

**CONATHANE® EN-1554 PART A Urethane Prepolymer**

Version 1

Revision Date 02/19/2018

Print Date 02/19/2018

**SECTION 1. IDENTIFICATION**

Product name : CONATHANE® EN-1554 PART A Urethane Prepolymer

**Manufacturer or supplier's details**

 Company : ELANTAS PDG, INC.  
 5200 North 2nd Street  
 St. Louis MO 63147  
 Telephone : (314) 621-5700  
 Visit our web site : www.elantas.com  
 E-mail address : Todd.Thomas@altana.com  
 Emergency telephone : INFOTRAC - 1-800-535-5053  
 number

**Recommended use of the chemical and restrictions on use**

 Recommended use : Casting Resin  
 Restrictions on use : Refer to Section 15 for any restrictions that may apply

**SECTION 2. HAZARDS IDENTIFICATION**
**GHS Classification**

 Acute toxicity (Inhalation) : Category 3  
 Skin irritation : Category 2  
 Eye irritation : Category 2A  
 Respiratory sensitisation : Category 1  
 Skin sensitisation : Category 1  
 Carcinogenicity : Category 2

**GHS label elements**

 Hazard pictograms : 

Signal word : Danger

 Hazard statements : H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H331 Toxic if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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H351 Suspected of causing cancer.

Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P285 In case of inadequate ventilation wear respiratory protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature : Isocyanate Prepolymer

**Hazardous components**

| Component | CAS-No. | Concentration (%) |
|-----------|---------|-------------------|
|           |         |                   |

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|                                   |          |              |
|-----------------------------------|----------|--------------|
| Toluene diisocyanate              | 584-84-9 | >= 10 - < 11 |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  | >= 0.1 - < 1 |

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
 Consult a physician.  
 Show this safety data sheet to the doctor in attendance.  
 Symptoms of poisoning may appear several hours later.  
 Do not leave the victim unattended.
- If inhaled : Call a physician or poison control centre immediately.  
 If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.  
 If on skin, rinse well with water.  
 If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
 Remove contact lenses.  
 Protect unharmed eye.  
 Keep eye wide open while rinsing.  
 If eye irritation persists, consult a specialist.
- If swallowed : Induce vomiting immediately and call a physician.  
 Keep respiratory tract clear.  
 Do not give milk or alcoholic beverages.  
 Never give anything by mouth to an unconscious person.  
 If symptoms persist, call a physician.  
 Take victim immediately to hospital.

**SECTION 5. FIREFIGHTING MEASURES**

- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
 Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
 Ensure adequate ventilation.  
 Evacuate personnel to safe areas.
- Environmental precautions : Prevent product from entering drains.  
 Prevent further leakage or spillage if safe to do so.  
 If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
 Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
 Do not breathe vapours/dust.  
 Avoid exposure - obtain special instructions before use.  
 Avoid contact with skin and eyes.  
 For personal protection see section 8.  
 Smoking, eating and drinking should be prohibited in the application area.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 Dispose of rinse water in accordance with local and national regulations.  
 Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Store under conditions specified on the product Technical Data Sheet to maintain product quality.  
 Prevent unauthorized access.  
 Keep container tightly closed in a dry and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Electrical installations / working materials must comply with the technological safety standards.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Components with workplace control parameters**

| Components | CAS-No. | Value type<br>(Form of | Control<br>parameters / | Basis |
|------------|---------|------------------------|-------------------------|-------|
|            |         |                        |                         |       |

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|                                   |          | exposure) | Permissible concentration |          |
|-----------------------------------|----------|-----------|---------------------------|----------|
| Toluene diisocyanate              | 584-84-9 | TWA       | 0.005 ppm                 | ACGIH    |
| Toluene diisocyanate              |          | STEL      | 0.02 ppm                  | ACGIH    |
| Toluene diisocyanate              |          | C         | 0.02 ppm<br>0.14 mg/m3    | OSHA Z-1 |
| Toluene diisocyanate              |          | TWA       | 0.005 ppm<br>0.04 mg/m3   | OSHA P0  |
| Toluene diisocyanate              |          | STEL      | 0.02 ppm<br>0.15 mg/m3    | OSHA P0  |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  | TWA       | 0.005 ppm                 | ACGIH    |
| 2-Methyl-m-phenylene diisocyanate |          | STEL      | 0.02 ppm                  | ACGIH    |
| 2-Methyl-m-phenylene diisocyanate |          | C         | 0.02 ppm<br>0.14 mg/m3    | OSHA Z-1 |
| 2-Methyl-m-phenylene diisocyanate |          | TWA       | 0.005 ppm<br>0.04 mg/m3   | OSHA P0  |
| 2-Methyl-m-phenylene diisocyanate |          | STEL      | 0.02 ppm<br>0.15 mg/m3    | OSHA P0  |

