

CONATHANE® EN-4 Part A Urethane Prepolymer

Version 6

Revision Date 06/02/2025

Print Date 01/31/2026

SECTION 1. IDENTIFICATION

Product name : CONATHANE® EN-4 Part A Urethane Prepolymer

Manufacturer or supplier's details

Company : ELANTAS North America, LLC
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 : This product is for industrial use only. It is not intended for consumer use or retail sale.
Refer to Section 15 for any restrictions that may apply

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Inhalation) : Category 2
Respiratory sensitisation : Category 1
Skin sensitisation : Category 1
Carcinogenicity : Category 2
Reproductive toxicity : Category 1B

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
H360F May damage fertility.

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Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
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.
P284 Wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing 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 : Modified Polyol Blend

Hazardous components

Component	CAS-No.	Concentration (%)
Toluene diisocyanate	584-84-9	≥ 5 - < 10
2-Methyl-m-phenylene diisocyanate	91-08-7	≥ 0.1 - < 1
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	≥ 0.1 - < 1

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

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- 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.

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.

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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 (Form of exposure)	Control parameters / Permissible concentration	Basis
Toluene diisocyanate	584-84-9	C	0.02 ppm 0.14 mg/m ³	OSHA Z-1
Toluene diisocyanate		TWA	0.005 ppm 0.04 mg/m ³	OSHA P0
Toluene diisocyanate		STEL	0.02 ppm 0.15 mg/m ³	OSHA P0
Toluene diisocyanate		TWA	0.001 ppm	ACGIH

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		(Inhalable fraction and vapor)		
Toluene diisocyanate		STEL (Inhalable fraction and vapor)	0.005 ppm	ACGIH
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 0.14 mg/m3	OSHA Z-1
2-Methyl-m-phenylene diisocyanate		TWA	0.005 ppm 0.04 mg/m3	OSHA P0
2-Methyl-m-phenylene diisocyanate		STEL	0.02 ppm 0.15 mg/m3	OSHA P0

Hazardous components without workplace control parameters

Engineering measures

- : Use with adequate ventilation.
 All application areas should be ventilated in accordance with applicable OSHA regulations. (e.g. 29 CFR 1910.94)
 Isocyanates may be released during the curing process.
 Repeated overexposure to isocyanates can cause respiratory tract sensitization.
 Formaldehyde may be released during the curing process.
 Formaldehyde is a suspected human carcinogen and a skin and respiratory sensitizer. Prolonged or repeated exposure to vapors may result in respiratory impairment and/or liver, kidney or heart effects.

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.

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Wash hands before breaks and immediately after handling the product.

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) Method: No information available. 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	: 0.9694 g/cm ³ (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

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Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : > 21 mm²/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
formaldehyde

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

Acute inhalation toxicity : Acute toxicity estimate : 0.69 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 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

Acute inhalation toxicity : LC50 : Remarks: No data available

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Acute dermal toxicity : LD50 : Remarks: No data available

Skin corrosion/irritation**Product:**

Remarks: May cause skin irritation and/or dermatitis.

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

Species: Rabbit

Result: Moderate skin irritation

119-47-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cre sol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

GLP: yes

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

Remarks: May cause irreversible eye damage.

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

Species: Rabbit

Result: Eye irritation

119-47-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cre sol:

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

GLP: yes

Respiratory or skin sensitisation**Product:**

Remarks: Causes sensitisation.

Components:**119-47-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cre sol:**

Test Type: Mouse Local Lymph Node assay (LLNA)

Exposure routes: Dermal

Species: Mouse

Method: OECD Test Guideline 429

Result: Does not cause skin sensitisation.

GLP: yes

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Carcinogenicity**IARC**

Group 2B: Possibly carcinogenic to humans

Toluene diisocyanate

584-84-9

2-Methyl-m-phenylene
diisocyanate

91-08-7

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 : no**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

National Regulations

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49 CFR

UN/ID/NA number : UN 2206
 Proper shipping name : Isocyanates, toxic, n.o.s.
 (Toluene diisocyanate)
 Class : 6.1
 Packing group : II
 Labels : POISON
 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 (lbs)	Calculated product RQ (lbs)
Toluene diisocyanate	584-84-9	100	1371

SARA 304 - Emergency Release Notification

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Toluene diisocyanate	584-84-9	100	1371

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 (lbs)	Calculated product RQ (lbs)
Toluene diisocyanate	584-84-9	100	1371

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	7.2 %
2-Methyl-m-phenylene diisocyanate	91-08-7	.3 %

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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	7.2 %
2-Methyl-m-phenylene diisocyanate	91-08-7	.3 %

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Toluene diisocyanate	584-84-9	7.2 %
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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	7.2 %
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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	7.2 %
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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

Pennsylvania Right To Know

TDI/PBD Polymer	68951-56-4
Toluene diisocyanate	584-84-9
2-Methyl-m-phenylene diisocyanate	91-08-7
Benzoyl Chloride	98-88-4

New Jersey Right To Know

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

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

TSCA : ELANTAS North America, Inc. certifies that all of the components of this product are listed on the interim list of TSCA active substances.

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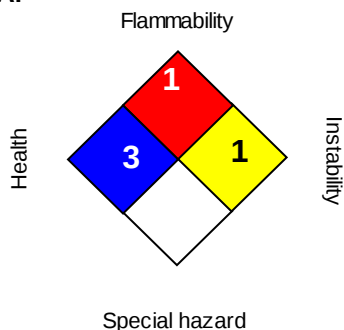
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Section 4 : Section 4 12(b): Toluene Diisocyanate (584-84-9)

Section 5 : Proposed SNUR Toluene Diisocyanate (584-84-9) Only applicable to uses in consumer products.

Section 6 : Not applicable

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

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	1

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.