



A Proven Fit
Two Brands, One Mission

1. Product and Company Identification

Product Name: Dzolv

VersaFlex / Raven Lining Systems
686 South Adams Street
Kansas City, KS 66105

www.versaflex.com / www.ravenlining.com

Company Phone: (913) 321-9000
Company Toll Free: (800) 321-0906

CHEMTREC 24 hour Emergency USA: (800) 424-9300
CHEMTREC 24 hour International: (703) 527-3887

Product Use: Cleaning cured isocyanates and epoxy from equipment
Not recommended for: Non Professional Use

2. Hazards Identification

Signal Word: Danger



GHS Ratings:

Flammable liquid	4	Flash point $\geq 60^{\circ}\text{C}$ (140°F) and $\leq 93^{\circ}\text{C}$ (200°F).
Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: $\geq 2.3 < 4.0$ or persistent inflammation.
Eye corrosive	2A	Eye irritant: Subcategory 2A, Reversible in 21 days.
Reproductive toxin	1B	Presumed, Based on experimental animals.
Organ toxin single exposure	3	Transient target organ effects- Narcotic effects- Respiratory tract irritation.

GHS Hazards

H227	Combustible liquid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.

GHS Precautions

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces - No smoking.
P235	Keep cool.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see Section 4 of the SDS).

P362	Take off contaminated clothing and wash before reuse.
P302+P352	IF ON SKIN: Wash with soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse continuously 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.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use water for or fine spray for extinction.
P405	Store locked up.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P403+P235	Store in a well ventilated place. Keep cool.
P501	Dispose of contents/container according to Section 13 of the SDS.

3. Composition / Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
N-Methylpyrrolidone	872-50-4	30 - 40%
Propylene Carbonate	108-32-7	20 - 30%
Trade Secret		5 - 15%
Trade Secret		5 - 15%
Trade Secret		5 - 15%
Methoxypropoxypropanol	34590-94-8	1 - 5%

4. First Aid Measures

Inhalation: Remove to fresh air if effects occur. Consult a physician.

Eye Contact: Flush with large quantities of water for at least 15 minutes. Consult a physician.

Skin Contact: Wash thoroughly with soap and flowing water.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

Flash Point: >93 C (>200 F)

Flammable Properties: Product is not considered a fire hazard, but will burn if ignited. NFPA Flammability Class: III B (Combustible liquid).

The definition and classification of flammable and combustible liquids are addressed in NFPA 30. A flammable liquid is defined as a liquid whose flash point is < 100 deg F (38 deg C), while a combustible liquid is one whose flash point is ≥ 100 deg F. These groups are further classified into the following NFPA Flammability Classes:

Class IA liquids are flammable liquids that have a flash point < 73 deg F (23 deg C) and boiling point < 100 deg F.

Class IB liquids are flammable liquids that have a flash point < 73 deg F and a boiling point ≥ 100 deg F.

Class IC liquids are flammable liquids that have a flash point ≥ 73 deg F, but < 100 deg F.

Class II liquids are combustible liquids that have a flash point > 100 deg F, but < 140 deg F (60 deg C).

Class IIIA liquids are combustible liquids that have a flash point ≥ 140 deg F, but < 200 deg F (93 deg C).

Class IIIB liquids are combustible liquids that have a flash point ≥ 200 deg F.

Suitable Extinguishing Media: Carbon dioxide, dry chemical, water fog or fine spray or alcohol resistant foam.

Unsuitable Extinguishing Media: Do not use direct water stream, as it may spread fire.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide,

ketones and other unidentified toxic and/or irritating compounds.

Fire Fighting: Stay upwind and keep people away. Isolate fire and deny unnecessary entry. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible, as it may cause environmental damage. Review section 6 and section 12 of this SDS.

Protection of Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA) and approved protective clothing (helmet, coat, trousers, boots and gloves). If contact is likely, use full chemical resistant fire fighting clothing with SCBA.

6. Accidental Release Measures

Personal Precautions: Put on appropriate personal protective equipment (see section 8).

Environmental Precautions: Prevent spilled material from contact with soil, drains and sewers.

Methods for Containment: Contain by diking with sand, earth or other suitable material.

Methods for Clean-up: Absorb spill with an inert material, use non-sparking tools to place into labeled waste container for disposal.

7. Handling and Storage

Handling: Wear appropriate personal protective equipment (see section 8). Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not ingest. Avoid prolonged or repeated contact with skin. May cause allergic skin reaction, persons with a history of skin sensitization should not be employed in any process in which this product is used. Wash thoroughly with soap and water after handling. Do not handle or store near flame, heat or strong oxidants. Keep away from sources of ignition and hot metal surfaces.

