

Distributed by  
**Rainbow Technology Corp.**  
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RTC Product #9704

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## 1. Product and company identification

**Product name** : SUPRASEC® 9704 (SealGuard II A Side)  
**Material uses** : Component of a Polyurethane System  
**MSDS #** : 00079644  
**Validation date** : 2/27/2013.  
**Print date** : 2/27/2013.

**Supplier/Manufacturer** : Huntsman Polyurethanes (an international business unit of Huntsman International LLC.)  
  
P.O. Box 4980  
The Woodlands, TX 77387  
  
For Polyurethanes product information/assistance:  
The Woodlands: (800) 257-5547  
Auburn Hills: (800) 553-8624  
Canada: (905) 678-9150  
  
E-Mail: [MSDS@huntsman.com](mailto:MSDS@huntsman.com)

**In case of emergency** : Chemtrec: (800) 424-9300 or (703) 527-3887

## 2. Hazards identification

**Physical state** : Liquid. [Liquid.]  
**Color** : Clear Brown  
**OSHA/HCS status** : This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Emergency overview** : WARNING!  
  
Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.  
  
Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.  
  
Do not breathe vapor or mist. Do not get on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

See toxicological information (Section 11)

**GENERAL INFORMATION** : Read the entire MSDS for a more thorough evaluation of the hazards.

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**SUPRASEC® 9704 (SealGuard II A Side)**

## 3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Methylenediphenyldiisocyanate, isomers and homologues	9016-87-9	60 - 100
Diphenylmethane 4,4'-diisocyanate	101-68-8	30 - 60
Diphenylmethane-2,4'- diisocyanate	5873-54-1	3 - 7

## 4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : After contact with skin, wash immediately with plenty of warm soapy water. Get medical attention if irritation develops. Wash clothing before reuse. Clean shoes thoroughly before reuse. An MDI study has demonstrated that a polyglycol-based skin cleanser (such as D-TamTM, PEG-400) or corn oil may be more effective than soap and water.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

## 5 . Fire-fighting measures

- Flash point** : Not available.
- Hazardous thermal decomposition products** : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : No specific hazard.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn. PVC boots, gloves, safety helmet and protective clothing should be worn.
- Special remarks on explosion hazards** : Due to reaction with water producing CO<sub>2</sub>-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Containers may burst if overheated.

## 6 . Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Evacuate the area. Keep upwind to avoid inhalation of vapours. Clean-up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Use suitable protective equipment (section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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## 6 . Accidental release measures

**Methods for cleaning up** : Contain and absorb large spillages onto an inert, non-flammable adsorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Test atmosphere for MDI. Neutralize small spillages with decontaminant. Remove and properly dispose of residues. (See Section 13 for disposal considerations.) Notify applicable government authorities if release is reportable. The CERCLA RQ for 4,4-MDI is 5,000 lbs (see CERCLA in Section 15).

## 7 . Handling and storage

**Handling** : Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the occupational exposure limit is not exceeded. The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. (See Section 8--Exposure Control for details.) Keep stocks of decontaminant readily available.

**Storage** : Keep container in a cool, well-ventilated area. Keep container tightly closed. Keep away from moisture. Due to reaction with water producing CO<sub>2</sub>-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys or galvanized surfaces.

## 8 . Exposure controls/personal protection

### Ingredient

Diphenylmethane 4,4'-diisocyanate

### Exposure limits

**ACGIH TLV (United States, 3/2012).**

TWA: 0.005 ppm 8 hours.

**OSHA PEL (United States, 6/2010).**

CEIL: 0.02 ppm

CEIL: 0.2 mg/m<sup>3</sup>

### Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures** : Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

**Engineering measures** : 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. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.'

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

#### Respiratory

: When the product is sprayed or heated without adequate ventilation, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required. Air purifying respirators equipped with organic vapor cartridges and a HEPA (P100) particulate filter may be used under certain conditions when a cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 C.F.R. 1910.134).

