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Effective Date: 12/17/04

Material Safety Data Sheet

MSDS No: 6137

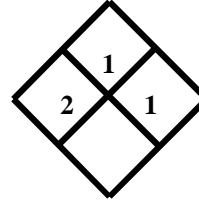
1. PRODUCT IDENTIFICATION

Trade Name: RenPIM 6451 Isocyanate

Chemical Family: Isocyanate

Synonyms:
RP 6451 Resin

Intended Use or Product Type: Polyurethane resin



NFPA RATING

Health:	2*
Flammability:	1
Reactivity:	1
Personal Protection:	

HMIS RATING

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	101-68-8 Common Name:	Benzene, 1,1'-Methylenebis[4-Isocyanato-MDI	0.005 ppm	NE	0.02 ppm	NE	NE	NR	NR	NR
*	9016-87-9 Common Name:	Isocyanic Acid, Polymethylenepolyphenylene Ester Polymethylene polyphenyl isocyanate	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

3. HAZARDS IDENTIFICATION

Emergency Overview: Can cause skin irritation, eye irritation, allergic respiratory reaction, and allergic skin reaction. Can be harmful if inhaled.

Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

4. FIRST AID MEASURES

Ingestion: If conscious, give 2 - 4 glasses of water to drink. Do not induce vomiting. Call a physician.

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Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Inhalation: Remove to fresh air. Call a physician.

Eyes: Immediately flush eyes with water for at least 15 minutes. Call a physician.

Overexposure Effects: Contact with liquid causes eye and skin irritation. If inhaled causes breathlessness, chest discomfort, and reduced pulmonary function. May cause allergic skin and respiratory reactions in some individuals, leading to asthma type spasms of the bronchial tubes and difficulty in breathing.

Medical Conditions Aggravated by Exposure: Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases, eye conditions or recurrent skin eczema or sensitization should be excluded from working with isocyanates.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

5. FIRE FIGHTING MEASURES

Flash Point:	> 392°F (> 200 °C)
Flash Point Method Used:	PMCC
Flammable Limits in Air (Lower - % by volume):	Not established
Flammable Limits in Air (Upper - % by volume):	Not established

Fire Fighting Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

Fire Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic. Avoid water contamination in closed containers or confined spaces. Carbon dioxide evolved.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Absorb with absorbent material and place in open top container. Under good ventilation, decontaminate absorbant and spill area with a mixture of 90% water, 8% ammonia and 2% detergent (exothermic reaction). Leave ventilated 24 hours before disposal. Avoid contact.

7. HANDLING AND STORAGE

Signal Word: Warning!

Precautions: Can cause skin irritation, eye irritation, allergic respiratory reaction, and allergic skin reaction. Can be harmful if inhaled. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Impervious synthetic gloves.

Respiratory Protection: If a person is concerned with exposure to isocyanates, an organic respirator can provide protection at less than the TLV. It is not a requirement at an exposure level less than the TLV. For exposures in excess of the TLV, an air supplied respirator would be required. Conditions that may create exposures above the TLV are spray applications, the material being strongly heated in excess of 125F before application, or the use of material in poorly ventilated areas.

Eye Protection: Wear splash-proof chemical goggles.

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Brown
Odor:	Slight Aromatic
Physical State:	Liquid
Solubility in Water:	Reacts with water
Vapor Pressure:	0.001 mm Hg at 20°C (68 °F)
Specific Gravity:	1.1 - 1.2 at 25°C (77 °F) (water = 1)
Boiling Point:	Not Determined
Evaporation Rate:	Not Determined
Vapor Density:	> 1 (Air = 1)
pH:	Not Determined

Percent Volatile: Negligible.

10. STABILITY AND REACTIVITY

Conditions to Avoid: Contamination with moisture and other products that react with isocyanates. Avoid prolonged heating over 160f or storing below 75f. Avoid water contamination.

Stability: Stable.

Incompatibility: Water, alcohols, strong oxidizing agents, strong bases, metal-organic compounds.

Hazardous Decomposition Products: Combustion may form toxic materials. Carbon monoxide, carbon dioxide, benzene, toluene, oxides of nitrogen, hydrogen cyanide.

Hazardous Polymerization: May occur.

11. TOXICOLOGICAL INFORMATION

Sensitization: May cause allergic skin reaction and respiratory sensitivity in some people.

Skin Irritation: Irritant.

Eye Irritation: Irritant.

Effective Date: 12/17/04

12. ECOLOGICAL INFORMATION**13. DISPOSAL CONSIDERATIONS**

Waste Disposal Method: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

14. TRANSPORT INFORMATION**DOT: Non-Bulk**

Proper Shipping Name: Resin compounds, N.O.I.

Department of Transportation: Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.

15. REGULATORY INFORMATION**US Federal Regulations:**

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

Resource Conservation and Recovery Act (RCRA): Not specifically listed as hazardous waste under RCRA (40 CFR 261). However, it is strongly recommended that compound be treated as a hazardous waste and disposed of accordingly.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product contains a toxic chemical(s) for routine annual toxic chemical release reporting under section 313 (40 CFR 372). This information must be included in all MSDS's copied or distributed for this material.