Storage: Store original unopened containers in a sheltered area between 60°F and 80°F (15°C and 27°C) at atmospheric pressure. Do not store in direct sunlight. Keep containers closed when not in use.

8. Exposure Controls / Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
N-Methylpyrrolidone 872-50-4	Not Established	Not Established	Not Established
Propylene Carbonate 108-32-7	Not Established	Not Established	Not Established
Trade Secret 106-65-0	Not Established	Not Established	Not Established
Trade Secret 1119-40-0	Not Established	Not Established	Not Established
Trade Secret 627-93-0	Not Established	Not Established	Not Established
Methoxypropoxypropanol 34590-94-8	100 ppm TWA; 600 mg/m3 TWA	150 ppm STEL 100 ppm TWA	NIOSH: 100 ppm TWA; 600 mg/m3 TWA 150 ppm STEL; 900 mg/m3 STEL

Engineering Controls: General mechanical ventilation is sufficient for most conditions. Control airborne levels below the exposure guidelines, if established.

Local exhaust ventilation may be necessary for some operations.

General Hygiene Considerations: Wash thoroughly after handling and before eating, drinking or smoking.

Eye/face Protection: Use chemical safety glasses, splash-proof eye goggles or goggles with full faceshield.

Skin Protection: Use nitrile or other impermeable chemical resistant gloves to prevent skin irritation. If potential for skin contact is present, wear impervious, long-sleeved, body covering clothing and rubber boots.

Respiratory Protection: Respiratory protection should not be needed. If exposure may or does exceed occupational exposure limits, or respiratory irritation is experienced, use a properly fitted MSHA/NIOSH approved respirator fitted with organic vapor cartridges. If the respirator is the sole means of protection, use a full-face supplied air respirator. If sanding or grinding on cured material, use above respirator fitted with HEPA filters or a dust mask.

Contaminated Gear: Remove contaminated clothing and shoes while washing. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

9. Physical and Chemical Properties

<p>Appearance Clear to pale yellow</p> <p>Odor Threshold No data found</p> <p>pH No data found</p> <p>Boiling Point >94°C</p> <p>Flash Point >200°F, >93°C</p> <p>Flammability (solid, gas) No data found</p> <p>Vapor Pressure No data found</p> <p>Specific Gravity 1.0 - 1.2</p> <p>Partition Coefficient (n-octanol/water) No data found</p> <p>Decomposition Temperature No data found</p> <p>Lbs VOC/Gallon Less Water 6.5</p>	<p>Odor Solvent odor</p> <p>Physical State Liquid</p> <p>Melting/Freezing Point No data found</p> <p>Boiling Range No data found</p> <p>Evaporation Rate No data found</p> <p>LEL/UEL No data found</p> <p>Vapor Density No data found</p> <p>Solubility in Water No data found</p> <p>Autoignition Temperature No data found</p> <p>Viscosity No data found</p>
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10. Stability and Reactivity

Chemical Stability: Stable under recommended storage conditions (see Section 7).

Conditions to Avoid: Heat, flames and sparks.

Incompatible Materials: Strong acids, bases, or oxidizing agents.

Products of Combustion: Thermal decomposition in the presence of air may yield carbon monoxide, carbon dioxide, ketones and other unidentified toxic and/or irritating compounds.

Hazardous polymerization will not occur.

11. Toxicological Information

Mixture Toxicity

Inhalation Toxicity LC50: 9mg/L

Component Toxicity

872-50-4 N-Methylpyrrolidone
Oral LD50: 3,914 mg/kg (Rat) Inhalation LC50: 3 mg/L (Rat)

Likely Routes of Exposure:

No data found

Target Organs

May cause damage to the following organs:

Eyes Central Nervous System Respiratory System

Effects of Overexposure

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
None			No data found

12. Ecological Information

Component Ecotoxicity

N-Methylpyrrolidone	96 Hr LC50 Lepomis macrochirus: 832 mg/L [static]; 96 Hr LC50 Pimephales promelas: 1072 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 1400 mg/L [static] 48 Hr EC50 Daphnia magna: 4897 mg/L 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L
Propylene Carbonate	96 Hr LC50 Cyprinus carpio: >1000 mg/L [semi-static] 48 Hr EC50 Daphnia magna: >500 mg/L 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L
Trade Secret	96 Hr LC50 Brachydanio rerio: 50 - 100 mg/L [static]
Trade Secret	96 Hr LC50 Pimephales promelas: 19.6 - 26.2 mg/L [static] 48 Hr EC50 Daphnia magna: 122.1 - 163.5 mg/L
Methoxypropoxypropanol	96 Hr LC50 Pimephales promelas: >10000 mg/L [static] 48 Hr LC50 Daphnia magna: 1919 mg/L

13. Disposal Considerations

Waste Disposal Methods: Dispose of in accordance with federal, state and local regulations. The preferred method for disposal of uncontaminated product is by recycling, reclaiming, incineration or other thermal destruction device using a licensed and permitted waste disposal contractor.

