

Revision Number 1.4

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Section 1: IDENTIFICATION

Product identifier

Product Name CONATHANE® EN-2550 Part A Urethane Prepolymer

Other means of identification

Product Code(s) 0007763

Recommended use of the chemical and restrictions on use

Recommended Use Potting and encapsulating

Details of the supplier of the safety data sheet

Manufacturer Address

ELANTAS PDG, INC.
1405 Buffalo Street
Olean, New York 14760

Emergency telephone number

Company Phone Number (716) 372-9650

E-mail address Ross.Roberson@altana.com

Emergency Telephone INFOTRAC - 1-800-535-5053

Section 2: HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|-------------|
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Respiratory sensitization | Category 1 |
| Skin sensitization | Category 1B |
| Carcinogenicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 2 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Harmful if inhaled
Causes skin irritation

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Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing cancer
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure



Appearance Liquid

Physical state Liquid

Odor Characteristic

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Information

Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

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Substance

Not applicable.

Mixture**Chemical nature** Mixture.

| Chemical name | CAS No. | Weight-% | Trade secret |
|---|------------|----------|--------------|
| Methylenediphenyl diisocyanate (MDI) | 101-68-8 | 40 - 50 | * |
| Polymeric Diphenylmethane Diisocyanate (pMDI) | 9016-87-9 | 30 - 40 | * |
| 1,1'-Methylenebis [isocyanatobenzene] | 26447-40-5 | 20 - 30 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES**Description of first aid measures**

| | |
|---------------------|--|
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact | Wash skin with soap and water. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |

Most important symptoms and effects, both acute and delayed**Symptoms** No information available.**Indication of any immediate medical attention and special treatment needed****Note to physicians** Treat symptomatically.**Section 5: FIRE-FIGHTING MEASURES**

| | |
|---|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | CAUTION: Use of water spray when fighting fire may be inefficient. |
| Specific hazards arising from the chemical | No information available. |
| Hazardous combustion products | Carbon monoxide. Nitrogen oxides (NOx). |
| Explosion data | |
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | None. |
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Reference to other sections See section 13 for more information.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Contents under pressure. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. See section 8 for more information. Take precautionary measures against static discharges. S53 - Avoid exposure - obtain special instructions before use. Dispose of in accordance with local regulations.

Conditions for safe storage, including any incompatibilities

Storage Conditions Observe technical data sheet. P210 - Keep away from heat. - No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Observe all label precautions until container is cleaned, reconditioned or destroyed.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

| Chemical name | ACGIH TLV | OSHA PEL | AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs |
|--|----------------|--|---|
| Methylenediphenyl diisocyanate (MDI) 101-68-8 | TWA: 0.005 ppm | (vacated) Ceiling: 0.02 ppm regulated under Methylene bisphenyl isocyanate (vacated) Ceiling: 0.2 mg/m ³ | |

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| | | | |
|--|-------------------|---|--|
| | | regulated under Methylene bisphenyl isocyanate Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³ | |
| 1,1'- Methylenebis [isocyanatobenzene] 26447-40-5 | No data available | Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³ | |

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield. Tight sealing safety goggles.

Hand protection Impervious gloves.

Skin and body protection Impervious clothing. Wear suitable protective clothing.

Respiratory protection Use appropriate respiratory protection.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

| |
|--|
| Section 9: PHYSICAL AND CHEMICAL PROPERTIES |
|--|

Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Color amber
Odor Characteristic
Odor threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---------------------------------------|-----------------------|-------------------------|
| pH | No data available | None known |
| Melting point / freezing point | No data available | None known |
| Boiling point / boiling range | | None known |
| Flash point | 234 °C / 453 - 453 °F | CC (closed cup) |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability limit: | No data available | |
| Lower flammability limit: | No data available | |
| Vapor pressure | No data available | None known |
| Vapor density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | Reacts with water | |
| Solubility in other solvents | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |

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| | | |
|----------------------------------|--------------------------|------------|
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available | |
| Oxidizing properties | No information available | |

Other Information

| | |
|-------------------------|--------------------------|
| Softening point | No information available |
| Molecular weight | No information available |
| VOC Content (%) | No information available |
| Liquid Density | No information available |
| Bulk density | No information available |

Section 10: STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Strong oxidizing agents, strong acids, and strong bases. |
| Hazardous decomposition products | Ammonia. Carbon monoxide. Carbon dioxide (CO ₂). Nitrogen oxides (NO _x). |

