAZOLE DERIVATIVE | 012236-62-3
ORGANIC PIGMENT | 5567-15-7

### CALIFORNIA PROPOSITION 65

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

### Chemical Name | CAS Number
---|---
NICKEL ANTIMONY COMPOUND | 8007-18-9
MICROCRYSTALLINE SILICA | 014808-60-7
ETHYL BENZENE | 100-41-4
CARBON BLACK | 001333-86-4
Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

**Chemical Name**  | **CAS Number**  
---|---
TOLUENE | 108-88-3

INTERNATIONAL REGULATIONS AS FOLLOWS:

CANADIAN WHMIS

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

**CANADIAN WHMIS CLASS:** B2 D2A D2B

<table>
<thead>
<tr>
<th>Section 16 - Other Information</th>
</tr>
</thead>
</table>

HMIS Ratings  
**Health:** 3  
**Flammability:** 3  
**Reactivity:** 0  
**Personal Protection:** X

**VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED):** 264

**REASON FOR REVISION:** Changed to 16 Section Format.

**Legend:** N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.
Emergency Overview: Flammable Liquid. Reacts violently with common materials including water, alcohols, bases and amines. Harmful if inhaled. Eye, skin and respiratory tract irritant. Possible sensitizer.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: Irritant. May produce symptoms similar to those from inhalation. Can cause dryness, loss of natural oils, allergic reaction.

Effects Of Overexposure - Inhalation: Harmful if inhaled. May cause hoarseness, upper respiratory tract irritation, intoxication, headache, confusion, coma, liver damage, kidney damage.

Effects Of Overexposure - Ingestion: Harmful if ingested. May produce symptoms similar to those from inhalation. Can cause nausea, abdominal cramps.

Effects Of Overexposure - Chronic Hazards: Prolonged contact may cause liver damage, kidney damage, chronic damage to intestines, central nervous system damage, dizziness, weakness, headache, nausea.
Repeated, prolonged contact may cause intestinal disturbances. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

**Primary Route(s) Of Entry:** Skin Contact, Skin Absorption, Ingestion, Eye Contact

**Medical Conditions Prone to Aggravation by Exposure:** If sensitized to isocyanates or other chemicals, do not use. See a physician if a medical condition exists.

### Section 4 - First Aid Measures

**First Aid - Eye Contact:** If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

**First Aid - Skin Contact:** In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

**First Aid - Inhalation:** If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

**First Aid - Ingestion:** If swallowed do not induce vomiting. Seek immediate medical attention.

### Section 5 - Fire Fighting Measures

**Flash Point, F:** 127°F (53°C)  
**Lower Explosive Limit, %:** 0.8  
**Upper Explosive Limit, %:** 10.4  
(Setaflash)

**Extinguishing Media:** Carbon Dioxide, Dry Chemical, Foam

**Unusual Fire And Explosion Hazards:** No Information.

**Special Firefighting Procedures:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Cool tightly closed containers exposed to fire with water.

### Section 6 - Accidental Release Measures

**Steps To Be Taken If Material Is Released Or Spilled:** No Information.

### Section 7 - Handling And Storage

**Handling:** Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Do not breathe vapors. Wash thoroughly after handling. If pouring or transferring materials, ground all containers and tools. Do not weld, heat, cut or drill on full or empty containers. Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

**Storage:** No Information.

### Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).
**Respiratory Protection:** Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NISOH approved supplied air respirator. Follow all current OSHA requirements for respirator use.

**Skin Protection:** Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

**Eye Protection:** Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

**Other protective equipment:** Eye wash and safety showers should be readily available.

**Hygienic Practices:** Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

---

**Section 9 - Physical And Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Range</td>
<td>262 F (128 C) - 262F (128C)</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Odor</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless, Mobil Liquid</td>
</tr>
<tr>
<td>Solubility in H2O</td>
<td>Reacts</td>
</tr>
<tr>
<td>Freeze Point</td>
<td>N/D</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/D</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Heavier than Air</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>N/D</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Slower Than Ether</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.12</td>
</tr>
<tr>
<td>PH</td>
<td>N/D</td>
</tr>
</tbody>
</table>

(See section 16 for abbreviation legend)

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**Section 10 - Stability And Reactivity**

**Conditions To Avoid:** No Information.

**Incompatibility:** Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

**Hazardous Polymerization:** Will not occur under normal conditions.

**Stability:** This product is stable under normal storage conditions.

---

**Section 11 - Toxicological Information**

**Product LD50:** N/D  
**Product LC50:** N/D

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE</td>
<td>28182-81-2</td>
<td>&gt;5000 MG/KG, ORAL, RAT</td>
<td>3124 MG/KG</td>
</tr>
<tr>
<td>BUTYL ACETATE</td>
<td>123-86-4</td>
<td>7.4 G/KG RABBIT ORAL</td>
<td>&gt;1800 PPM/6H INHALATION</td>
</tr>
<tr>
<td>AROMATIC HYDROCARBON</td>
<td>64742-95-6</td>
<td>4700 MG/KG, ORAL, RAT</td>
<td>3670 PPM/8 HOURS, RAT, INHALATION</td>
</tr>
<tr>
<td>1,2,4 TRIMETHYLbensene</td>
<td>95-63-6</td>
<td>5 GM/KG, ORAL, RAT</td>
<td>18 GM/M3/4HOURS</td>
</tr>
<tr>
<td>HEXAMETHYLENE DIISOCYANTE</td>
<td>822-08-0</td>
<td>710 MG/KG, ORAL RAT</td>
<td>23 PPM / 4 HRS</td>
</tr>
</tbody>
</table>
**Section 12 - Ecological Information**

Ecological Information: No data

**Section 13 - Disposal Information**

Disposal Information: Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

**Section 14 - Transportation Information**

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name:</th>
<th>Paint</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Technical Name:</td>
<td>N/A</td>
</tr>
<tr>
<td>DOT Hazard Class:</td>
<td>3</td>
</tr>
<tr>
<td>DOT UN/NA Number:</td>
<td>1263</td>
</tr>
</tbody>
</table>

**Section 15 - Regulatory Information**

**CERCLA - SARA HAZARD CATEGORY**

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, FIRE HAZARD

**SARA SECTION 313**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

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<td>95-63-6</td>
</tr>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE</td>
<td>822-06-0</td>
</tr>
</tbody>
</table>

**TOXIC SUBSTANCES CONTROL ACT**

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARA-XYLENE</td>
<td>000106-42-3</td>
</tr>
</tbody>
</table>

**U.S. STATE REGULATIONS AS follows:**

**NEW JERSEY RIGHT-TO-KNOW**

The following materials are non-hazardous, but are among the top five components in this product.
PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

CALIFORNIA PROPOSITION 65

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

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<td>ETHYL BENZENE</td>
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Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

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<td>TOLUENE</td>
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INTERNATIONAL REGULATIONS AS FOLLOWS:

CANADIAN WHMIS

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: B3 D2A D2B

Section 16 - Other Information

HMIS Ratings
Health: 2  Flammability: 3  Reactivity: 1  Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED): See Part A MSDS

REASON FOR REVISION: Changed to 16 Section Format.

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

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