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## 8 . Exposure controls/personal protection

- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Chemical safety goggles. If there is a potential for splashing, use a full face shield.
- Skin** : The following protective materials are recommended: Gloves - neoprene, nitrile rubber, butyl rubber. Thin latex disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Other protection** : Consult your supervisor or S.O.P. for special handling instructions.

## 9 . Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Liquid.]
- Color** : Clear Brown
- Odor** : Not available.
- pH** : Not available.
- Boiling/condensation point** : >300°C decomposes
- Melting/freezing point** : Not available.
- Flash point** : Not available.
- Flammable limits** : Not available.
- Auto-ignition temperature** : >600°C
- Vapor pressure** : Not available.
- Specific gravity** : 1.23
- Partition coefficient: n-octanol/water (log Kow)** : Not available.
- Viscosity** : Dynamic (room temperature): 200 mPa·s (200 cP)
- Density** : Not available.
- Vapor density** : Not available.
- Evaporation rate (butyl acetate = 1)** : Not available.

## 10 . Stability and reactivity

- Chemical stability** : Stable at room temperature. Reaction with water (moisture) produces CO<sub>2</sub>-gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.

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## 10 . Stability and reactivity

Under normal conditions of storage and use, hazardous reactions will not occur.

- Hazardous polymerization** : Polymerization may occur at elevated temperatures in the presence of alkalies, tertiary amines and metal compounds.
- Conditions to avoid** : Avoid high temperatures.
- Materials to avoid** : Water, alcohols, amines, bases, and acids.
- Hazardous decomposition products** : carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN.

## 11 . Toxicological information

### Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Methylenediphenyldiisocyanate, isomers and homologues	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.49 mg/m <sup>3</sup>
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	>9400 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male	>10000 mg/kg
Diphenylmethane 4,4'-diisocyanate	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.49 mg/l
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	>9400 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male	>10000 mg/kg
Diphenylmethane-2,4'-diisocyanate	-	LC50 Inhalation Dusts and mists	Rat	0.49 mg/l
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	>9400 mg/kg
	No official guidelines	LD50 Intraperitoneal	Rabbit - Male	100 mg/kg

**Conclusion/Summary** : Diphenylmethane 4,4'-diisocyanate Irritating to respiratory system.

### Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Methylenediphenyldiisocyanate, isomers and homologues	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Mild irritant
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Non-irritant.
Diphenylmethane 4,4'-diisocyanate	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Irritant
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Non-irritant.
Diphenylmethane-2,4'- diisocyanate	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin - Irritant
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes - Non-irritant.

**Conclusion/Summary**

**Skin** :

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### 11 . Toxicological information

	Methylenediphenyldiisocyanate, isomers and homologues	Irritating to skin.
	Diphenylmethane 4,4'-diisocyanate	Irritating to skin.
	Diphenylmethane-2,4'-diisocyanate	Irritating to skin.
<b>Eyes</b>	: Methylenediphenyldiisocyanate, isomers and homologues	Based on the human occupational exposure data, this substance is considered as irritating to eyes.
	Diphenylmethane 4,4'-diisocyanate	Based on the human occupational exposure data, this substance is considered as irritating to eyes.
	Diphenylmethane-2,4'-diisocyanate	Based on the human occupational exposure data, this substance is considered as irritating to eyes.
<b>Respiratory</b>	: Methylenediphenyldiisocyanate, isomers and homologues	No known significant effects or critical hazards.
	Diphenylmethane 4,4'-diisocyanate	No known significant effects or critical hazards.
	Diphenylmethane-2,4'-diisocyanate	No known significant effects or critical hazards.

#### Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Methylenediphenyldiisocyanate, isomers and homologues	OECD 429 Skin Sensitization: Local Lymph Node Assay No official guidelines	skin	Mouse	Sensitizing
		Respiratory	Guinea pig	Sensitizing
Diphenylmethane 4,4'-diisocyanate	OECD 429 Skin Sensitization: Local Lymph Node Assay OECD 406 Skin Sensitization No official guidelines	skin	Mouse	Sensitizing
		skin	Guinea pig	Not sensitizing
Diphenylmethane-2,4'-diisocyanate	-	Respiratory	Guinea pig	Sensitizing
		skin	Mouse	Sensitizing
	No official guidelines	Respiratory	Guinea pig	Sensitizing

#### Mutagenicity

Product/ingredient name	Test	Result
Methylenediphenyldiisocyanate, isomers and homologues	Experiment: In vivo Subject: Mammalian-Animal	Negative
	Experiment: In vivo Subject: Mammalian-Human	Equivocal
Diphenylmethane 4,4'-diisocyanate	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative
Diphenylmethane-2,4'-diisocyanate	Experiment: In vitro Subject: Bacteria	Negative

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## 11 . Toxicological information

Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal	Negative
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**Conclusion/ Summary** : Diphenylmethane 4,4'-diisocyanate No mutagenic effect.

### Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Methylenediphenyldiisocyanate, isomers and homologues	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies EU	Rat - Male, Female	1 mg/m <sup>3</sup>	2 years; 5 days per week	Negative - Inhalation - NOAEL
Diphenylmethane 4,4'-diisocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Female	0.7 mg/m <sup>3</sup>	2 years; 5 days per week	Negative - Inhalation - NOAEL
Diphenylmethane 4,4'-diisocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Male, Female	1 mg/m <sup>3</sup>	2 years; 5 days per week	Positive - Inhalation - NOAEL
Diphenylmethane-2,4'-diisocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Male, Female	1 mg/m <sup>3</sup>	2 years; 5 days per week	Positive - Inhalation - NOAEL

### Carcinogenic class

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Methylenediphenyldiisocyanate, isomers and homologues	-	3	-	-	-	-
Diphenylmethane 4,4'-diisocyanate	-	3	-	-	-	-

### Reproductive toxicity

**Conclusion/ Summary** : Diphenylmethane 4,4'-diisocyanate No known significant effects or critical hazards.

### Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Methylenediphenyldiisocyanate, isomers and homologues	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Inhalation
Diphenylmethane 4,4'-diisocyanate	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Inhalation
Diphenylmethane-2,4'-diisocyanate	OECD 414 Prenatal Developmental Toxicity Study	Rat - Male, Female	Negative - Inhalation

**Conclusion/ Summary** : Diphenylmethane 4,4'-diisocyanate No known significant effects or critical hazards.

### Potential acute health effects

**Inhalation** : May cause sensitization by inhalation.

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## 11 . Toxicological information

- Ingestion** : Low oral toxicity. Ingestion may cause irritation of the gastrointestinal tract.
- Skin contact** : Irritating to skin. May cause sensitisation by skin contact
- Eye contact** : Irritating to eyes.

### Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Methylenediphenyldiisocyanate, isomers and homologues	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Chronic NOEC Inhalation Dusts and mists	Rat - Male, Female	0.2 mg/m <sup>3</sup>

- General** : Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

- Target organs** : Contains material which causes damage to the following organs: upper respiratory tract.

- Carcinogenicity** : Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m<sup>3</sup>), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m<sup>3</sup> and no effects at 0.2 mg/m<sup>3</sup>. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

- Mutagenicity** : There is no substantial evidence of mutagenic potential.

- Teratogenicity** : No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations, which are well in excess of defined occupational exposure limits.

- Developmental effects** : No known significant effects or critical hazards.

- Fertility effects** : No known significant effects or critical hazards.

### **Medical conditions aggravated by over-exposure**

Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

## 12 . Ecological information

- Environmental effects** : By comparison with an analogous product, the following values are anticipated. The measured ecotoxicity is that of the hydrolysed product, generally under conditions maximising production of soluble species. Even so, the observed ecotoxicity is low/very low. A pond study showed gross contamination caused no significant toxic effects on a wide variety of flora in all trophic levels (including fish), no detectable diaminodiphenylmethane (MDA), and no evidence of bioaccumulation of MDI or MDA.

