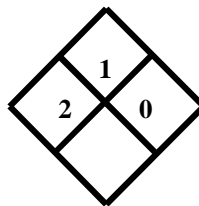


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Asia Pacific Emergency Phone: (65) 6336-6011

**Effective Date:** 5/29/08**Material Safety Data Sheet**

MSDS No: 6109

**1. PRODUCT IDENTIFICATION****Trade Name:** Ren 6411**Chemical Family:** Amine

NFPA RATING

<b>Health:</b>	<b>2*</b>
<b>Flammability:</b>	<b>1</b>
<b>Reactivity:</b>	<b>0</b>
<b>Personal Protection:</b>	

HMIS RATING

**Synonyms:**

RP 6411 Hardener

**Intended Use or Product Type:** Amine based polyol**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				
*	19900-65-3	Benzenamine, 4,4'-methylenebis[2-ethyl-	NE	NE	NE	NE	TWA 0.08 mg/m3	NR	NR	NR
	Common Name: Concentration	Diethyl methylene dianiline (Diethyl MDA) 10.00 - 30.00 % by wt								
*	67762-90-7	Siloxanes and silicones, di-me, reaction products with silica	NE	NE	NE	NE	NE	NR	NR	NR
	Common Name: Concentration	Amorphous hydrophobic fumed silica 1.00 - 5.00 % by wt								
*	7429-90-5	Aluminum	2 mg/m3	NE	5 mg/m3	NE	NE	NR	NR	NR
	Concentration	30.00 - 60.00 % by wt								
*	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	5 mg/m3	NE	5 mg/m3	NE	NE	NR	NR	NR
	Common Name: Concentration	Dibutyl phthalate 10.00 - 30.00 % by wt								

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

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Causes eye, skin, and respiratory irritations.

**CAUTION !**

MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

A POSSIBLE ANIMAL CARCINOGEN AND SHOULD BE TREATED WITH CAUTION

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

**Chronic:** Prolonged or repeated exposure can cause liver and kidney damage, central nervous system effects and blood abnormalities. Repeated overexposure may cause delayed and serious injury. May cause birth defects and reproductive disorders. Substance can cause allergic reaction.

### 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:** Causes eye, skin, and respiratory irritations. May cause allergic skin reaction. May have effect on the liver.

**Medical Conditions Aggravated by Exposure:** Skin, eye and pulmonary conditions.

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

### 5. FIRE FIGHTING MEASURES

<b>Flash Point:</b>	> 200°F (> 93 °C)
<b>Flash Point Method Used:</b>	Estimated
<b>Flammable Limits in Air (Lower - % by volume):</b>	Not established
<b>Flammable Limits in Air (Upper - % by volume):</b>	Not established

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

**Fire Fighting Equipment:** Use self-contained breathing apparatus.

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**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!

**Precautions:** Causes eye, skin, and respiratory irritations. May cause allergic skin reaction. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Notice! Overexposure may have effects on liver.

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

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Personal Protective Equipment:** Wear appropriate protective equipment to avoid personal contact and exposure.

**Exposure Guidelines:** Treat this product as if regulated under OSHA standard: MDA, 29 CFR 1910.1050. This standard has many provisions which are beyond the scope of this MSDS to include in its entirety.

These provisions include medical surveillance and recordkeeping, emergency procedures plan, area regulation, respiratory protection and training. This MSDS contains a summary of the requirements for safe handling; we advise consulting the OSHA standard governing MDA before/during the development of a plan to handle this material in accordance with the regulation

**Skin Protection:** Wear neoprene gloves for intermittent contact. Wear Silver Shield gloves when long term exposure is expected.

Wear full coverage garment if bodily contact is possible, disposable is preferred. Contaminated clothing and equipment must be removed before leaving a regulated area. No contaminated clothing can be removed from the change room except for disposal or laundering and must be stored and transported in closed containers with labels warning of the hazards of DeMDA. Laundry service must be informed of the hazards if handling contaminated clothing.

**Respiratory Protection:** Wear appropriate respirator when ventilation is inadequate.

Wear a NIOSH/MSHA-approved full-face organic vapor cartridge respirator when vapor/mist exposure is expected. If handling a solid, add a particulate filter to the respirator. If handling in molten form, add protection against acid gases.