**Engineering measures** : Use with adequate ventilation.  
 All application areas should be ventilated in accordance with applicable OSHA regulations. (29 CFR 1910.94)  
 Isocyanates may be released during the curing process.  
 Repeated overexposure to isocyanates can cause respiratory tract sensitization.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection  
 Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
 Tightly fitting safety goggles  
 Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing  
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Avoid contact with skin, eyes and clothing.  
 When using do not eat or drink.  
 When using do not smoke.  
 Wash hands before breaks and immediately after handling the product.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|   |   |
|---|---|
| Appearance                              | : liquid  |
| Odour Threshold                         | : No data available   |
| pH                                      | : No data available   |
| Melting point/freezing point            | : No data available   |
| Initial boiling point and boiling range | : No data available   |
| Vapour pressure                         | : No data available   |
| Flash point                             | : > 201 °F (> 94 °C)<br>Method: No information available.<br>Information taken from reference works and the literature. |
| Upper explosion limit                   | : No data available   |
| Lower explosion limit                   | : No data available   |
| Evaporation rate                        | : No data available   |
| Flammability (solid, gas)               | : No data available   |
| Relative vapour density                 | : No data available   |
| Relative Density/Specific Gravity       | : No data available   |
| Density                                 | : 1.05 g/cm <sup>3</sup> (77 °F (25 °C))  |
| Solubility(ies)                         |   |
| Water solubility                        | : No data available   |
| Solubility in other solvents            | : No data available   |
| Partition coefficient: n-octanol/water  | : No data available   |
| Ignition temperature                    | : No data available   |
| Thermal decomposition                   | : No data available   |
| Viscosity                               |   |

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Viscosity, dynamic : No data available  
Viscosity, kinematic : > 22 mm<sup>2</sup>/s (104 °F (40 °C))

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.  
Chemical stability : No decomposition if stored and applied as directed.  
Possibility of hazardous reactions : No decomposition if stored and applied as directed.  
Conditions to avoid : No data available  
Hazardous decomposition products : Carbon monoxide in a fire.  
Nitrogen oxides in a fire.  
Isocyanates

**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Acute toxicity****Product:**

Acute inhalation toxicity : Acute toxicity estimate : 4.76 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

**Components:****584-84-9 Toluene diisocyanate:**

Acute oral toxicity : LD50 (Rat): 5,800 mg/kg  
LD50 (Rat, male): 5,110 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 14 ppm

Acute dermal toxicity : LD50 (Rabbit): > 9,400 mg/kg  
LD50 (Rabbit, male and female): > 9,400 mg/kg  
Method: OECD Test Guideline 402

**91-08-7 2-Methyl-m-phenylene diisocyanate:**

Acute oral toxicity : LD50 (Rat): 5,800 mg/kg

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Acute inhalation toxicity : LC50 : Remarks: No data available

Acute dermal toxicity : LD50 : Remarks: No data available

**Skin corrosion/irritation****Product:**

Remarks: May cause skin irritation and/or dermatitis.

**Components:****584-84-9 Toluene diisocyanate:**

Species: Rabbit

Result: Moderate skin irritation

**91-08-7 2-Methyl-m-phenylene diisocyanate:**

Species: Rabbit

Result: Moderate skin irritation

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

**Components:****584-84-9 Toluene diisocyanate:**

Species: Rabbit

Result: Eye irritation

**91-08-7 2-Methyl-m-phenylene diisocyanate:**

Species: Rabbit

Result: Eye irritation

**Respiratory or skin sensitisation****Product:**

Remarks: Causes sensitisation.

