

## NuLock, Refrigerant Thread Sealant

### 1. Identification

#### Product identifier

NuLock, Refrigerant Thread Sealant (4289-02, 4289-05)

#### Recommended use of the chemical and restrictions on use

##### **Use of the substance/mixture**

Adhesives, sealants

##### **Uses advised against**

Any non-intended use.

#### Details of the supplier of the safety data sheet

Company name: Nu-Calgon  
Address: 2611 Schuetz Road, St. Louis, MO 63043  
Telephone: +314-469-7000 / 800-554-5499  
Email: Not Available.  
Supplier: See above.

**Emergency phone number:** 800-424-9300 (CHEMTREC)

### 2. Hazard(s) identification

#### Classification of the chemical

##### **29 CFR Part 1910.1200**

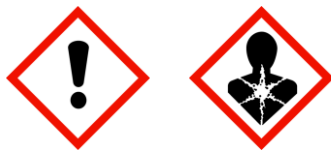
Skin corrosion/irritation: Skin Irrit. 2  
Serious eye damage/eye irritation: Eye Irrit. 2A  
Respiratory or skin sensitization: Skin Sens. 1  
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

#### Label elements

##### **29 CFR Part 1910.1200**

**Signal word:** Warning

**Pictograms:**



#### **Hazard statements**

Causes skin irritation  
May cause an allergic skin reaction  
Causes serious eye irritation  
May cause damage to organs through prolonged or repeated exposure

#### **Precautionary statements**

If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.

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If eye irritation persists: Get medical advice/attention.  
Get medical advice/attention if you feel unwell.  
Dispose of contents/container to local/regional/national/international regulations.

### Hazards not otherwise classified

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

## 3. Composition/information on ingredients

### Mixtures

#### Hazardous components

CAS No	Components	Quantity
25852-47-5	Polyglycol dimethacrylate	88.47 %
3290-92-4	Trimethylolpropane trimethacrylate	5 %
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide	1 %
114-83-0	2'-Phenylacetohydrazide	0.5 %

## 4. First-aid measures

### Description of first aid measures

#### General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

#### After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

#### After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

#### After contact with eyes

Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

#### After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

### Most important symptoms and effects, both acute and delayed

No information available.

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Dry extinguishing powder. alcohol resistant foam. Atomized water.

#### Unsuitable extinguishing media

High power water jet.

### Specific hazards arising from the chemical

Can be released in case of fire: Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

### Special protective equipment and precautions for fire-fighters

In case of fire: Wear self-contained breathing apparatus.

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### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Co-ordinate fire-fighting measures to the fire surroundings.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See protective measures under point 7 and 8.

### Environmental precautions

Discharge into the environment must be avoided.

### Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).  
Treat the recovered material as prescribed in the section on waste disposal.  
Clean contaminated objects and areas thoroughly observing environmental regulations.

### Reference to other sections

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Wear suitable protective clothing. (See section 8.)

#### Advice on protection against fire and explosion

Usual measures for fire prevention.

#### Further information on handling

General protection and hygiene measures: refer to chapter 8

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

#### Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

#### Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.  
Recommended storage temperature: 20°C  
Protect against: frost. UV-radiation/sunlight. heat. Humidity

## 8. Exposure controls/personal protection

### Control parameters

#### Additional advice on limit values

To date, no national critical limit values exist.

### Exposure controls



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### Appropriate engineering controls

No special measures are necessary.

### Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Standards: EN 166 or 29 CFR 1910.133

### Hand protection

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of the glove material 0,4 mm

Breakthrough time  $\geq$  8 h

Butyl rubber. - Thickness of the glove material 0,5 mm

Breakthrough time  $\geq$  8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of the glove material 0,5 mm

Breakthrough time  $\geq$  8 h

NBR (Nitrile rubber). - Thickness of the glove material 0,35 mm

Breakthrough time  $\geq$  8 h

PVC (Polyvinyl chloride). - Thickness of the glove material 0,5 mm

Breakthrough time  $\geq$  8 h

The selected protective gloves should satisfy the specifications of standards like EN 374.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

### Skin protection

Suitable protective clothing: Lab apron.

### Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

Exceeding exposure limit values

Suitable respiratory protective equipment: half-mask with filter EN 149 or 29 CFR 1910.134 .

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

### Environmental exposure controls

No special precautionary measures are necessary.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state:	liquid
Color:	Red
Odor:	Mild
pH-Value:	not determined
<b>Changes in the physical state</b>	
Melting point/freezing point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	not determined

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Sustaining combustion: Not sustaining combustion

### **Explosive properties**

none

Lower explosion limits: not determined

Upper explosion limits: not determined

Ignition temperature: not determined

### **Auto-ignition temperature**

Gas: not determined

Decomposition temperature: not determined

### **Oxidizing properties**

none

Vapor pressure: not determined

Density: not determined

Water solubility: not determined

### **Solubility in other solvents**

not determined

Partition coefficient: not determined

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

Flow time: not determined

Vapor density: not determined

Evaporation rate: not determined

Solvent separation test: not determined

Solvent content: not determined

### **Other information**

VOC content: 0.8%

No information available.

## 10. Stability and reactivity

### **Reactivity**

No information available.

### **Chemical stability**

Stability: Stable

The product is chemically stable under recommended conditions of storage, use and temperature.

### **Possibility of hazardous reactions**

Hazardous reactions: Will not occur

Refer to chapter 10.5.

### **Conditions to avoid**

Protect against: UV-radiation/sunlight. heat.

### **Incompatible materials**

Materials to avoid: Strong acid. Oxidizing agents, strong. Alkalis (alkalis), concentrated.

### **Hazardous decomposition products**

Can be released in case of fire: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

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### 11. Toxicological information

#### Information on toxicological effects

##### Route(s) of Entry

Ingestion: May be harmful if swallowed. Inhalation: May be harmful if inhaled. Skin contact: May cause irritation. Eye contact: May cause irritation.

##### Toxicokinetics, metabolism and distribution

No data available.

##### Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
3290-92-4	Trimethylolpropane trimethacrylate				
	oral	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	
80-15-9	cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide				
	oral	LD50 382 mg/kg	Rat	IUCLID	
	dermal	LD50 (500) mg/kg	Rat	RTECS	
	inhalation (4 h) vapour	LC50 (200) mg/l	Mouse.	IUCLID	
	inhalation aerosol	ATE 0,5 mg/l			
114-83-0	2'-Phenylacetohydrazide				
	oral	LD50 270 mg/kg	Mouse.	RTECS	

#### Irritation and corrosivity

Causes skin irritation

Causes serious eye irritation

#### Sensitizing effects

May cause an allergic skin reaction (Polyglycol dimethacrylate; 2'-Phenylacetohydrazide)

Respiratory or skin sensitization:

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

Trimethylolpropane trimethacrylate:

In-vitro mutagenicity:

OECD Guideline 471 (Bacterial Reverse Mutation Assay) = negative. Literature information: ECHA Dossier

OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) = negative. Literature information: ECHA Dossier

OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) = positive (with metabolic activation). = negative (without metabolic activation). Literature information: ECHA Dossier

In-vivo mutagenicity:

OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo) = negative.

Literature information: ECHA Dossier

OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) = negative. Literature information: ECHA

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Dossier

Reproductive toxicity: (45d, Rat.) NOAEL = >900 mg/kg(bw)/day; Literature information: ECHA Dossier

alpha,alpha-dimethylbenzyl hydroperoxide; cumene hydroperoxide:

In-vitro mutagenicity: OECD Guideline 471 (Bacterial Reverse Mutation Assay) = positive. Literature information: ECHA Dossier

No experimental indications of mutagenicity in-vivo exist. Literature information: ECHA Dossier

### Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

### Specific target organ toxicity (STOT) - repeated exposure

May cause damage to organs through prolonged or repeated exposure (cumene hydroperoxide, alpha,alpha-dimethylbenzyl hydroperoxide)

Trimethylolpropane trimethacrylate:

Chronic oral toxicity (45d, Rat.) NOAEL = >900 mg/kg(bw)/day; Literature information: ECHA Dossier

alpha,alpha-dimethylbenzyl hydroperoxide; cumene hydroperoxide:

Subchronic inhalative toxicity (Rat.) NOAEC = 31 mg/m<sup>3</sup>; Literature information: ECHA Dossier

Carcinogenicity (OSHA): No ingredient of this mixture is listed.