### Aquatic ecotoxicity



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### 12 . Ecological information

Product/ingredient name	Test	Endpoint	Exposure	Species	Result	
Methylenediphenyldiisocyanate, isomers and homologues	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute	EC50	3 hours Static	Bacteria	>100 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	24 hours Static	Daphnia	>1000 mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	>1000 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	EC50	72 hours Static	Algae	>1640 mg/l
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	>10 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOECr	72 hours Static	Algae	1640 mg/l
Diphenylmethane 4,4'-diisocyanate	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	24 hours Static	Daphnia	>1000 mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	>1000 mg/l
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	>10 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOECr	72 hours Static	Algae	1640 mg/l
Diphenylmethane-2,4'-diisocyanate	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute	EC50	3 hours Static	Bacteria	>100 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	24 hours Static	Daphnia	>1000 mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	>1000 mg/l
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	>10 mg/l

#### Persistence and degradability

Product/ingredient name	Test	Period	Result
Methylenediphenyldiisocyanate, isomers and homologues	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0 %
Diphenylmethane 4,4'-diisocyanate	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0 %
Diphenylmethane-2,4'-diisocyanate	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0 %

**Conclusion/Summary** : Diphenylmethane 4,4'-diisocyanate Not biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methylenediphenyldiisocyanate, isomers and homologues	Fresh water 0.8 days	-	Not readily
Diphenylmethane 4,4'-diisocyanate	Fresh water 0.83 days	-	Not readily
Diphenylmethane-2,4'-diisocyanate	-	-	Not readily

#### Bioaccumulative potential

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### 12 . Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Methylenediphenyldiisocyanate, isomers and homologues	-	200	high
Diphenylmethane 4,4'-diisocyanate	4.51	200	high
Diphenylmethane-2,4'-diisocyanate	4.51	200	high

#### Mobility in soil

**Mobility** : By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids. Conversion to soluble products, including diamino- diphenylmethane (MDA), is very low under the optimal laboratory conditions of good dispersion and low concentration. In air, the predominant degradation process is predicted to be a relatively rapid OH radical attack, by calculation and by analogy with related diisocyanates.

**Other adverse effects** : No known significant effects or critical hazards.

#### Other ecological information

**BOD5** : Not Determined

**COD** : Not Determined

**TOC** : Not Determined

### 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

### 14 . Transport information

#### Proper shipping name

**DOT** : OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (Methylene Diphenyl Diisocyanate)

**TDG** : Not regulated.

**IMDG** : Not regulated.

**IATA** : Not regulated.

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### 14 . Transport information

Regulatory information	UN number	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	NA3082	9	III		<b>Reportable quantity 5000 lbs. (2270 kg)</b> Single containers less than 5,000 lbs. are not regulated.
<b>TDG Classification</b>	Not regulated.	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-		-
<b>IATA-DGR Class</b>	Not regulated.	-	-		-

PG\* : Packing group

### 15 . Regulatory information

#### United States

**HCS Classification** : Toxic material  
Irritant  
Sensitizer

#### **U.S. Federal regulations**

**TSCA 8(b) inventory** : **United States inventory (TSCA 8b)**: All components are listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : No ingredients listed.

**SARA 311/312** : Immediate (acute) health hazard  
Delayed (chronic) health hazard

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration %</u>
<b>Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)</b>	Diphenylmethane 4,4'-diisocyanate	101-68-8	30 - 60

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration %</u>
<b>SARA 313</b>	Methylenediphenyldiisocyanate, isomers and homologues	9016-87-9	60 - 100
<b>Form R - Reporting requirements</b>	Diphenylmethane 4,4'-diisocyanate	101-68-8	30 - 60
	Diphenylmethane-2,4'- diisocyanate	5873-54-1	3 - 7

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## 15 . Regulatory information

**CERCLA Hazardous substances** :

Components	Concentration %	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
Diphenylmethane 4,4'-diisocyanate	30 - 60	Listed	5000	11905
Chlorobenzene	0 - 0.1	Listed	100	2000000

### State regulations

**PENNSYLVANIA - RTK** : Diphenylmethane 4,4'-diisocyanate

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### International regulations

#### Canada

**WHMIS (Canada)** : WHMIS Class D-2A: Material causing other toxic effects (Very toxic).  
WHMIS Class D-2B: Material causing other toxic effects (Toxic).