**Carcinogenicity****IARC**

Group 2B: Possibly carcinogenic to humans

Toluene diisocyanate

584-84-9

2-Methyl-m-phenylene  
diisocyanate

91-08-7

**ACGIH**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential



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carcinogen by ACGIH.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP**

Reasonably anticipated to be a human carcinogen

Toluene diisocyanate

584-84-9

2-Methyl-m-phenylene  
diisocyanate

91-08-7

**Further information****Product:**

Remarks: No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

Regulation

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological  
information

: No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

- : WC: B
- EPA Hazardous Waste Code(s) : D003: Reactive
- Waste from residues : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

- UN/ID No. : UN 2206
- Proper shipping name : Isocyanates, toxic, n.o.s.  
(Toluene diisocyanate)
- Class : 6.1
- Packing group : II
- Labels : Toxic
- Packing instruction (cargo aircraft) : 662
- Packing instruction (passenger aircraft) : 654

**IMDG-Code**

- UN number : UN 2206
- Proper shipping name : ISOCYANATES, TOXIC, N.O.S.  
(TOLUENE DIISOCYANATE)
- Class : 6.1
- Packing group : II
- Labels : 6.1
- EmS Code : F-A, S-A
- Marine pollutant : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****49 CFR**

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UN/ID/NA number : UN 2206  
 Proper shipping name : Isocyanates, toxic, n.o.s.  
 (Toluene diisocyanate)  
 Class : 6.1  
 Packing group : II  
 Labels : Toxic  
 Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION**
**EPCRA - Emergency Planning and Community Right-to-Know Act**
**US. EPA CERCLA Hazardous Substances (40 CFR 302)**

| Components           | CAS-No.  | Component RQ<br>(lbs) | Calculated product RQ<br>(lbs) |
|----------------------|----------|-----------------------|--------------------------------|
| Toluene diisocyanate | 584-84-9 | 100                   | 951                            |

**SARA 304 - Emergency Release Notification**

| Components           | CAS-No.  | Component RQ<br>(lbs) | Calculated product RQ<br>(lbs) |
|----------------------|----------|-----------------------|--------------------------------|
| Toluene diisocyanate | 584-84-9 | 100                   | 951                            |

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

| Components           | CAS-No.  | Component RQ<br>(lbs) | Calculated product RQ<br>(lbs) |
|----------------------|----------|-----------------------|--------------------------------|
| Toluene diisocyanate | 584-84-9 | 100                   | 951                            |

**SARA 311/312 Hazards** : Per the June 13, 2016 Federal Register notice, EPA harmonized the EPCRA 311/312 hazard categories with the 2012 OSHA hazard communication standard for classifying and labeling of chemicals (i.e. GHS). Please refer to Section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

**SARA 302** : The following components are subject to reporting levels established by SARA Title III, Section 302:

|                                   |          |        |
|-----------------------------------|----------|--------|
| Toluene diisocyanate              | 584-84-9 | 10.5 % |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  | .4 %   |

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**SARA 313** : This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

|                                   |          |        |
|-----------------------------------|----------|--------|
| Toluene diisocyanate              | 584-84-9 | 10.5 % |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  | .4 %   |

**Clean Air Act**

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

|                      |          |        |
|----------------------|----------|--------|
| Toluene diisocyanate | 584-84-9 | 10.5 % |
|----------------------|----------|--------|

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

|                      |          |        |
|----------------------|----------|--------|
| Toluene diisocyanate | 584-84-9 | 10.5 % |
|----------------------|----------|--------|

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

|                      |          |        |
|----------------------|----------|--------|
| Toluene diisocyanate | 584-84-9 | 10.5 % |
|----------------------|----------|--------|

Non-volatile (Wt) : Refer to the product technical data sheet for VOC information.

**US State Regulations**
**Massachusetts Right To Know**

|                                   |          |
|-----------------------------------|----------|
| Toluene diisocyanate              | 584-84-9 |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  |
| Ethyl acrylate                    | 140-88-5 |

**Pennsylvania Right To Know**

|                                   |          |
|-----------------------------------|----------|
| Polyurethane Pre-Polymer          | -        |
| Toluene diisocyanate              | 584-84-9 |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  |
| Benzoyl Chloride                  | 98-88-4  |

**New Jersey Right To Know**

|                                   |          |
|-----------------------------------|----------|
| Polyurethane Pre-Polymer          | -        |
| Toluene diisocyanate              | 584-84-9 |
| 2-Methyl-m-phenylene diisocyanate | 91-08-7  |

**New Jersey Trade Secret Registry Number for the product (NJ TSRN)** : Not Applicable

**California Prop 65**

WARNING! This product contains a chemical known to the State of California to cause cancer.