14. Transport Information

This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by land, as long as the material is not a hazardous waste, a marine pollutant, or specifically listed as a hazardous substance.

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT	Not Regulated			

15. Regulatory Information

USA Federal: This SDS has been prepared in compliance with the Occupational Safety and Health Act (OSHA) Hazard Communication Standard (29 CFR 1910.1200). This product is considered to be a hazardous chemical under that standard. The specific chemical identity and/or exact percentage of any proprietary ingredient(s) may be withheld as a trade secret, pursuant to the standard.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): To the best of our knowledge, this product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity at levels which require warning under this statute:

872-50-4 N-Methylpyrrolidone 30 to 40 % Developmental Toxicity

USA Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) - section 103 Hazardous Substances Reportable Quantities (RQs): To the best of our knowledge, this product contains the following chemicals which are listed in 40 CFR 302.4:

- None

Massachusetts Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

34590-94-8 Methoxypropoxypropanol 1 to 5 %
872-50-4 N-Methylpyrrolidone 30 to 40 %

New Jersey Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

34590-94-8 Methoxypropoxypropanol 1 to 5 %
872-50-4 N-Methylpyrrolidone 30 to 40 %

Pennsylvania Right to Know: To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

34590-94-8 Methoxypropoxypropanol 1 to 5 %
872-50-4 N-Methylpyrrolidone 30 to 40 %

USA Resource Conservation and Recovery Act (40 CFR 261): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Superfund Amendments and Reauthorization Act (SARA) of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 313 Toxic Release Inventory (TRI) Form R: To the best of our knowledge, this product contains the following chemicals which are listed in 40 CFR 372.65:

872-50-4 N-Methylpyrrolidone 30 to 40 %

USA Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) - section 302 Extremely Hazardous Substances Threshold Planning Quantities (TPQs): To the best of our knowledge, this product contains the following chemicals at levels which require reporting under this statute:

- None

USA Toxic Substances Control Act (TSCA) - section 12(b): To the best of our knowledge, this product contains the following chemicals above the de minimus concentration(s) which requires notification to the Environmental Protection Agency (EPA) per 40 CFR 707, subpart D, if any person intends to export:

- None

Country	Regulation	All Components Listed
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Canada Domestic Substance List	Yes
Canada	Canada Non-Domestic Substances List (NDSL)	No
China	China Inventory of Existing Chemical Substances	Yes
EU	EU REACH List of Registered Intermediates	No
EU	EU REACH List of Pre-Registered Substances	Yes
EU	EU REACH List of Registered Substances	Yes
Japan	Japanese Existing and New Chemical Substances List	Yes
South Korea	South Korea Existing Chemicals Inventory	Yes
Philippines	Philippines Inventory of Chemicals and Chemical	Yes
USA	USA TSCA Inventory list section 8(b)	Yes

- None

16. Other Information

Legend

ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
ADR/RID	European Agreement for transport of dangerous goods by road (ADR) and by rail (RID)
CAS No.	Chemical Abstract Service Registry Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act, AKA "Superfund"
DOT	Department of Transportation (USA)
HCS	OSHA Hazard Communication Standard (29 CFR 1910.1200)
IARC	International Agency for Research on Cancer

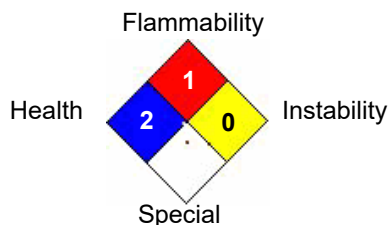
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IMDG	International Maritime Dangerous Goods
MSHA	Mine Safety and Health Administration
N.A.	Not Applicable
N.D.	Not Determined
N.E.	Not Established
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration (USA)
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act of 1986 (40 CFR)
STEL	Short Term Exposure Limit (15 minute Time Weighted Average)
TDG	Canada Transport of Dangerous Goods regulations
TLV	Threshold Limit Value
TWA	Time Weighted Average
WHMIS	Canada Workplace Hazardous Materials Information System

Hazardous Material Information System (HMIS)

HEALTH	<input type="text" value="2"/>
FLAMMABILITY	<input type="text" value="1"/>
PHYSICAL HAZARD	<input type="text" value="0"/>
PERSONAL PROTECTION	<input type="text"/>

HMIS & NFPA Hazard Rating Legend
 * = Chronic Health Hazard
 0 = INSIGNIFICANT
 1 = SLIGHT
 2 = MODERATE
 3 = HIGH

National Fire Protection Association (NFPA)



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Reviewer Revision

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