

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	<ul style="list-style-type: none"> ▪ 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-lead safety oranges, reds and yellows may require multiple coats for adequate hiding. Check color suitability before use.
Finish	Gloss
Primers	Refer to <i>Substrates & Surface Preparation</i>
Topcoats	Carbothane® 130 Clear Coat when required
Dry Film Thickness	2.0-3.0 mils (50-75 µ) May be applied up to 4 mils (100 µ) as needed
Solids Content	By Volume: 70% ± 2%
Theoretical Coverage Rate	1123 mil ft ² (27.5 m ² /l at 25 µ) Allow for loss in mixing and application
VOC Values	As supplied: 2.2 lbs./gal (264 g/l) Thinned: 25 oz/gal w/ #25: 3.06 lbs./gal (366 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 Carboline 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 Carboline 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

Test Method	System	Results
ASTM D4541 Adhesion	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	2562 psi (Pneumatic)
ASTM D3359 Adhesion	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	5A
ASTM D4060 Abrasion	Blasted Steel 1 ct. 134 HG	70 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load
ASTM G26 Weatherometer	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	No blistering, rusting or cracking; gloss retention of 85%; color change of 1 McAdam unit after 2000 hours.
ASTM G53 ASTM D4587 Accelerated Weathering	Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG	No rusting, blistering or loss of adhesion; less than 5% gloss loss after 3000 hours
ASTM B117 Salt Fog	Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG	No rusting, blistering, loss of bond or any measurable creepage from the scribe after 3000 hours.
ASTM D3363 Hardness	Blasted Steel 1 ct. Epoxy 1 ct. 134 HG	H
ASTM D2794 Impact Resistance	Blasted Steel 1 ct. 134 HG	155 inch-pounds; no visible cracking. Gardner Impact Tester
ASTM D870 Water/Saltwater Resistance	Blasted Steel 1 ct. Org. Zinc 1 ct. Epoxy 1 ct. 134 HG	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.

Carbothane® 134 HG

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.

Carboline Thinner #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

Condition	Material	Surface	Ambient	Humidity
Normal	60°-85°F (16°-29°C)	65°-85°F (18°-29°C)	65°-85°F (18°-29°C)	40-60%
Minimum	50°F (10°C)	35°F (2°C)	35°F (2°C)	10%
Maximum	100°F (38°C)	120°F (49°C)	95°F (35°C)	85%

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

Surface Temp. & 50% Relative Humidity	Dry to Handle	Minimum Dry to Recoat*	Final Cure
35°F (2°C)	36 Hours	36 Hours	14 Days
50°F (10°C)	16 Hours	16 Hours	10 Days
75°F (24°C)	8 Hours	8 Hours	7 Days
90°F (32°C)	4 Hours	4 Hours	5 Days

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 suitable for recoating without extensive surface preparation such as abrading.

Packaging, Handling & Storage

Shipping Weight (Approximate)

1 Gallon Kit
13 lbs (5kg)

5 Gallon Kit
57 lbs (26 kg)

Flash Point (Setaflash)

Carbothane 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.**


Coatings - Linings - Fireproofing
2150 Schuetz Rd., St. Louis, MO 63146
PH: 314-644-1000 Toll-Free: 800-848-4645
www.carboline.com

An  Company

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.



Material Safety Data Sheet

**CHEMTREC Transportation
Emergency Phone: 800-424-
9300**

**Pittsburgh Poison Control
Center
Health Emergency No.: 412-
681-6669**

•NOTE: The CHEMTREC Transportation
•Emergency Phone is to be used only in the
•event of chemical emergencies involving a
•spill, leak, fire, exposure or accident involving
•chemicals

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

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
COBALT COMPOUND	1345-16-0	40.0	0.02 MGM3	NE	.05 MG/M3	NE
NICKEL ANTIMONY COMPOUND	8007-18-9	35.0	0.2 MGM3	NE	0.1 MGM3	0.5MG/M3
MICROCRYSTALLINE SILICA	014808-60-7	30.0	0.05 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E
BUTYL ACETATE	123-86-4	15.0	150 PPM	200 PPM	710 MGM3	NE
TOLUENE	108-88-3	10.0	50 PPM	N/E	150 PPM	NE
META-XYLENE	000108-38-3	5.0	434 Mg/M3	651 Mg/M3	434 Mg/M3	N/E
ALIPHATIC DIOL	TRADE SECRET	5.0	25 PPM	N/E	25 PPM	N/E
CHROME ANTIMONY COMPOUND	68186-90-3	5.0	N/E	N/E	N/E	N/E
ETHYL BENZENE	100-41-4	5.0	100 PPM	125 PPM	435 MGM3	N/E
PARA-XYLENE	000106-42-3	5.0	434 Mg/M3	651 Mg/M3	434 Mg/M3	N/E
PM ACETATE	108-65-6	5.0	100PPM	NE	150PPM	NE

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

reaction.