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Ethyl acrylate

140-88-5

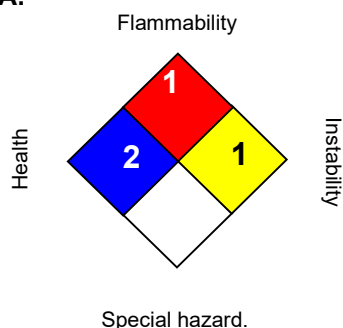
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Toluene

108-88-3

**The components of this product are reported in the following inventories:**

- TSCA : We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).
- Section 4 / 12(b) : Not applicable
- Section 5 : Not applicable
- DSL : We certify that all of the components of this product are listed on the DSL.

**SECTION 16. OTHER INFORMATION**
**Further information**
**NFPA:**

**HMIS III:**

|                        |           |
|------------------------|-----------|
| <b>HEALTH</b>          | <b>3*</b> |
| <b>FLAMMABILITY</b>    | <b>1</b>  |
| <b>PHYSICAL HAZARD</b> | <b>1</b>  |

0 = not significant, 1 = Slight,  
 2 = Moderate, 3 = High  
 4 = Extreme, \* = Chronic

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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**SECTION 1. IDENTIFICATION**

Product name : CONATHANE® EN-1554 Part B Black Curative

**Manufacturer or supplier's details**

 Company : ELANTAS PDG, INC.  
 5200 North 2nd Street  
 St. Louis MO 63147  
 Telephone : (314) 621-5700  
 Visit our web site : www.elantas.com  
 E-mail address : Todd.Thomas@altana.com  
 Emergency telephone : INFOTRAC - 1-800-535-5053  
 number

**Recommended use of the chemical and restrictions on use**

Recommended use :

Restrictions on use : Refer to Section 15 for any restrictions that may apply

**SECTION 2. HAZARDS IDENTIFICATION**
**GHS Classification**

Acute toxicity (Oral) : Category 4

Carcinogenicity : Category 1B

**GHS label elements**

Hazard pictograms :



Signal word : Danger

 Hazard statements : H302 Harmful if swallowed.  
 H350 May cause cancer.

 Precautionary statements : **Prevention:**  
 P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.


**Chemical Concepts™**  
 Our expertise is your solution.  
 chemical-concepts.com  
**800.220.1966**  
 410 Pike Road • Huntingdon Valley, PA 19006

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P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**
**Hazardous components**

| Component                             | CAS-No.   | Concentration (%) |
|---------------------------------------|-----------|-------------------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4  | >= 28 - < 29      |
| Carbon black                          | 1333-86-4 | >= 0.1 - < 1      |

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
 Show this safety data sheet to the doctor in attendance.  
 Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
 If symptoms persist, call a physician.
- In case of eye contact : Flush eyes with water as a precaution.  
 Remove contact lenses.  
 Protect unharmed eye.  
 Keep eye wide open while rinsing.  
 If eye irritation persists, consult a specialist.
- If swallowed : Induce vomiting immediately and call a physician.  
 Keep respiratory tract clear.  
 Do not give milk or alcoholic beverages.  
 Never give anything by mouth to an unconscious person.  
 If symptoms persist, call a physician.  
 Take victim immediately to hospital.

**SECTION 5. FIREFIGHTING MEASURES**

- Unsuitable extinguishing : High volume water jet

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media

Further information : Standard procedure for chemical fires.  
 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.

