



SAFETY DATA SHEET

Tennant CRU - Part B

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Directives

1. PRODUCT IDENTIFICATION

1.1 TRADE NAME (AS LABELED):

Tennant CRU - Part B

SYNONYMS:

Polyol

CAS#:

Mixture

PRODUCT #:

9018456

1.2 PRODUCT USE:

Urethane Component

CHEMICAL SHIPPING NAME/CLASS:

See Section 14 for Details

U.N. NUMBER:

See Section 14 for Details

1.3 NORTH AMERICA:

MANUFACTURER'S NAME:

Tennant Company

ADDRESS:

701 North Lilac Drive, P.O. Box 1452, Minneapolis, MN 55440-1452

BUSINESS PHONE:

1-763-540-1200

1.4 EUROPE:

MANUFACTURER'S NAME:

Tennant Benelux N.V.

ADDRESS:

Roderveldaan 3, 2600 Antwerpen, Belgium

BUSINESS PHONE:

+32-3-2179411

EMERGENCY PHONE:

800-424-9300 (Chemtrec U.S. – 24 Hrs)

1-703-527-3887 (Chemtrec International – 24 Hrs)

info@tennantco.com

EMAIL:

DATE OF CURRENT REVISION:

September 18, 2018

DATE OF LAST REVISION:

New

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a clear liquid with an ether-like odor.

Health Hazards: May cause eye irritation. May cause skin sensitization.

Flammability Hazards: This product is a combustible liquid with a flash point of 186°F (85°C).

Reactivity Hazards: None known

Environmental Hazards: The Environmental effects of this product have not been investigated. Release of this product may have significant adverse effects in the aquatic environment.

US DOT SYMBOLS

CANADA (WHMIS) SYMBOLS

EUROPEAN and (GHS) Hazard Symbols

See Section 14 for Details

Complies with WHMIS 2015



Signal Word: **Warning**

2.1 EU LABELING AND CLASSIFICATION:

This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC, 2015/830/EU and subsequent Directives.

EU HAZARD CLASSIFICATION OF INGREDIENTS:

Index Number:

EC# 248-258-5 This substance is not classified in the Annex VI

EC# 203-572-1 Annex VI Index# 607-194-00-1

EC# 604-497-0 This substance is not classified in the Annex VI

Substances not listed either individually or in group entries must be self classified.

Component(s) Contributing to Classification(s)

Propylene Carbonate, Modified Oxazolidine



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2.2 LABEL ELEMENTS:

GHS Hazard Classification(s):

- Combustible Liquid Category 4
- Eye Irritant Category 2
- Skin Sensitization Category 1

Hazard Statement(s):

- H227: Combustible liquid
- H319: Causes serious eye irritation
- H317: May cause an allergic skin reaction

Prevention Statements(s):

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.
- P264: Wash thoroughly after handling.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P280: Wear protective gloves/ protective clothing / eye and face protection.

Response Statement(s):

- P370+P378: In case of fire: Use media defined in Section 5 to extinguish.
- P302+P352: IF ON SKIN: Wash with plenty of water.
- P321: Specific treatment (See Section 4 on this SDS)
- P333+P313: If skin irritation or rash occurs: Get medical attention.
- P362+P364: Take off contaminated clothing and wash it before reuse.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313: If eye irritation persists: Get medical advice/attention.

Storage Statement(s):

- P403: Store in a well-ventilated place.

Disposal Statement(s):

- P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 HEALTH HAZARDS OR RISKS FROM EXPOSURE:

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of overexposure for this product are by contact with skin or eyes, inhalation and ingestion. The symptoms of overexposure are described below.

ACUTE:

INHALATION: Under normal product use, inhalation exposure should be minimal. Contains materials which have the potential to cause headaches, nausea, dizziness and respiratory tract irritation upon inhalation of vapors heated to high temperatures.

CONTACT WITH SKIN: Contains materials which may cause skin irritation.

EYE CONTACT: Contains materials which may cause eye irritation. During application/use of this product, contact lenses should NOT be worn.

INGESTION: Under normal conditions of intended use, this material is not expected to be an ingestion hazard. Contains materials which can cause a burning sensation, vomiting, diarrhea, drowsiness and tissue damage. Aspiration of material into lungs can cause chemical pneumonitis which can be fatal.

CHRONIC: None known.

TARGET ORGANS: **Acute:** Skin, Respiratory System and Eyes **Chronic:** No data available.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients:	WT%	CAS#	EINECS #	Hazard Classification
Dipropylene Glycol Dibenzoate	40-60%	27138-31-4	248-258-5	Not Classified
Propylene Carbonate	40-60%	108-32-7	203-572-1	Eye Irrit Cat 2A
Modified Oxazolidine	5-10%	145899-78-1	604-497-0	Eye Irrit Cat 2A, Skin Sens Cat 1
Balance of other ingredients is less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).				