**Eye Protection:** Chemical safety goggles. If there is potential for splash, use a full face shield.

**Engineering Controls:** Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Color:</b>	Grey
<b>Odor:</b>	Low Odor
<b>Physical State:</b>	Liquid
<b>Solubility in Water:</b>	Slight
<b>Vapor Pressure:</b>	Not Determined

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<b>Specific Gravity:</b>	1.59 (water = 1)
<b>Boiling Point:</b>	Not Determined
<b>Evaporation Rate:</b>	Not Determined
<b>Vapor Density:</b>	Not Determined
<b>pH:</b>	Not Determined
<b>Coefficient of water/oil:</b>	Not Evaluated

**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 Inhalation Exposure Effects:** Respiratory irritant.

**Sensitization:** Possible in susceptible individuals.

**Carcinogenicity:** Contains DeMDA which is a possible animal carcinogen and should be treated with caution.

**Skin Irritation:** Moderate irritant.

**Eye Irritation:** Severe eye irritant.

**Mutagenicity:** Test for Benzenamine, 4,4'-methylenebis[2-ethyl-:

Ames Test - inactive without S9 and active with S9 activation

BALB/C3T3 Transformation Assay - inactive

BALB/C3T3 Transformation Assay with S9 activation - inactive

Chinese Hamster Ovary HGPRT Assay with activation - negative

Chinese Hamster Ovary Chromosomal Aberration:

without S9 activation - negative

with S9 activation - positive

Rat Hepatocyte DNA Repair Assay - positive

In Vitro Liver Microsome N-Hydroxylation Assay - positive

**Chronic Exposure Effects:** For Benzenamine, 4,4'-methylenebis[2-ethyl-:

There is experimental evidence that analogous substances have caused tumors in rodents.

Analogous substances have caused damage to liver and thyroid in test animals.

**Additional Information:** This product contains dibutyl phthalate which may cause adverse reproductive effects in laboratory animals. The relevance to humans is not known.

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**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**

<b>Proper Shipping Name:</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Technical Shipping Name (If n.o.s.):</b>	Dibutyl phthalate, Diethyl methylene dianiline
<b>Hazard Class:</b>	9
<b>ID Number:</b>	UN 3082
<b>Packing Group:</b>	PG III
<b>Marine Pollutant:</b>	Marine Pollutant

**IMDG: Non-Bulk**

<b>Proper Shipping Name:</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Technical Shipping Name (If n.o.s.):</b>	Dibutyl phthalate, Diethyl methylene dianiline
<b>Hazard Class:</b>	9
<b>ID Number:</b>	UN 3082
<b>Packing Group:</b>	PG III
<b>Marine Pollutant:</b>	Marine Pollutant

**IATA: Non-Bulk**

<b>Proper Shipping Name:</b>	Not Regulated
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**TDG: Non-Bulk**

<b>Proper Shipping Name:</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Technical Shipping Name (If n.o.s.):</b>	Dibutyl phthalate, Diethyl methylene dianiline
<b>Hazard Class:</b>	9
<b>ID Number:</b>	UN 3082
<b>Packing Group:</b>	PG III
<b>Marine Pollutant:</b>	Marine Pollutant

**Department of Transportation:** Under 49 CFR 171.4 (c) NONBULK shipments of marine pollutants are not regulated for transport by motor vehicles, rail cars or aircraft. NONBULK shipments of marine pollutants are regulated when transported by vessel (ship).

**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 304 - CERCLA:** This product contains the following chemicals regulated under Section 304 (40 CFR 302) as hazardous substance(s) for emergency release notification ("CERCLA" List):

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**Effective Date: 5/29/08**

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Chemical Name: 1,2-Benzenedicarboxylic acid, dibutyl ester  
Common Name: Dibutyl phthalate  
CAS Number: 84-74-2  
Percent in Composition: 10 - 30 % by wt  
Component RQ: 10

**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: Aluminum  
Percent in Composition: 30 - 60 % 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.

### **International Regulations:**

**Australian Inventory Status:** This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

**Canadian Inventory Status:** This product contains only chemicals that are currently listed on the Canadian Domestic Substance List.

**Canadian WHMIS:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. D2A, D2B

**European Inventory Status (EINECS):** This product contains only chemicals that are currently listed on the European Inventory of Existing Commercial Chemical Substances (EINECS).

**Japanese Inventory Status:** This product contains only chemicals currently listed on the Japanese Ministry of International Trade and Industry List of Existing and New Chemical Substances.

### **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: Aluminum  
CAS Number: 7429-90-5  
Comment: Environmental Hazardous Substance

Chemical Name: 1,2-Benzenedicarboxylic acid, dibutyl ester  
Common Name: Dibutyl phthalate  
CAS Number: 84-74-2  
Comment: Environmental Hazardous Substance

Effective Date: 5/29/08

Chemical Name: Benzenamine, 4,4'-methylenebis[2-ethyl-  
Common Name: Diethyl methylene dianiline (Diethyl MDA)  
CAS Number: 19900-65-3  
Comment: Not on Pennsylvania Hazardous Substance List

**16. OTHER INFORMATION**

**MSDS No:** 6109  
**Reason Issued:** 5/08 HMIS update - 3/08 add WHMIS &  
DeMDA data

**Other Information:** D/-/KLCBT/- D10021230 (DC9)

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