

**SAFETY DATA SHEET**

This SDS Complies With 29 CFR 1910.1200 (The Hazard Communication Standard)

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**Section I - Product & Company Identification**

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**Product identifier**

Product name : MOISTURE CURED URETHANE SATIN

Product form: Liquid

Other means of identification: 1100

Relevant identified uses of the substance or mixture: Rust encapsulator, coating.

**Details of the supplier of the safety data sheet**

Manufacturer:

Diversified Chemical Products, Inc. 4124 B NW Riverside Street, Riverside, MO 64150

Phone: 816-472-5515

**Emergency telephone number**

Emergency number : CHEMTREC: 1-800-424-9300

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**Section II – Hazards Identification**

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**Classification**

Flammable Liquids- Category 3

Acute Toxicity-Inhalation- Category 4

Serious eye damage/Eye Irritation - Category 2B

Skin corrosion/ irritation - Category 2

Skin sensitization Category 1B

Respiratory sensitization Category 1

Specific target organ toxicity- single exposure (Category 3), irritation to respiratory system.

Specific target organ toxicity- repeated exposure (Category 3), Inhalation.

Carcinogen Category 3

Pictogram



**Signal Word**

**Danger**

**Hazard Statements**

Flammable liquid and vapor.

Harmful if inhaled.

Causes skin and eye irritation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause allergic skin reaction.

May cause respiratory irritation.  
Suspected of causing cancer.  
May cause damage to organs(Olfactory organs) through prolonged or repeated exposure (inhalation)

**Precautionary Statements – Prevention**

Do not handle until all safety precautions have been read and understood.  
Keep away from heat/sparks/open flames/hot surfaces- No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Use in well-ventilated area.  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
In case of inadequate ventilation, wear respiratory protection.  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing mist/vapors/spray.  
Contaminated work clothing should not be allowed out of the workplace.

**Precautionary Statements – Response**

In case of fire: Consider carbon dioxide, dry chemical, dry sand or alcohol resistant foam to extinguish.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation occurs  
IF ON SKIN: Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. If irritation occurs get medical advice/attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements – Storage**

Store in a well ventilated place. Keep container tightly closed. Store locked up.

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

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### Section III –Composition/Information on ingredients

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#### Mixture

Name	Product identifier	Weight %
Diphenylmethane-4,4'-diisocyanate (MDI)	(CAS No) 101-68-8	5-15
Methylenediphenyl diisocyanate	(CAS No) 26447-40-5	1-5
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl	(CAS No)57636-09-6	1-5
P-MDI	(CAS No) 9016-87-9	10-15
Propylene glycol monomethyl ether acetate	(CAS No) 108-65-6	1-5
Solvent Naphtha(Petroleum), Light Aromatic *Component (1,2,4-Trimethylbenzene)	(CAS No) 64742-95-6 (95-63-6)	20-30 (1-10)

Any concentration shown as a range is to protect confidentiality or is due to process variation.

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### Section IV – First Aid Measures

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#### First Aid Measures

**Inhalation:** Remove to fresh air. If breathing stops, provide artificial respiration. If symptoms persist, call a physician.

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists.

**Ingestion:** Rinse mouth. Call a POISON CENTER or doctor/physician. Immediate medical attention required.

**Skin Contact:** Remove contaminated clothing, wash with plenty of water. If skin irritation persists, call a physician.

#### Most Important Symptoms and Effects, both Acute and Delayed

##### **Symptoms**

May cause skin and eye irritation.  
Allergic reactions.

#### Indication of any Immediate Medical Attention and Special Treatment Needed

**Note to Physicians:** Treat symptomatically. Symptoms may be delayed.

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## **Section V – Fire Fighting Measures**

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### **Suitable Extinguishing Media**

Alcohol resistant foam, dry chemical or carbon dioxide.

**Unsuitable Extinguishing Media:** High volume water jet.

### **Specific Hazards Arising from the Chemical**

Nitrous gases, fumes/smoke, isocyanate, vapor.

### **Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved and full protective gear.

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## **Section VI –Accidental Release Measures**

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### **Personal Precautions, Protective Equipment and Emergency Procedures**

**Personal Precautions** Use personal protective equipment as required. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe area.

### **Methods and Material for Containment and Cleaning Up**

**Methods for Containment:** Eliminate all ignition sources. Prevent further leakage or spillage if safe to do so. Prevent discharge to open bodies of water, municipal sewers, and watercourses.