Actual concentrations have been withheld as trade secret.



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4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention.

SKIN CONTACT: Wash skin thoroughly with soap and water after handling. Seek medical attention if irritation develops and persists.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

INGESTION: If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing skin or respiratory conditions may have conditions aggravated by exposure.

4.2 SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

May cause eye irritation. May cause skin sensitization.

4.3 RECOMMENDATIONS TO PHYSICIANS:

Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

5.1 FIRE EXTINGUISHING MATERIALS:

FIRE EXTINGUISHING MATERIALS: Use fire extinguishing methods below:

<u>Water Spray:</u> No	<u>Carbon Dioxide:</u> Yes
<u>Foam:</u> Yes	<u>Dry Chemical:</u> Yes
<u>Halon:</u> Yes	<u>Other:</u> Any "C" Class

5.2 UNUSUAL FIRE AND EXPLOSION HAZARDS:

Water may be ineffective, but may be used to cool closed containers to prevent pressure buildup or possible auto ignition when exposed to extreme heat (fog nozzles preferred).

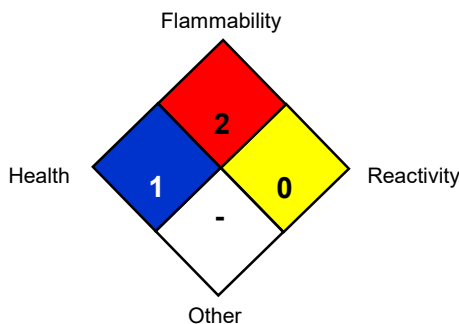
Explosion Sensitivity to Mechanical Impact: No

Explosion Sensitivity to Static Discharge: No

5.3 SPECIAL FIRE-FIGHTING PROCEDURES:

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

NFPA RATING SYSTEM



HMIS RATING SYSTEM

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM			
HEALTH HAZARD (BLUE)			1
FLAMMABILITY HAZARD (RED)			2
PHYSICAL HAZARD (YELLOW)			0
PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	See Sect 8		See Sect 8
For Routine Industrial Use and Handling Applications			

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard



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6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

See section 8.2 for Exposure Controls.

6.2 ENVIRONMENTAL PRECAUTIONS:

None known.

6.3 SPILL AND LEAK RESPONSE:

Stop the flow of material, if this can be done safely. Floor may be slippery; use care to avoid falling. Dike and contain the spill with inert material (sand, earth, fuller's earth, etc.) and if appropriate, transfer the liquid and solid diking material to containers for disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Wash clothing before reuse. Keep spill out of all sewers and open bodies of water. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Use good hygiene practices. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Use good hygiene practices.

7.2 STORAGE AND HANDLING PRACTICES:

Store in original container. Keep container closed. Store in a cool, dry location. Avoid exposure to ignition sources and incompatible materials. Store inside in a cool (below 100°F or 37.5°C), dry place.

7.3 SPECIFIC USES:

See section 1.2 for details.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

8.1 EXPOSURE PARAMETERS:

Chemical Name	CAS#	ACGIH TLV	OSHA TWA
Dipropylene Glycol Dibenzoate	27138-31-4	Not Listed	Not Listed
Propylene Carbonate	108-32-7	Not Listed	Not Listed
Modified Oxazolidine	145899-78-1	Not Listed	Not Listed

8.2 EXPOSURE CONTROLS:

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below guidelines listed above. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses or chemical splash goggles are recommended to avoid contact. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

HAND PROTECTION: Chemical resistant gloves are recommended to prevent contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

BODY PROTECTION: Use as appropriate to prevent skin contact. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.



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9. PHYSICAL and CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE (Physical State) and COLOR: This product is a clear liquid with an ether-like odor.

ODOR: Slight

ODOR THRESHOLD: Not Available

pH: Not Applicable

MELTING/FREEZING POINT: Not Available

BOILING POINT: Not Available

FLASH POINT: 186°F (85°C)

EVAPORATION RATE (n-BuAc=1): Not Available

FLAMMABILITY (SOLID, GAS): Not Applicable

UPPER/LOWER FLAMMABILITY OR EXPLOSION LIMITS: Not Available

VAPOR PRESSURE (mm Hg @ 20°C (68°F): Not Available

VAPOR DENSITY: Heavier than air

RELATIVE DENSITY: Not Available

DENSITY: 1.2 kg/L

SOLUBILITY IN WATER: Not Soluble

WEIGHT PER GALLON: Not Available

PARTITION COEFFICIENT (n-octanol/water): Not Available

AUTO-IGNITION TEMPERATURE: Not Available

DECOMPOSITION TEMPERATURE: Not Available

VISCOSITY: Not Available

VOC g/l / Lb/gal: 2/0.01

9.2 OTHER INFORMATION:

No additional information available.