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|-----------------|---------------------------|
| Symptoms | No information available. |
|-----------------|---------------------------|

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|--------------------------------------|-----------------|
| ATEmix (oral) | 13,152.00 mg/kg |
| ATEmix (dermal) | 9,619.00 mg/kg |
| ATEmix (inhalation-dust/mist) | 1.50 mg/l |

| | |
|-------------------------------|--------------------------|
| Unknown acute toxicity | No information available |
|-------------------------------|--------------------------|

Component Information

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| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--|--|---|-------------------------------------|
| Methylenediphenyl diisocyanate (MDI) 101-68-8 | = 31600 mg/kg (Rat) = 9200 mg/kg (Rat) | - | = 369 mg/m ³ (Rat) 4 h |
| Polymeric Diphenylmethane Diisocyanate (pMDI) 9016-87-9 | = 49 g/kg (Rat) | > 9.4 g/kg (Rabbit) > 9400 mg/kg (Rabbit) | = 490 mg/m ³ (Rat) 4 h |
| 1,1'- Methylenebis [isocyanatobenzene] 26447-40-5 | > 10000 mg/kg (Rat) | > 10000 mg/kg (Rabbit) | = 490 mg/m ³ (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

- Skin corrosion/irritation** No information available.
- Serious eye damage/eye irritation** No information available.
- Respiratory or skin sensitization** No information available.
- Germ cell mutagenicity** No information available.
- Carcinogenicity** No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|--|-------|---------|-----|------|
| Methylenediphenyl diisocyanate (MDI) 101-68-8 | - | Group 3 | - | - |
| Polymeric Diphenylmethane Diisocyanate (pMDI) 9016-87-9 | - | Group 3 | - | - |
| 1,1'- Methylenebis [isocyanatobenzene] 26447-40-5 | - | Group 3 | - | - |

- Reproductive toxicity** No information available.
- STOT - single exposure** No information available.
- STOT - repeated exposure** No information available.
- Target organ effects** Respiratory system, Eyes.
- Subchronic toxicity** Not applicable.
- Neurological effects** None known.
- Other adverse effects** No information available.
- Aspiration hazard** No information available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity No information available.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to | Crustacea |
|---------------|----------------------|------|-------------|-----------|
| | | | | |

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| | | | microorganisms | |
|--|---|---|----------------|------------------------------------|
| 1,1'-Methylenebis [isocyanatobenzene] 26447-40-5 | 3230: 96 h Skeletonema costatum mg/L EC50 | - | - | 1000: 24 h Daphnia magna mg/L EC50 |

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Bioconcentration factor (BCF) No data available

Component Information

| Chemical name | Partition coefficient |
|--|-----------------------|
| 1,1'-Methylenebis [isocyanatobenzene] 26447-40-5 | 4.5 |

Mobility No information available.

Other adverse effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty remaining contents.

US EPA Waste Number U037

Section 14: TRANSPORT INFORMATION

DOT

UN/ID no. UN3082
Proper shipping name Environmentally hazardous substance, liquid, n.o.s. [Contains methylenediphenyl diisocyanate]
Hazard Class 9
Packing Group III
Reportable Quantity (RQ) 10000 Reportable Quantity of Product (Lbs)

IATA

UN/ID no. UN3334
Proper shipping name Aviation regulated liquid, n.o.s. [Methylenediphenyl diisocyanate]
Hazard Class 9
Packing Group III

IMDG

Not regulated

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Section 15: REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

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 chemicals (i.e. GHS). Please refer to Section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|--|--------------------------|------------------------------------|
| Methylenediphenyl diisocyanate (MDI) 101-68-8 | 5000 lb | - |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|--|------------|---------------|--------------|
| Methylenediphenyl diisocyanate (MDI) 101-68-8 | X | X | X |
| Polymeric Diphenylmethane Diisocyanate (pMDI) 9016-87-9 | X | - | - |
| 1,1'-Methylenebis [isocyanatobenzene] 26447-40-5 | X | X | - |

U.S. EPA Label Information

Section 16: OTHER INFORMATION

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NFPA **Health hazards** 3 **Flammability** 1 **Instability** 0 **HMIS**
Chronic Hazard Star Legend * = *Chronic Health Hazard*

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Revision Note
Disclaimer

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.

End of Safety Data Sheet