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)
(Setaflash)

Lower Explosive Limit, %: 0.8
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.

Special Firefighting Procedures: Flammable. Cool fire-exposed containers using water spray.

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

and CERCLA 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. 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/NIOSH 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

Boiling Range:	232F (111C) - 284 F (140 C)	Vapor Density:	Heavier than Air
Odor:	Solvent	Odor Threshold:	N/D
Appearance:	Viscous Liquid, Various Colors	Evaporation Rate:	Slower Than Ether
Solubility in H2O:	N/D		
Freeze Point:	N/D	Specific Gravity:	app. 1.63
Vapor Pressure:	N/D	PH:	N/D
Physical State:	Liquid		

(See section 16 for abbreviation legend)

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

Product LD50: N/D

Product LC50: N/D

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

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

DOT Proper Shipping Name: Paint

DOT Technical Name: N/A

DOT Hazard Class: 3

DOT UN/NA Number: 1263

Packing Group: II

Hazard Subclass: N/A

Resp. Guide 128

Page:

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:

<u>Chemical Name</u>	<u>CAS Number</u>
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:

<u>Chemical Name</u>	<u>CAS Number</u>
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.

<u>Chemical Name</u>	<u>CAS Number</u>
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%.

<u>Chemical Name</u>	<u>CAS Number</u>
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:

<u>Chemical Name</u>	<u>CAS Number</u>
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

TOLUENE

CAS Number

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

Section 16 - Other Information

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



Material Safety Data Sheet

CHEMTREC Transportation
Emergency Phone: 800-424-9300

Pittsburgh Poison Control Center
Health Emergency No.: 412-681-6669

•NOTE: The CHEMTREC Transportation
•Emergency Phone is to be used only in the
•event of chemical emergencies involving a
•spill, leak, fire, exposure or accident involving
•chemicals

Section 1 - Chemical Product / Company Information

Product Name: URETHANE CONVERTER 811
Identification Number: PLMSDS 0856B1NL
Product Use/Class: Catalyst for Polyurethane Products -
FOR INDUSTRIAL USE ONLY
Revision Date: 08/01/2005
Supersedes : 05/17/2005
Preparer: Regulatory, Department
Manufacturer: Carboline Company
350 Hanley Industrial Ct.
St. Louis, MO 63144

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
HEXAMETHYLENE DIISOCYANATE	28182-81-2	90.0	N/E	N/E	N/E	N/E
BUTYL ACETATE	123-86-4	5.0	150 PPM	200 PPM	710 MGM3	NE
AROMATIC HYDROCARBON	64742-95-6	5.0	N/E	N/E	N/E	N/E
1,2,4 TRIMETHYLBENZENE	95-63-6	5.0	25 PPM	N/E	125 MGM3	N/E
HEXAMETHYLENE DIISOCYANATE	822-06-0	0.3	N/E	N/E	N/E	N/E

Section 3 - Hazards Identification

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: 127F (53C)
(Setaflash)

Lower Explosive Limit, %: 0.8
Upper Explosive Limit, %: 10.4

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/NIOSH 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

Boiling Range:	262 F (128 C) - 262F (128C)	Vapor Density:	Heavier than Air
Odor:	Slight Odor	Odor Threshold:	N/D
Appearance:	Colorless, Mobil Liquid	Evaporation Rate:	Slower Than Ether
Solubility in H2O:	Reacts		
Freeze Point:	N/D	Specific Gravity:	1.12
Vapor Pressure:	N/D	PH:	N/D
Physical State:	Liquid		

(See section 16 for abbreviation legend)

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

Chemical Name	CAS Number	LD50	LC50
HEXAMETHYLENE DIISOCYANATE	28182-81-2	>5000 MG/KG, ORAL, RAT	3124 MG/KG
BUTYL ACETATE	123-86-4	7.4 G/KG RABBIT ORAL	>1800 PPM/6H INHALATION
AROMATIC HYDROCARBON	64742-95-6	4700 MG/KG, ORAL, RAT	3670 PPM/8 HOURS, RAT, INHALATION
1,2,4 TRIMETHYLBENZENE	95-63-6	5 GM/KG, ORAL, RAT	18 GM/M3/4HOURS
HEXAMETHYLENE DIISOCYANTE	822-06-0	710 MG/KG, ORAL RAT	23 PPM / 4 HRS

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

DOT Proper Shipping Name: Paint
DOT Technical Name: N/A
DOT Hazard Class: 3

Packing Group: III
Hazard Subclass: N/A
Resp. Guide 128
Page:

DOT UN/NA Number: 1263

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:

Chemical Name	CAS Number
1,2,4 TRIMETHYLBENZENE	95-63-6
HEXAMETHYLENE DIISOCYANTE	822-06-0

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.

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:

<u>Chemical Name</u>	<u>CAS Number</u>
ETHYL BENZENE	100-41-4

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

<u>Chemical Name</u>	<u>CAS Number</u>
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: 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

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