Environmental precautions : Prevent product from entering drains.  
 Prevent further leakage or spillage if safe to do so.  
 If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
 Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Do not breathe vapours/dust.  
 Avoid exposure - obtain special instructions before use.  
 Avoid contact with skin and eyes.  
 For personal protection see section 8.  
 Smoking, eating and drinking should be prohibited in the application area.  
 Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Store under conditions specified on the product Technical Data Sheet to maintain product quality.  
 Keep container tightly closed in a dry and well-ventilated place.  
 Observe label precautions.  
 Electrical installations / working materials must comply with the technological safety standards.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Components with workplace control parameters**

| Components | CAS-No. | Value type | Control | Basis |
|------------|---------|------------|---------|-------|
|------------|---------|------------|---------|-------|



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|                                       |           | (Form of exposure) | parameters / Permissible concentration |          |
|---------------------------------------|-----------|--------------------|--|----------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4  | TWA                | 0.01 ppm                               | ACGIH    |
|                                       |           | TWA                | 0.02 ppm<br>0.22 mg/m <sup>3</sup>     | OSHA P0  |
| Carbon black                          | 1333-86-4 | TWA                | 3.5 mg/m <sup>3</sup>                  | ACGIH    |
|                                       |           | TWA                | 3.5 mg/m <sup>3</sup>                  | OSHA Z-1 |

**Engineering measures** : Use with adequate ventilation.  
 All application areas should be ventilated in accordance with applicable OSHA regulations. (29 CFR 1910.94)  
 This product contains a particulate(s) that is considered hazardous per OSHA (29 CFR 1910.1200) and is listed in Section III as a precautionary warning.  
 Under normal conditions of use, this product as supplied does not pose a health risk from particulate matter.  
 Physical degradation of the cured product (i.e. sanding, abrading, etc.) may pose a dust hazard.  
 Repeated inhalation of such dust may cause lung injury.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection  
 Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
 Tightly fitting safety goggles

Skin and body protection : Impervious clothing  
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
 When using do not smoke.  
 Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Odour Threshold : No data available

pH : No data available

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|   |   |
|---|---|
| Melting point/freezing point            | : No data available   |
| Initial boiling point and boiling range | : No data available   |
| Vapour pressure                         | : No data available   |
| Flash point                             | : > 201 °F (> 94 °C)<br>Method: No information available.<br>Information taken from reference works and the literature. |
| Upper explosion limit                   | : No data available   |
| Lower explosion limit                   | : No data available   |
| Evaporation rate                        | : No data available   |
| Flammability (solid, gas)               | : No data available   |
| Relative vapour density                 | : No data available   |
| Relative Density/Specific Gravity       | : No data available   |
| Density                                 | : 1.1 g/cm <sup>3</sup> (77 °F (25 °C))   |
| Solubility(ies)                         |   |
| Water solubility                        | : No data available   |
| Solubility in other solvents            | : No data available   |
| Partition coefficient: n-octanol/water  | : No data available   |
| Auto-ignition temperature               | : No data available   |
| Thermal decomposition                   | : No data available   |
| Viscosity                               |   |
| Viscosity, dynamic                      | : No data available   |
| Viscosity, kinematic                    | : > 22 mm <sup>2</sup> /s (104 °F (40 °C))  |

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.

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|                                    |   |
|------------------------------------|---|
| Chemical stability                 | : No decomposition if stored and applied as directed.                               |
| Possibility of hazardous reactions | : No decomposition if stored and applied as directed.                               |
| Conditions to avoid                | : No data available   |
| Hazardous decomposition products   | : Carbon monoxide in a fire.<br>Nitrogen oxides in a fire.<br>chlorinated compounds |

**SECTION 11. TOXICOLOGICAL INFORMATION**
**Information on likely routes of exposure**
**Acute toxicity**
**Product:**

Acute oral toxicity : Acute toxicity estimate : 1,762 mg/kg  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

**Skin corrosion/irritation**
**Serious eye damage/eye irritation**
**Respiratory or skin sensitisation**
**Carcinogenicity**

|              |   |           |
|--------------|---|-----------|
| <b>IARC</b>  | Group 1: Carcinogenic to humans   |           |
|              | 2,2'-dichloro-4,4'-methylenedianiline   | 101-14-4  |
|              | Group 2B: Possibly carcinogenic to humans   |           |
|              | Carbon black  | 1333-86-4 |
| <b>ACGIH</b> | Suspected human carcinogen  |           |
|              | 2,2'-dichloro-4,4'-methylenedianiline   | 101-14-4  |
| <b>OSHA</b>  | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |           |
| <b>NTP</b>   | Reasonably anticipated to be a human carcinogen   |           |

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2,2'-dichloro-4,4'-  
methylenedianiline

101-14-4

**Further information****Product:**

Remarks: No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

Regulation

40 CFR Protection of Environment; Part 82 Protection of  
Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks

This product neither contains, nor was manufactured with a  
Class I or Class II ODS as defined by the U.S. Clean Air Act  
Section 602 (40 CFR 82, Subpt. A, App.A + B).Additional ecological  
information

: No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**EPA Hazardous Waste  
Code(s) : noneWaste from residues : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with  
chemical or used container.  
Send to a licensed waste management company.Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.