Chemical Name: Isocyanic Acid, Polymethylenepolyphenylene Ester

Common Name: Polymethylene polyphenyl isocyanate

Percent in Composition: 55 % by wt

Comment:

Chemical Name: Benzene, 1,1'-Methylenebis[4-Isocyanato-

Common Name: MDI

Percent in Composition: 45 % by wt

Comment:

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

Effective Date: 12/17/04

State Regulations:

California Proposition 65: This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

Pennsylvania Right-to-Know: The following is required composition information:

Chemical Name: Isocyanic Acid, Polymethylenepolyphenylene Ester

Common Name: Polymethylene polyphenyl isocyanate

CAS Number: 9016-87-9

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Benzene, 1,1'-Methylenebis[4-Isocyanato-

Common Name: MDI

CAS Number: 101-68-8

Comment: Environmental Hazardous Substance

16. OTHER INFORMATION

MSDS No:	6137
Approved By:	Dianne Blessing
Title:	EH&S Specialist

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Effective Date: 3/21/06

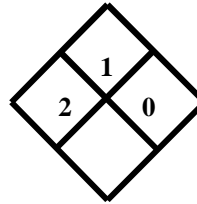
Material Safety Data Sheet

MSDS No: 6139

1. PRODUCT IDENTIFICATION

Trade Name: RenPIM 6451 Polyol Black

Chemical Family: Polyol



NFPA RATING

Health:	2
Flammability:	1
Reactivity:	0
Personal Protection:	

HMIS RATING

Synonyms:

RP 6451 Hardener Black

Intended Use or Product Type: Polyurethane hardener

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	102-60-3	2-Propanol, 1,1',1",1'''-(1,2-ethanediyldinitrilo)tetrakis-Amine based tetrol	NE	NE	NE	NE	NE	NR	NR	NR
*	1333-86-4	Carbon Black Common Name: Carbon black	3.5 mg/m3	NE	3.5 mg/m3	NE	NE	Yes	NR	NR
*	25190-06-1	Poly(Oxy-1,4-Butanediyl), alpha-hydro-omega-hydroxy-PTMEG	NE	NE	NE	NE	NE	NR	NR	NR
*	9082-00-2	Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol Common Name: Polyether triol	NE	NE	NE	NE	NE	NR	NR	NR

* = OSHA Hazardous Ingredient

3. HAZARDS IDENTIFICATION

Emergency Overview: Harmful if swallowed. Causes skin and eye irritation.

Effective Date: 3/21/06

Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

Carcinogenicity (NTP, IARC, OSHA): This product contains carbon black which is classified as a carcinogen by IARC (2B, possibly carcinogenic to humans) and NIOSH.

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes. Seek immediate medical attention.

Inhalation: Remove to fresh air. Seek immediate medical attention.

Eyes: Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

Overexposure Effects: Harmful if swallowed. Causes skin and eye irritation.

Medical Conditions Aggravated by Exposure: Skin and eye conditions.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

5. FIRE FIGHTING MEASURES

Flash Point:	> 260°F (> 127 °C)
Flash Point Method Used:	Estimated
Flammable Limits in Air (Lower - % by volume):	Not established
Flammable Limits in Air (Upper - % by volume):	Not established

Fire Fighting Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

Fire Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

7. HANDLING AND STORAGE

Signal Word: Warning!

Effective Date: 3/21/06

Precautions: Can cause skin and eye irritation. Can be harmful if swallowed. Avoid contact with eyes, skin, and clothing. Avoid tasting or swallowing. Wash thoroughly after handling.

Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Wear impermeable gloves.

Respiratory Protection: Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

Eye Protection: Wear splash-proof chemical goggles.

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Black
Physical State:	Liquid
Solubility in Water:	Miscible
Specific Gravity:	1.04 (water = 1)
Boiling Point:	Not Determined
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
pH:	Not Determined

Percent Volatile: Negligible.

10. STABILITY AND REACTIVITY

Conditions to Avoid: Excessive heat for prolonged periods of time.

Stability: Stable.

Incompatibility: Strong oxidizers, acids and bases.

Hazardous Decomposition Products: Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral Effects (LD50): Component(s) are toxic, 50 - 500 mg/kg (rat).

Carcinogenicity: This product contains carbon black which is classified as a carcinogen by IARC (2B, possibly carcinogenic to humans) and NIOSH.

Skin Irritation: Irritant.

Effective Date: 3/21/06

Eye Irritation: Irritant.**12. ECOLOGICAL INFORMATION****13. DISPOSAL CONSIDERATIONS****Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.**14. TRANSPORT INFORMATION****DOT: Non-Bulk****Proper Shipping Name:** Resin compounds, N.O.I.**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.**15. REGULATORY INFORMATION****US Federal Regulations:****Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).**TSCA Section 8(b) - Inventory Status:** All chemical components of this product are in compliance with TSCA inventory requirements.**TSCA Section 12(b) - Export Notification:** This product contains the following chemical(s) that are subject to a Section 12(b) export notification:

Chemical Name: C.I. Solvent Black 7

Common Name: Nigroscein

CAS Number: 8005-02-5

State Regulations:**California Proposition 65:** This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.**Pennsylvania Right-to-Know:** The following is required composition information:

Effective Date: 3/21/06

Chemical Name: 2-Propanol, 1,1',1'',1'''-(1,2-ethanediyldinitrilo)tetrakis-
Common Name: Amine based tetrol
CAS Number: 102-60-3
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Oxirane, Methyl-, Polymer with Oxirane, Ether with 2-Ethyl-2-(Hydroxymethyl)-1,3-Propanediol (3:1)
Common Name: Polyether polyol
CAS Number: 52624-57-4
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol
Common Name: Polyether triol
CAS Number: 9082-00-2
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Poly(Oxy-1,4-Butanediyl), alpha-hydro-omega-hydroxy-
Common Name: PTMEG
CAS Number: 25190-06-1
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Zeolites KA
Common Name: Molecular sieves
CAS Number: 68989-21-9
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Castor Oil
Common Name: Castor oil
CAS Number: 8001-79-4
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Carbon Black
Common Name: Carbon black
CAS Number: 1333-86-4
Comment: Hazardous Substance

16. OTHER INFORMATION

MSDS No: 6139
Approved By: Dianne Blessing
Title: EH&S Specialist

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