10. STABILITY and REACTIVITY

10.1 REACTIVITY:

This product is not reactive.

10.2 STABILITY:

Stable under conditions of normal storage and use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Will not occur.

10.4 CONDITIONS TO AVOID:

Incompatible materials, excessive heat.

10.5 MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:

Strong oxidizing agents. In the presence of moisture/water, isobutyraldehyde may be produced. Isobutyraldehyde vapors are heavier than air and forms an explosive mixture with it.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition products include carbon dioxide, carbon monoxide and nitrogen oxides in varying quantities.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

TOXICITY DATA:

Dipropylene Glycol Dibenzoate CAS# 27138-31-4

Oral rat LD50: 5313 mg/kg

Skin rabbit LD50: >2000 mg/kg

Propylene Carbonate CAS# 108-32-7

Oral rat LD50: >5 g/kg

Skin rabbit LD50: >2 g/kg

Modified Oxazolidine CAS# 145899-78-1

Oral rat LD50: >2000 mg/kg

Skin rabbit LD50: >2000 mg/kg



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SUSPECTED CANCER AGENT: None of ingredients within this product are found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product may be irritating to skin, eyes or respiratory system.

SENSITIZATION TO THE PRODUCT: This product is not considered be a skin and respiratory system sensitizer

REPRODUCTIVE TOXICITY INFORMATION: No information concerning the effects of this product and its components on the human reproductive system.

MUTAGENICITY INFORMATION: This product does not contain a component that is suspected to be a mutagenicity hazard

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: Data not sufficient for classification.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE: Data not sufficient for classification.

12. ECOLOGICAL INFORMATION

12.1 TOXICITY:

No specific data available on this product.

12.2 PERSISTENCE AND DEGRADABILITY:

No specific data available on this product.

12.3 BIOACCUMULATIVE POTENTIAL:

No specific data available on this product.

12.4 MOBILITY IN SOIL:

No specific data available on this product.

12.5 RESULTS OF PBT AND vPvB ASSESSMENT:

No specific data available on this product.

12.6 OTHER ADVERSE EFFECTS:

This product may cause harm to plants, animals or aquatic life.

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

12.7 WATER ENDANGERMENT CLASS:

Not water endangering in accordance with EU Guideline 91/155-EWG.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:

Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

13.2 EU Waste Code:

Not determined

14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS: This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

NOTE: This product is defined as a Combustible Liquid with a flash between 100° and 200°F. Combustible liquids PGIII may be shipped ground or rail within the U.S. in quantities less than 115 gallons as Non-Regulated Material and are not subject to Placarding. Bulk packaging means packaging other than vessel or barge that has a maximum capacity greater than 450 L (119 gal) for liquid (49 CFR 171.8).

BULK SHIPMENTS WITHIN U.S.:

14.1 PROPER SHIPPING NAME:

Combustible Liquid, n.o.s.

14.2 HAZARD CLASS NUMBER and DESCRIPTION:

Class 3

14.3 UN IDENTIFICATION NUMBER:

UN1993

14.4 PACKING GROUP:

PGIII

14.5 DOT LABEL(S) REQUIRED:

Flammable Class 3

14.6 NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER: 128

RQ QUANTITY:

NA

MARINE POLLUTANT: None of the components of this product are designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).



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14.7 SPECIAL PRECAUTIONS FOR USER: None

14.8 INTERNATIONAL TRANSPORTION:

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not considered as dangerous goods with flash point greater than 141°F

PROPER SHIPPING NAME: Non-Regulated Material

HAZARD CLASS NUMBER and DESCRIPTION: None

UN IDENTIFICATION NUMBER: None

PACKING GROUP: None

DOT LABEL(S) REQUIRED:

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not considered as dangerous goods.

14.9 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND IBC CODE:

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not considered by the United Nations Economic Commission for Europe to be dangerous goods.

15. REGULATORY INFORMATION

15.1 UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act as follows: None

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory or are exempted from listing.

OTHER U.S. FEDERAL REGULATIONS: None

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Ingredients within this product are not on the Proposition 65 Lists.

15.2 CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are on the DSL Inventory, or are exempted from listing.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: Classified per WHMIS 2015.

15.3 EUROPEAN ECONOMIC COMMUNITY INFORMATION:

This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

See Section 2 for full Details.

15.4 AUSTRALIAN INFORMATION FOR PRODUCT: The components of this product are listed on the International Chemical Inventory list.

15.5 JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

JAPANESE ENCS INVENTORY: The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.



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15.6 INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): Listed

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed

Swiss Giftlist List of Toxic Substances: Listed

U.S. TSCA: Listed

16. OTHER INFORMATION

PREPARED BY: Chris Eigbrett – (MSDS to GHS Compliance)

DATE OF PRINTING: September 18, 2018

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Tennant Company assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Tennant Company assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

END OF SDS SHEET