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Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(4,4'-methylenebis[2-chloroaniline])  
Class : 9  
Packing group : III  
Labels : Miscellaneous substances and articles  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964

**IMDG-Code**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(4,4'-METHYLENEBIS[2-CHLOROANILINE])  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****49 CFR**

UN/ID/NA number : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(4,4'-methylenebis[2-chloroaniline])  
Class : 9  
Packing group : III  
Labels : Miscellaneous substances and articles  
ERG Code : 171  
Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act**

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**US. EPA CERCLA Hazardous Substances (40 CFR 302)**

| Components                            | CAS-No.  | Component RQ<br>(lbs) | Calculated product RQ<br>(lbs) |
|---------------------------------------|----------|-----------------------|--------------------------------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4 | 10                    | 35                             |

**SARA 304 - Emergency Release Notification**

This material does not contain any components with a section 304 EHS RQ.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

This material does not contain any components with a SARA 302 RQ.

**SARA 311/312 Hazards** : Per the June 13, 2016 Federal Register notice, EPA harmonized the EPCRA 311/312 hazard categories with the 2012 OSHA hazard communication standard for classifying and labeling of chemicals (i.e. GHS). Please refer to Section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

|                                       |          |        |
|---------------------------------------|----------|--------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4 | 28.3 % |
|---------------------------------------|----------|--------|

**Clean Air Act**

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

|                                       |          |        |
|---------------------------------------|----------|--------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4 | 28.3 % |
|---------------------------------------|----------|--------|

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Non-volatile (Wt) : Refer to the product technical data sheet for VOC information.

**US State Regulations**
**Massachusetts Right To Know**

|                                       |          |
|---------------------------------------|----------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4 |
|---------------------------------------|----------|

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**Pennsylvania Right To Know**

|                                       |            |
|---------------------------------------|------------|
| Polyurethane Prepolymer               | -          |
| Polytetrahydrofuran                   | 25190-06-1 |
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4   |

**New Jersey Right To Know**

|   |            |
|---|------------|
| Polyurethane Prepolymer                     | -          |
| Polytetrahydrofuran                         | 25190-06-1 |
| 2,2'-dichloro-4,4'-methylenedianiline       | 101-14-4   |
| 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- | 77-99-6    |
| Polyester Glutarate                         | -          |
| Carbon black                                | 1333-86-4  |

**New Jersey Trade Secret Registry Number for the product (NJ TSRN)** : Not Applicable

**California Prop 65**

WARNING! This product contains a chemical known to the State of California to cause cancer.

|                                       |           |
|---------------------------------------|-----------|
| 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4  |
| Carbon black                          | 1333-86-4 |

**The components of this product are reported in the following inventories:**

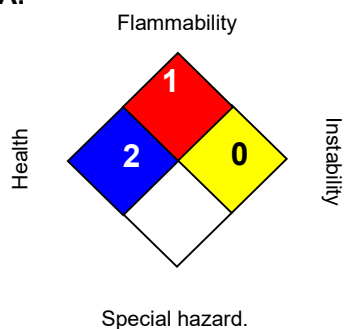
|                   |   |
|-------------------|---|
| TSCA              | : We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h). |
| Section 4 / 12(b) | : Not applicable  |
| Section 5         | Not applicable  |
| DSL               | : We certify that all of the components of this product are listed on the DSL.  |

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**SECTION 16. OTHER INFORMATION**
**Further information**
**NFPA:**

**HMIS III:**

|                        |           |
|------------------------|-----------|
| <b>HEALTH</b>          | <b>2*</b> |
| <b>FLAMMABILITY</b>    | <b>1</b>  |
| <b>PHYSICAL HAZARD</b> | <b>0</b>  |

0 = not significant, 1 = Slight,  
 2 = Moderate, 3 = High  
 4 = Extreme, \* = Chronic

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.


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