**CEPA DSL** : All components are listed or exempted.

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.

### International lists

**Australia inventory (AICS)**: All components are listed or exempted.  
**China inventory (IECSC)**: All components are listed or exempted.  
**Japan inventory**: At least one component is not listed.  
**Korea inventory**: All components are listed or exempted.  
**Malaysia Inventory (EHS Register)**: Not determined.  
**New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.  
**Philippines inventory (PICCS)**: All components are listed or exempted.  
**Taiwan inventory (CSNN)**: Not determined.

## 16 . Other information

**Label requirements** : Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.  
 Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

**Hazardous Material Information System (U.S.A.)** :

<b>Health</b>	*	2
<b>Flammability</b>		1
<b>Physical hazards</b>		1
<b>Personal protection</b>		H

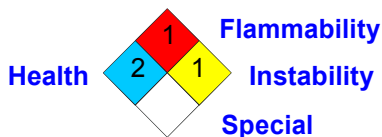
The customer is responsible for determining the PPE code for this material.

## Safety Data Sheet (SDS)

**SUPRASEC® 9704 (SealGuard II A Side)**

### 16 . Other information

**National Fire Protection Association (U.S.A.)** :



**Date of printing** : 2/27/2013.

**Date of issue** : 2/27/2013.

**Date of previous issue** : 2/21/2013.

**Version** : 2

☑ Indicates information that has changed from previously issued version.

#### Notice to reader

*While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.*

**IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.**

**THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.**

*Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.*

**NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.**

# Safety Data Sheet (SDS)

## Material Safety Data Sheet

**RIMLINE® SA 97030 (SealGuard II B side)**

### 1. Product and company identification

**Product name** : RIMLINE® SA 97030 (SealGuard II B Side)  
**Material uses** : Component of a Polyurethane System  
**MSDS #** : 00079703  
**Validation date** : 3/12/2013.  
**Print date** : 3/12/2013.

**Supplier/Manufacturer** : Huntsman Polyurethanes (an international business unit of Huntsman International LLC.)

P.O. Box 4980  
The Woodlands, TX 77387

For Polyurethanes product information/assistance:  
The Woodlands: (800) 257-5547  
Auburn Hills: (800) 553-8624  
Canada: (905) 678-9150

E-Mail: [MSDS@huntsman.com](mailto:MSDS@huntsman.com)

**In case of emergency** : Chemtrec: (800) 424-9300 or (703) 527-3887

### 2. Hazards identification

**Physical state** : Liquid.  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Emergency overview** : WARNING!  
HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.  
Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

See toxicological information (Section 11)

**GENERAL INFORMATION** : Read the entire MSDS for a more thorough evaluation of the hazards.

### 3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
-------------	-------------------	----------

# Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

## 3 . Composition/information on ingredients

Polyether polyol blend	Not Disclosed / Not hazardous in normal industrial use.	60 - 100
Dipropylene glycol	25265-71-8	3 - 7
Polyether polyol	26316-40-5	3 - 7
Triethylenediamine	280-57-9	1 - 3
Bis(Dimethylaminoethyl)Ether	3033-62-3	1 - 3

## 4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

## 5 . Fire-fighting measures

- Flash point** : Closed cup: >121.11°C (>250°F)
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides  
halogenated compounds  
metal oxide/oxides
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

## 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store between the following temperatures: 4.44 to 48.89°C (40 to 120°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

Ingredient	Exposure limits
Bis(Dimethylaminoethyl)Ether	<b>ACGIH TLV (United States, 3/2012). Absorbed through skin.</b> STEL: 0.15 ppm 15 minutes. TWA: 0.05 ppm 8 hours.