**Methods for Cleaning Up:** Use non-combustible material like vermiculite, sand or earth to soak up the product and place into a suitable container for later disposal. Following product recovery, spill area can be decontaminated with: Mixture of 90% water, 8% concentrated ammonia, 2% detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

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## **Section VII – Handling & Storage**

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### **Precautions for Safe Handling**

**Advice on Safe Handling:** Avoid breathing mists or vapors. Avoid all personal contact. Potentially toxic/irritating fumes/vapors may be evolved from material. Use only with adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. Wear respiratory protection when spraying. Danger of bursting when sealed gastight. Protect against moisture. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing

## Conditions for Safe Storage, Including any Incompatibilities

**Storage Conditions:** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water. Segregate from foods and animal feeds. Segregate from acids and bases. Segregate from bases. Formation of CO<sub>2</sub> and build up of pressure possible. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture

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## **Section VIII – Exposure Controls/ Personal Protection**

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### Exposure Guidelines

<b>Chemical Name</b>	<b>CAS #</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>OTHER</b>
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	0.005 ppm	0.02 ppm 0.2 mg/m <sup>3</sup>	No data available
Methylenediphenyl diisocyanate	26447-40-5	No data available	No data available	No data available
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy-1,2-ethanediyl	57636-09-6	No data available	No data available	No data available
P-MDI	9016-87-9	0.005 ppm	0.02 ppm 0.2 mg/m <sup>3</sup>	No data available
Propylene glycol monomethyl ether acetate	108-65-6	50ppm US AIHA WEEL	No data available	50ppm US AIHA WEEL
Solvent Naphtha(Petroleum), Light Aromatic *Component (1,2,4-Trimethylbenzene)	64742-95-6 (95-63-6)	No data available (25 ppm)	No data available	19 ppm 100 mg/m <sup>3</sup> ExxonMobil

### Appropriate Engineering Controls

**Engineering Controls:** Provide adequate ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

### Individual Protection Measures, such as Personal Protective Equipment

**Eye/Face Protection:** Wear approved chemical safety goggles/face shield where a splash hazard exists. Eyewash station is recommended.

**Hand protection:** Chemical resistant protective gloves should be worn to prevent all skin contact., Suitable materials may include, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, depending upon conditions of use.

**Skin and Body Protection:** Wear suitable protective clothing. Cover as much of the exposed skin as possible to prevent all skin contact., Suitable materials may include, saran-coated material, depending upon conditions of use.

**Respiratory Protection:** When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. For emergency or non-routine, high exposure situations, including confined space entry, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

**General Hygiene Considerations:** Handle in accordance with good industrial hygiene and safety practice.

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## Section IX – Physical & Chemical Properties

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### Information on Basic Physical and Chemical Properties

<b>Physical State</b>	Liquid
<b>Color</b>	Blacks
<b><u>Property</u></b>	<b><u>Values</u></b>
pH	No data available
Melting Point/Freezing Point	No data available
Boiling Point/Boiling Range	150-210 ° C (302-410 ° F)
Flash Point	42.2 ° C (108 ° F)
Evaporation Rate	No data available
Flammability (Solid,Gas)	n/a-liquid
Upper Flammable Limits	13.1%
Lower Flammable Limits	0.9%
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.03
Water Solubility	negligible soluble in water
Solubility in Other Solvents	No data available
Partition Coefficient	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Kinematic Viscosity	No data available
Dynamic Viscosity	No data available
Explosive Properties	Not an Explosive
Oxidizing Properties	No data available
Odor	Light aromatic
Odor Threshold	No data available

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## Section X – Stability & Reactivity

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### **Reactivity**

No corrosive effect on metal. Not an oxidizer

### **Chemical Stability**

Stable under recommended storage conditions.

### **Possibility of Hazardous Reactions**

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols.

Reacts with acids. Reacts with alkalies. Reacts with amines. Risk of exothermic reaction. Risk of polymerization.

### **Conditions to Avoid**

Avoid moisture.

Heat, sparks, flames.

Extremes of temperature and direct sunlight.

### **Incompatible Materials**

acids, amines, alcohols, water, Alkalines, strong bases, Substances/products that react with isocyanates.

### **Hazardous Decomposition Products**

carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors.

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## **Section XI - Toxicological information**

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### **Information on Likely Routes of Exposure**

#### **Product Information :**

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

This product as a whole has not been tested for acute toxicity; the following is based on component data:

Chemical Name	CAS #	Oral LD50	Dermal LD50	Inhalation LC50
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	>2,000 mg/kg(Rat)	>9,400 mg/kg(Rabbit)	2.0 mg/l(Rat)
Methylenediphenyl diisocyanate	26447-40-5	No data available	No data available	No data available
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl	57636-09-6	No data available	No data available	No data available
P-MDI	9016-87-9	No data available	No data available	No data available
Propylene glycol monomethyl ether acetate	108-65-6	>10,000 mg/kg(Rat)	>5000 mg/kg(Rabbit)	>4345 ppm (Rat)
Solvent Naphtha(Petroleum), Light Aromatic	64742-95-6	3492 mg/kg (Rat)	>3160 mg/kg (Rabbit)	6193 mg/m3 (Rat) 4h

Chemical Name	Diphenylmethane-4,4'-diisocyanate (MDI)	Methylenediphenyl diisocyanate
Skin corrosion/irritation	Irritating to eyes, respiratory system and skin. Skin contact may result in dermatitis, either irritative or allergic.	No data available
Serious eye damage/irritation	irritating	No data available
Respiratory or skin sensitization	Can cause respiratory and skin sensitization.	No data available
Mutagenicity	Negative results	No data available
Carcinogenicity	A potential cannot be excluded, however these effects are not relevant to humans at occupational levels of exposure.	No data available
Reproductive toxicity	Negative	No data available
Specific target organ toxicity-Single exposure	Causes temporary irritation of the respiratory tract.	No data available
Specific target organ toxicity-repeated exposure	May cause respiratory system damage. These effects are not relevant to humans at occupational levels of exposure.	No data available
Aspiration hazard	No data available	No data available

