



## Material Safety Data Sheet

Copyright, 2011, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M™ Mar-Hyde® 4.4 Ultimate® 2K Urethane Primer Catalyst, 5555, 5556, 5557

**MANUFACTURER:** 3M

**DIVISION:** Automotive Aftermarket

**ADDRESS:** 3M Center, St. Paul, MN 55144-1000

**EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)**

**Issue Date:** 11/23/11

**Supersedes Date:** 02/12/10

**Document Group:** 24-9697-4

#### Product Use:

Intended Use: Automotive

Specific Use: Paint Hardener

### SECTION 2: INGREDIENTS

<b>Ingredient</b>	<b>C.A.S. No.</b>	<b>% by Wt</b>
N-BUTYL ACETATE	123-86-4	30 - 60
HEXAMETHYLENE DIISOCYANATE POLYMER	28182-81-2	15 - 40
TOLUENE	108-88-3	7 - 13
1-METHOXY-2-PROPYL ACETATE	108-65-6	7 - 13
HEXAMETHYLENE DIISOCYANATE	822-06-0	< 0.152
BENZENE	71-43-2	< 0.1
ETHYLBENZENE	100-41-4	< 0.1

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** Clear liquid with aromatic odor

**General Physical Form:** Liquid

**Immediate health, physical, and environmental hazards:** Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. May cause allergic skin reaction. May cause allergic respiratory reaction. May cause target organ effects. Contains a chemical

or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which can cause cancer.

### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:**

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Inhalation:**

May be harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

May be absorbed following inhalation and cause target organ effects.

**Ingestion:**

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

May be absorbed following ingestion and cause target organ effects.

**Target Organ Effects:**

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

Ingredient

C.A.S. No.

Class Description

Regulation

BENZENE	71-43-2	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
BENZENE	71-43-2	Known human carcinogen	National Toxicology Program Carcinogens
BENZENE	71-43-2	Cancer hazard	OSHA Carcinogens
ETHYLBENZENE	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

## SECTION 4: FIRST AID MEASURES

### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>No Data Available</i>
Flash Point	39 °F [ <i>Test Method:</i> Closed Cup]
Flammable Limits(LEL)	1.3 %
Flammable Limits(UEL)	<i>No Data Available</i>

### 5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

**Note:** See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with

good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

## 6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a metal container approved for transportation by appropriate authorities. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Dispose of collected material as soon as possible.

## Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. No smoking while handling this material. Avoid skin contact. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Do not breathe vapors. Avoid contact with oxidizing agents. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

### 7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area. Keep container tightly closed. Store away from oxidizing agents. Store in a cool, dry place.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Use in an enclosed process area is recommended. Do not use in a confined area or areas with little or no air movement.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Indirect Vented Goggles

#### 8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Polyvinyl Alcohol (PVA)

**8.2.3 Respiratory Protection**

Do not breathe vapors.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges

Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

**8.2.4 Prevention of Swallowing**

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

**8.3 EXPOSURE GUIDELINES**

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
1-METHOXY-2-PROPYL ACETATE	AIHA	TWA	50 ppm	
1-METHOXY-2-PROPYL ACETATE	CMRG	TWA	10 mg/m3	
1-METHOXY-2-PROPYL ACETATE	CMRG	STEL	90 ppm	
BENZENE	ACGIH	TWA	0.5 ppm	Skin Notation*
BENZENE	ACGIH	STEL	2.5 ppm	Skin Notation*
BENZENE	OSHA	TWA	1 ppm	29 CFR 1910.1028
BENZENE	OSHA	STEL	5 ppm	29 CFR 1910.1028
BENZENE	OSHA	TWA	10 ppm	
BENZENE	OSHA	CEIL	25 ppm	
ETHYLBENZENE	ACGIH	TWA	20 ppm	
ETHYLBENZENE	CMRG	TWA	25 ppm	
ETHYLBENZENE	CMRG	STEL	75 ppm	
ETHYLBENZENE	OSHA	TWA	435 mg/m3	
HEXAMETHYLENE DIISOCYANATE	ACGIH	TWA	0.005 ppm	
HEXAMETHYLENE DIISOCYANATE	CMRG	CEIL	0.02 ppm	
HEXAMETHYLENE DIISOCYANATE	CMRG	TWA	0.5 mg/m3	
POLYMER				
HEXAMETHYLENE DIISOCYANATE	CMRG	STEL	1 mg/m3	
POLYMER				
N-BUTYL ACETATE	ACGIH	TWA	150 ppm	
N-BUTYL ACETATE	ACGIH	STEL	200 ppm	
N-BUTYL ACETATE	OSHA	TWA	710 mg/m3	
TOLUENE	ACGIH	TWA	20 ppm	
TOLUENE	CMRG	STEL	75 ppm	Skin Notation*
TOLUENE	OSHA	TWA	200 ppm	
TOLUENE	OSHA	CEIL	300 ppm	

\* Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

**SOURCE OF EXPOSURE LIMIT DATA:**

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Odor, Color, Grade:**

Clear liquid with aromatic odor

<b>General Physical Form:</b>	Liquid
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	39 °F [ <i>Test Method:</i> Closed Cup]
<b>Flammable Limits(LEL)</b>	1.3 %
<b>Flammable Limits(UEL)</b>	<i>No Data Available</i>
<b>Boiling Point</b>	232 °F
<b>Density</b>	0.966 g/ml
<b>Vapor Density</b>	<i>No Data Available</i>
<b>Vapor Density</b>	<i>No Data Available</i>
<b>Vapor Pressure</b>	1 kPa [ <i>@ 0 °C</i> ]
<b>Vapor Pressure</b>	<i>No Data Available</i>
<b>Specific Gravity</b>	0.966 [ <i>Ref Std:</i> WATER=1]
<b>pH</b>	<i>No Data Available</i>
<b>Melting point</b>	<i>No Data Available</i>
<b>Solubility In Water</b>	<i>No Data Available</i>
<b>Solubility in Water</b>	Negligible
<b>Evaporation rate</b>	<i>No Data Available</i>
<b>Hazardous Air Pollutants</b>	11.7 % weight [ <i>Test Method:</i> Calculated]
<b>Volatile Organic Compounds</b>	603 g/l [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>Volatile Organic Compounds</b>	62.3 % weight [ <i>Test Method:</i> calculated per CARB title 2]
<b>Kow - Oct/Water partition coef</b>	<i>Not Applicable</i>
<b>Percent volatile</b>	65.26 % volume
<b>Percent volatile</b>	62.1 % weight
<b>VOC Less H2O &amp; Exempt Solvents</b>	603 g/l [ <i>Test Method:</i> calculated SCAQMD rule 443.1]
<b>Viscosity</b>	<i>No Data Available</i>

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable.

### Materials and Conditions to Avoid:

#### 10.1 Conditions to avoid

Sparks and/or flames  
Heat

#### 10.2 Materials to avoid

Strong oxidizing agents  
Alkali and alkaline earth metals  
Strong acids

**Hazardous Polymerization:** Hazardous polymerization will not occur.

### Hazardous Decomposition or By-Products

#### Substance

Hydrocarbons  
Carbon monoxide  
Carbon dioxide  
Hydrogen Cyanide  
Oxides of Nitrogen

#### Condition

During Combustion  
During Combustion  
During Combustion  
During Combustion  
During Combustion

## SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## SECTION 12: ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

Not determined.

### CHEMICAL FATE INFORMATION

Not determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

**EPA Hazardous Waste Number (RCRA):** D001 (Ignitable), D018 (Benzene)

Since regulations vary, consult applicable regulations or authorities before disposal.

## SECTION 14: TRANSPORT INFORMATION

### ID Number(s):

41-3701-1629-9, 70-0080-0623-4, 70-0080-0624-2, 70-0080-0625-9

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS

Contact 3M for more information.

### 311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
TOLUENE	108-88-3	7 - 13

### STATE REGULATIONS

Contact 3M for more information.

### CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
BENZENE	71-43-2	*Male reproductive toxin

BENZENE	71-43-2	**Carcinogen
BENZENE	71-43-2	*Developmental Toxin
ETHYLBENZENE	100-41-4	**Carcinogen
TOLUENE	108-88-3	*Female reproductive toxin
TOLUENE	108-88-3	*Developmental Toxin

\* WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.

\*\* WARNING: contains a chemical which can cause cancer.

## CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. The components of this product are listed on the Canadian Domestic Substances List.

Contact 3M for more information.

## INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16: OTHER INFORMATION

### NFPA Hazard Classification

Health: 2 Flammability: 3 Reactivity: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

### Revision Changes:

Section 1: Product name was modified.

Section 1: Product use information was modified.

Section 16: Disclaimer (second paragraph) was modified.

Section 3: Potential effects from inhalation information was modified.

Section 10: Hazardous decomposition or by-products table was modified.

Section 8: Eye/face protection information was modified.

Section 8: Skin protection - recommended gloves information was modified.

Section 8: Respiratory protection - recommended respirators information was modified.

Section 3: Immediate other hazard(s) was modified.

Section 14: Transportation legal text was modified.

Section 3: Other health effects information was modified.

Page Heading: Product name was modified.

Section 15: Inventories information was modified.

Section 9: Density information was modified.

Section 9: Vapor density value was modified.

Section 9: Vapor pressure value was modified.

Section 9: Boiling point information was modified.

Section 5: Flammable limits (UE) information was modified.

Section 5: Flammable limits (LEL) information was modified.

Section 5: Autoignition temperature information was modified.



Section 9: Vapor density text was modified.  
Section 9: Vapor pressure text was modified.  
Section 5: Flash point information was modified.  
Section 9: Property description for optional properties was modified.  
Section 9: Specific gravity information was modified.  
Section 9: pH information was modified.  
Section 9: Melting point information was modified.  
Section 9: Solubility in water value was modified.  
Section 9: Solubility in water text was modified.  
Section 8: Respiratory protection - recommended respirators guide was modified.  
Section 9: Flash point information was modified.  
Section 9: Flammable limits (LEL) information was modified.  
Section 9: Flammable limits (UEL) information was modified.  
Section 9: Autoignition temperature information was modified.  
Section 14: ID Number(s) Template 1 was modified.  
Section 2: Ingredient table was modified.  
Section 15: EPCRA 313 information was modified.  
Section 8: Exposure guidelines ingredient information was modified.  
Section 3: Carcinogenicity table was modified.  
Section 15: California proposition 65 ingredient information was modified.  
Section 10: Materials to avoid physical property was modified.  
Section 10: Conditions to avoid physical property was modified.  
Section 6: 6.2. Environmental precautions heading was added.  
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was added.  
Section 16: Web address was added.  
Section 1: Address was added.  
Copyright was added.  
Company logo was added.  
Section 6: Clean-up methods heading was added.  
Telephone header was added.  
Company Telephone was added.  
Section 1: Emergency phone information was added.  
Section 1: Emergency phone information was deleted.  
Company Logo was deleted.  
Copyright was deleted.  
Section 16: Web address heading was deleted.  
Section 6: Release measures heading was deleted.  
Section 1: Address line 1 was deleted.  
Section 1: Address line 2 was deleted.

**DISCLAIMER:** The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M

**3M USA MSDSs are available at [www.3M.com](http://www.3M.com)**