**Consult local authorities for acceptable exposure limits.**

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.



## Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

### 8 . Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### 9 . Physical and chemical properties

- Appearance**
- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- pH** : Not available.
- Boiling/condensation point** : Not available.
- Melting/freezing point** : Not available.
- Flash point** : Closed cup: >121.11°C (>250°F)
- Flammable limits** : Not available.
- Auto-ignition temperature** : Not available.
- Vapor pressure** : Not available.
- Specific gravity** : 1.05
- Partition coefficient: n-octanol/water (log Kow)** : Not available.
- Viscosity** : Dynamic (room temperature): 300 mPa·s (300 cP)
- Density** : Not available.
- Vapor density** : Not available.
- Evaporation rate (butyl acetate = 1)** : Not available.

## Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

### 10 . Stability and reactivity

- Chemical stability** : The product is stable.  
Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### 11 . Toxicological information

#### Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Polyether polyol	-	LD50 Dermal	Rabbit - Male, Female	>5000 mg/kg
	-	LD50 Oral	Rat - Male, Female	>5000 mg/kg
Bis(Dimethylaminoethyl)Ether	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Vapor	Rat - Male, Female	2.2 mg/l
	-	LD50 Dermal	Rabbit - Male, Female	750 mg/kg
	-	LD50 Oral	Rat - Male, Female	570 mg/kg
Triethylenediamine	No official guidelines	LC50 Inhalation Dusts and mists	Rat	>20.2 mg/l
	-	LC50 Inhalation Dusts and mists	Rat	>615 ppm
Dipropylene glycol	No official guidelines	LD50 Dermal	Rabbit	>3200 mg/kg
	No official guidelines	LD50 Oral	Rat - Male	700 mg/kg
	No official guidelines	LD50 Oral	Rat - Male	2260 mg/kg
	-	LD50 Dermal	Rabbit	20500 mg/kg
	-	LD50 Oral	Rat	14800 mg/kg
	-	NOEC Inhalation Dusts and mists	Rat	6 to 8 mg/l

#### Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Polyether polyol	EPA OPPTS OPPTS 870.2500 Acute Dermal Irritation	Rabbit	Skin - Non-irritant.
	OECD 405 Acute Eye Irritation/ Corrosion	Rabbit	Eyes - Severe irritant
Triethylenediamine	OECD 405 Acute Eye Irritation/ Corrosion	Rabbit	Eyes - Irritant
	No official guidelines	Rabbit	Eyes - Severe irritant
	No official guidelines	Rabbit	Eyes - Moderate irritant
	No official guidelines	Rabbit	Skin - Mild irritant
Dipropylene glycol	No official guidelines	Rabbit	Skin - Moderate irritant
	-	Rabbit	Skin - Mild irritant
	-	Rabbit	Eyes - Mild irritant

#### Conclusion/ Summary

**Skin** :

## Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

### 11 . Toxicological information

	Dipropylene glycol	Slightly irritating to the skin.
	Polyether polyol	Non-irritating to the skin.
	Triethylenediamine	Slightly irritating to the skin.
	Bis(Dimethylaminoethyl) Ether	No known significant effects or critical hazards.
<b>Eyes</b>	:	
	Dipropylene glycol	Slightly irritating to the eyes.
	Polyether polyol	Severely irritating to eyes.
	Triethylenediamine	Severely irritating to eyes.
	Bis(Dimethylaminoethyl) Ether	No known significant effects or critical hazards.
<b>Respiratory</b>	:	
	Dipropylene glycol	No known significant effects or critical hazards.
	Polyether polyol	No known significant effects or critical hazards.
	Triethylenediamine	No known significant effects or critical hazards.
	Bis(Dimethylaminoethyl) Ether	No known significant effects or critical hazards.

#### Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Polyether polyol	OECD 406 Skin Sensitization	skin	Mouse	Sensitizing
Bis(Dimethylaminoethyl)Ether	-	skin	Guinea pig	Not sensitizing
Triethylenediamine	OECD 406 Skin Sensitization	skin	Guinea pig	Not sensitizing
Dipropylene glycol	-	skin	Human	Not sensitizing

#### Mutagenicity

Product/ingredient name	Test	Result
Polyether polyol	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: bacteria/yeast Metabolic activation: +/-	Negative
Bis(Dimethylaminoethyl)Ether	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative
Triethylenediamine	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative

#### Reproductive toxicity

## Safety Data Sheet (SDS)

RIMLINE® SA 97030 (SealGuard II B Side)

### 11 . Toxicological information

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Polyether polyol	OECD 421 Reproduction/ Developmental Toxicity Screening Test	Rat - Male, Female	Negative	Negative	Negative
Triethylenediamine	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	Rat - Male, Female	Negative	-	-

#### Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Triethylenediamine	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	Rat - Male, Female	Negative - Oral
	-	Rat - Female	Negative - Oral

#### Potential acute health effects

- Inhalation** : Toxic by inhalation. Irritating to respiratory system.
- Ingestion** : Harmful if swallowed.
- Skin contact** : Toxic in contact with skin. Severely irritating to the skin. May cause sensitization by skin contact.
- Eye contact** : Severely irritating to eyes. Risk of serious damage to eyes.

#### Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Polyether polyol	Unknown guidelines	Sub-chronic NOAEL Oral	Rat - Male, Female	>1000 mg/kg/d
Triethylenediamine	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	Sub-chronic NOAEL Oral	Rat - Male, Female	100 mg/kg/d
	OECD 412 Repeated Dose Inhalation Toxicity: 28-day or 14-day Study	Sub-chronic LOEC Inhalation Dusts and mists	Rat - Male, Female	60 mg/m <sup>3</sup>

## Safety Data Sheet (SDS)

- General** : Contains material that may cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Target organs** : Contains material which may cause damage to the following organs: kidneys, liver, central nervous system (CNS), eye, lens or cornea, pancreas, thyroid.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Medical conditions aggravated by over-exposure

Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

## 12 . Ecological information

- Environmental effects** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Aquatic ecotoxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result		
Polyether polyol	EU EC C.3 Algal Inhibition Test	Acute	EC50	72 hours Static	Algae	150.67 mg/l	
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	48 hours Static	Daphnia	103 mg/l	
	EU EC C.11 Biodegradation: Activated Sludge Respiration Inhibition Test	Acute	IC50	3 hours Static	Bacteria	>10000 mg/l	
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	25600 mg/l	
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	>10 mg/l	
	Triethylenediamine	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	48 hours Static	Daphnia	>100 mg/l
		OECD 201 Alga, Growth Inhibition Test	Acute	ErC50 (growth rate)	72 hours Static	Algae	180 mg/l
OECD 203 Fish, Acute Toxicity Test		Acute	LC50	96 hours	Fish	>100 mg/l	
OECD 201 Alga, Growth Inhibition Test		Chronic	LOAEL	72 hours Static	Algae	79 mg/l	
OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test		Chronic	NOEC	48 hours Static	Daphnia	92 mg/l	
Bis(Dimethylaminoethyl)Ether Tris(1-chloro-2-propyl) phosphate	-	Acute	IC50	72 hours	Algae	23 to 25 mg/l	
	-	Acute	IC50	6 hours	Bacteria	>90 mg/l	
	-	Acute	LC50	96 hours	Fish	35 mg/l	

## Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

### 12 . Ecological information

Diethyltoluenediamine	Unknown guidelines	Acute	EC50	24 hours Static	Bacteria	>170	mg/l
	EU EC C.2 Acute Toxicity for Daphnia	Acute	EC50	48 hours Static	Daphnia	0.5	mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute	ErC50 (growth rate)	72 hours Static	Algae	104	mg/l
	DIN DIN 38412 Part 15	Acute	LC50	48 hours Static	Fish	200	mg/l
	Unknown guidelines	Chronic	EC10	24 hours Static	Bacteria	170	mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOECr	72 hours Static	Algae	32	mg/l