Chemical Name	Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl	P-MDI
Skin corrosion/irritation	No data available	No data available
Serious eye damage/irritation	No data available	No data available
Respiratory or skin sensitization	No data available	No data available
Mutagenicity	No data available	No data available
Carcinogenicity	No data available	No data available
Reproductive toxicity	No data available	No data available
Specific target organ toxicity-Single exposure	No data available	No data available
Specific target organ toxicity-repeated exposure	No data available	No data available
Aspiration hazard	No data available	No data available

Chemical Name	Propylene glycol monomethyl ether acetate	Solvent Naphtha(Petroleum), Light Aromatic
Skin corrosion/irritation	Slight irritation (Rabbit)	Mild irritation
Serious eye damage/irritation	Slight irritation (Rabbit)	Mild, short-lasting irritation
Respiratory or skin sensitization	Does not cause sensitization	Not expected to be a sensitizer.
Mutagenicity	No data available	Negative results
Carcinogenicity	No carcinogenic properties	Caused cancer in lab animals , but relevance to humans is uncertain.
Reproductive toxicity	No data available	Negative
Specific target organ toxicity-Single exposure	No data available	Central nervous system Inhalation may cause drowsiness or dizziness
Specific target organ toxicity-repeated exposure	No data available	Not expected to cause organ damage
Aspiration hazard	No data available	May be fatal if swallowed and enters airways.

**Delayed and Immediate Effects as well as Chronic Effects from Short and Long-term Exposure**

**Carcinogenicity:** This product does contain carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Numerical Measures of Toxicity:** Not determined



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## Section XII - Ecological information

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### Ecotoxicity

There is no data available for this product as a whole.

Chemical Name	CAS #	Algae/aquatic plants	Fish	Aquatic invertebrates	Crustacea
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	1,640 mg/l (growth rate), Scenedesmus subspicatus 72 h	> 1,000 mg/l, Brachydanio rerio 96 h	> 1,000 mg/l, Daphnia magna 24 h	No data available
Methylenediphenyl diisocyanate	26447-40-5	No data available	No data available	No data available	No data available
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl	57636-09-6	No data available	No data available	No data available	No data available
P-MDI	9016-87-9	No data available	No data available	No data available	No data available
Propylene glycol monomethyl ether acetate	108-65-6	No data available	Salmo gairdneri - 100 - 180 mg/l - 96 h	Daphnia magna (Water flea) - > 500 mg/l - 48 h	No data available
Solvent Naphtha(Petroleum), Light Aromatic	64742-95-6	Erl50 2.9 mg/l: Pseudokirchnerie subcapitata 72 h	LL50 9.2 mg/l: Oncorhynchus mykiss 96 h	EL50 3.2 mg/l:Daphnia magna 48 h data for similar materials.	No data available

### Persistence and Degradability

No data available

### Bioaccumulation

No data available

### Mobility

No data available

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## Section XIII - Disposal considerations

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### Waste Disposal Method

Dispose of material in accordance with all Federal, State and local regulations. Local regulations may be more stringent than Federal or State. Avoid discharge to sewers or waterways.

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## Section XIV - Transport information

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### **DOT Proper Shipping Description:**

**Bulk:** UN1139, Coating solution, 3, PGIII

**Non-Bulk:** Combustible, Not Regulated.

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## Section XV - Regulatory information

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**SARA Title III Section 311/312 (40CFR370):** Fire, acute, chronic health hazards.

**SARA Title III Section 313 (40CFR372):** Diphenylmethane-4,4'-diisocyanate (MDI), P-MDI, 1,2,4-Trimethylbenzene,

**RCRA Status (40CFR261.33):** No reportable components.

**TSCA Inventory Status:** Reported/included

**OSHA/NTP/IARC Carcinogen Status:** Not listed

**Canadian DSL Status:** No data available

**Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity:**

None

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Diphenylmethane-4,4'-diisocyanate (MDI)	X	X	X
P-MDI	X	X	X
Methylenediphenyl diisocyanate	X		
1,2,4-Trimethylbenzene	X		X

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**Section XVI - Other information**

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**HMIS ratings:** Health: 2  
Flammability: 2  
Reactivity: 1

Indication of changes: Revision – 1

Date Sheet Prepared: 04/14/2015 Other information: Author – EHS Administrator

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The information herein is presented in good faith and believed to be correct as of the date hereof. However, the manufacturer makes no representation as to the completeness and accuracy thereof. Users must make their own determination as to the suitability of the product for their purposes prior to use.

No representations or warranty's, either express or implied of merchantability, fitness for a particular purpose or of any other nature with respect to the product or to the information herein is made hereunder. The manufacturer shall in no event be responsible for any damages of whatsoever nature directly or indirectly resulting from the publication or use of or reliance upon information contained herein.

**END OF SDS**