

SAFETY DATA SHEET

Revision: 5.0
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SECTION 1: Product and Company Identification

PRODUCT NAME: Thermalbright® C Resin in Diglyme®

MANUFACTURER/SUPPLIER:
NeXolve Holding Company, LLC
290 Dunlop Blvd, Suite 200
Huntsville, AL 35824
256-836-7780

EMERGENCY HEALTH/EMERGENCY SPILL INFORMATION:

**For Hazardous Materials [or Dangerous Goods] Incident
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN702632 or
+1 703-527-3887 (collect calls accepted)**

For R&D use only. Not for drug, household or other uses.

SECTION 2: Hazards Identification

GHS Classification

Flammable liquids (Category 3), H226
Reproductive toxicity (Category 1B), H360

GHS Label elements, including precautionary statements

Pictograms:



Signal word: Danger

Hazard statement(s):

H226 Flammable liquid and vapor.

H360 May damage fertility or the unborn child.

Precautionary statement(s):

P201 Obtain special instructions before use.

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

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. – No Smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion – proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non – sparking tools.

P243 Take precautionary measures against static discharge.

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

P303 + P361 + P353 IF On Skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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

P370 +P378 In case of fire: Use dry sand, dry chemical or alcohol – resistant foam for extinction.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

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

Other hazards

May form explosive peroxides.

HMIS Classification

Health hazard: 0

Chronic Health Hazard: *

Flammability: 2

Physical hazards: 0

NFPA Rating

Health hazard: 0

Fire: 2

Reactivity Hazard: 0

SECTION 3: Composition/information on ingredients

COMPONENT	CAS#	Range % by WT
Bis (2-methoxyethyl) ether	111-96-6	70-90%
CP1™ Polyimide	87182-96-5	10-30%
Proprietary Pigment	NA	10-30%

COMPONENT	Classification
Bis (2-methoxyethyl) ether	Flam. Liq. 3 (H226); Repr. 1B (H360)

SECTION 4: First Aid Measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: Firefighting Measures

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Alcohol-resistant foam, dry chemical, sand, or carbon dioxide.

Unsuitable extinguishing media

Do NOT use water jet.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

SECTION 7: Handling and Storage

Precautions for safe handling

Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage

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.

SECTION 8: Exposure controls/personal protection

Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Bis(2-methoxyethyl)ether	111-96-6	PEL	1 ppm 5.5 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

	Remarks	Skin		
		STEL	5 ppm 27 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

Predicted No Effect Concentration (PNEC) – Diglyme

Compartment	Value
Water	9.43 mg/L
Soil	1.72 mg/Kg
Marine Water	0.64 mg/L
Fresh Water	6.4 mg/L
Marine Sediment	2.74 mg/Kg
Fresh Water Sediment	27.4 mg/Kg
Onsite Sewage Treatment Plant	50 mg/L

Personal protective equipment:

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9: Physical and chemical properties

Appearance

Form Viscous liquid

Color	white to light grey
Safety data	
pH	no data available
Melting point/freezing Point	no data available -64 °C (-83 °F) - lit (for Bis(2-methoxyethyl)ether only)
Boiling point	no data available 162°C (324°F) - lit. (for Bis(2-methoxyethyl)ether only)
Flash point	no data available 51°C (124°F) - closed cup (for Bis(2-methoxyethyl)ether only)
Ignition temperature	no data available
Auto-ignition temp	no data available
Lower explosion limit	no data available 1.4 %(V) (for Bis(2-methoxyethyl)ether only)
Upper explosion limit	no data available 17.4 %(V) (for Bis(2-methoxyethyl)ether only)
Vapour pressure	no data available)
Density	1 g/cm ³ at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapor density	no data available
Odor	no data available
Odor Threshold	no data available
Evaporation rate	no data available

SECTION 10: Stability and Reactivity

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition product

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

SECTION 11: Toxicological Information

Acute toxicity

Oral LD50

No data available

For Bis(2-methoxyethyl) ether only
LD50 – (Rat, female) - 4,760 mg/kg
(OCED Test Guideline 401)

Inhalation LC50

no data available

For Bis(2-methoxyethyl) ether only
LC50 – (Rat, male and female) - 7 h - > 11 mg/l
(OCED Test Guideline 403)

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

For Bis(2-methoxyethyl) ether only
Skin - Rabbit
Result: No skin irritation - 24 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation

no data available

For Bis(2-methoxyethyl) ether only

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

(for Bis(2-methoxyethyl)ether only)

Ames test - *Salmonella typhimurium*: negative

unscheduled DNA synthesis assay - negative (OECD Test Guideline 475)

Rat - male and female - Bone marrow: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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

Reproductive toxicity

May damage the unborn child For Bis(2- methoxyethyl)ether only

May damage fertility For Bis(2- methoxyethyl)ether only

Teratogenicity

Laboratory experiments have shown teratogenic effects. For Bis(2- methoxyethyl)ether only

Presumed human reproductive toxicant For Bis(2- methoxyethyl)ether only

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Synergistic effects

no data available

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

SECTION 12: Ecological Information

Toxicity

no data available

(for Bis(2-methoxyethyl)ether only)

Toxicity to fish	LC50 - <i>Pimephales promelas</i> (fathead minnow) - 8,569 mg/l - 96 h Remarks: (IUCLID)
Toxicity to daphnia and other aquatic invertebrates	semi-static test - EC50 - <i>Daphnia magna</i> (Water flea) - 943 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	semi-static test - ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - > 10,000 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC20 - activated sludge - 1,067 mg/l - 3 h (OECD Test Guideline 209)

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Product

Contact a licensed professional waste disposal service to dispose of this material. Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transportation information

DOT (US)

UN number: 1866 Class: 3 Packing group: III
Proper shipping name: Resin Solution

IMDG

UN number: 1866 Class: 3 Packing group: III
Proper shipping name: Resin Solution

IATA

UN number: 1866 Class: 3 Packing group: III
Proper shipping name: Resin Solution

SECTION 15: Regulatory information

SARA 302 Components

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

SARA 313 Components

Component	CAS-No.	Revision Date
Bis(2-methoxyethyl)ether	111-96-6	1989-08-11

SARA 311/312 Hazards

Fire Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Component	CAS-No.	Revision Date
Bis(2-methoxyethyl)ether	111-96-6	1989-08-11

New Jersey Right To Know Components

Component	CAS-No.	Revision Date
Bis(2-methoxyethyl)ether	111-96-6	1989-08-11

California Prop. 65 Components

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

SECTION 16: Other information

The information contained herein is believed to be correct, but there is no guarantee such information is accurate or complete, and this Safety Data Sheet does not make any warranty, express or implied, regarding the product. NeXolve does not assume liability for any loss or damage, direct or indirect, arising out of the use of this information. The user is solely responsible for (1) the safe handling and use of this product, (2) legal compliance, and (3) all losses, damages, or liability from use of this product.