#### Persistence and degradability

Product/ingredient name	Test	Period	Result
Polyether polyol Triethylenediamine	EU	28 days	2 %
	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	28 days	7 %
	OECD 301C Ready Biodegradability - Modified MITI Test (I)	28 days	0 %
Bis(Dimethylaminoethyl)Ether Tris(1-chloro-2-propyl) phosphate	-	28 days	<60 %
	-	28 days	<60 %
Diethyltoluenediamine	No official guidelines	28 days	<60 %

**Conclusion/Summary** : Triethylenediamine Not readily biodegradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Polyether polyol	-	-	Not readily
Triethylenediamine	-	-	Not readily
Bis(Dimethylaminoethyl)Ether	-	-	Not readily
Tris(1-chloro-2-propyl) phosphate	-	-	Not readily
Diethyltoluenediamine	-	-	Not readily

#### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Polyether polyol	-1.25 to 1.2	-	low
Triethylenediamine	-1.13	<3.16	low
Bis(Dimethylaminoethyl)Ether	-0.54	-	low
Diethyltoluenediamine	1.17	13.82	low

**Other adverse effects** : No known significant effects or critical hazards.

#### Other ecological information

**BOD5** : Not Determined

**COD** : Not Determined

**TOC** : Not Determined

# Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

## 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## 14 . Transport information

### Proper shipping name

**DOT** : Not regulated.

**TDG** : Not regulated.

**IMDG** : Not regulated.

**IATA** : Not regulated.

Regulatory information	UN number	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not regulated.	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-		-
<b>IATA-DGR Class</b>	Not regulated.	-	-		-

PG\* : Packing group

## 15 . Regulatory information

### United States

**HCS Classification** : Toxic material  
Irritating material  
Sensitizing material  
Target organ effects

### **U.S. Federal regulations**

**TSCA 8(b) inventory** : **United States inventory (TSCA 8b)**: All components are listed or exempted.

**TSCA 5(a)2 final** : No ingredients listed.

**significant new use rule (SNUR)**

**TSCA 5(e) substance consent order** : No ingredients listed.

Diethyltoluenediamine

# Safety Data Sheet (SDS)

**RIMLINE® SA 97030 (SealGuard II B Side)**

## 15 . Regulatory information

- TSCA 12(b) export notification** :
- SARA 311/312** : Immediate (acute) health hazard  
Delayed (chronic) health hazard
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : No ingredients listed.
- Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.
- SARA 313** : No ingredients listed.
- CERCLA Hazardous substances** : No ingredients listed.

### State regulations

- PENNSYLVANIA - RTK** : No ingredients listed.
- California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### International regulations

- Canada**
- WHMIS (Canada)** : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).
- CEPA DSL** : All components are listed or exempted.

**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.**

- International lists** :
- Australia inventory (AICS)**: At least one component is not listed.
  - China inventory (IECSC)**: At least one component is not listed.
  - Japan inventory**: At least one component is not listed.
  - Korea inventory**: At least one component is not listed.
  - Malaysia Inventory (EHS Register)**: Not determined.
  - New Zealand Inventory of Chemicals (NZIoC)**: At least one component is not listed.
  - Philippines inventory (PICCS)**: At least one component is not listed.
  - Taiwan inventory (CSNN)**: Not determined.

## 16 . Other information

- Label requirements** : HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
- Hazardous Material Information System (U.S.A.)** :

Health	2
Flammability	1



# Safety Data Sheet (SDS)

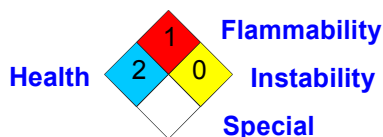
RIMLINE® SA 97030 (SealGuard II B Side)

## 16 . Other information

Physical hazards	0
Personal protection	

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



Date of printing : 3/12/2013.  
 Date of issue : 3/12/2013.  
 Date of previous issue : 3/12/2013.  
 Version : 1.01

☑ Indicates information that has changed from previously issued version.

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