Carcinogenicity (IARC): No ingredient of this mixture is listed.

Carcinogenicity (NTP): No ingredient of this mixture is listed.

### Aspiration hazard

Based on available data, the classification criteria are not met.

### Specific effects in experiment on an animal

No information available.

## 12. Ecological information

### Ecotoxicity

The product has not been tested.

### Persistence and degradability

The product has not been tested.

### Bioaccumulative potential

No indication of bioaccumulation potential.

### Mobility in soil

No data available.

### Other adverse effects

No data available.

### Further information

Do not allow to enter into surface water or drains.

## 13. Disposal considerations

### Waste treatment methods

#### Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

#### Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

## 14. Transport information

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### US DOT 49 CFR 172.101

**Proper shipping name:** No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

**UN number:** No dangerous good in sense of this transport regulation.

**UN proper shipping name:** No dangerous good in sense of this transport regulation.

**Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**Packing group:** No dangerous good in sense of this transport regulation.

### Air transport (ICAO-TI/IATA-DGR)

**UN number:** No dangerous good in sense of this transport regulation.

**UN proper shipping name:** No dangerous good in sense of this transport regulation.

**Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**Packing group:** No dangerous good in sense of this transport regulation.

### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

### Special precautions for user

refer to chapter 6-8

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not relevant

## 15. Regulatory information

### U.S. Regulations

#### National Inventory TSCA

All components are listed in the TSCA 8 (b) inventory as "active" or exempted.

No components are listed under TSCA 12(b)

#### National regulatory information

SARA Section 304 CERCLA:

Cumene hydroperoxide (80-15-9): Reportable quantity = 10 (4.54) lbs. (kg)

SARA Section 311/312 Hazards:

Polyglycol dimethacrylate (25852-47-5): Immediate (acute) health hazard

Trimethylolpropane trimethacrylate (3290-92-4): Immediate (acute) health hazard

Cumene hydroperoxide (80-15-9): Reactive, Immediate (acute) health hazard, Delayed (chronic) health hazard

2'-Phenylacetohydrazide (114-83-0): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:

Cumene hydroperoxide (80-15-9): De minimis limit = 1.0 %, Reportable threshold = Standard

### State Regulations

#### Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## 16. Other information

### Hazardous Materials Information Label (HMIS)

Health: 2

Flammability: 0

Physical Hazard: 0

Personal Protection: B



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### NFPA Hazard Ratings

Health: 2  
Flammability: 0  
Reactivity: 0  
Unique Hazard: -



### Changes

Revision date: 07.02.2020  
Revision No: 1  
Rev. 1,00, 23.10.2014, Initial release  
Rev. 2,00; 07.02.2020; Changes in chapter: 1-16

### Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists  
ASTM: American Society for Testing and Materials.  
ATE: Acute toxicity estimate  
BCF: Bio concentration factor  
ECHA: European Chemicals Agency  
CAS: Chemical Abstracts Service  
CFR: Code of Federal Regulations  
DOT: Department of Transportation  
d: days  
EC50: Half maximal effective concentration  
EN: European Norm  
EPA: Environmental Protection Agency  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
h: hours  
HMIS: Hazardous Materials Identification System  
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER  
IBC: Intermediate Bulk Container  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
LOAEL: Lowest observed adverse effect level  
LOAEC: Lowest observed adverse effect concentration  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
MARPOL: marine pollution  
NOAEL: No observed adverse effect level  
NOAEC: No observed adverse effect concentration  
NTP: National Toxicology Program  
N/A: not applicable  
NFPA: National Fire Protection Association  
UN: United Nations  
OECD: Organization for Economic Co-operation and Development  
OSHA: Occupational Safety and Health Administration  
PBT: Persistent bio-accumulative toxic  
RTECS: Registry of Toxic Effects of Chemical Substances  
REACH: Registration, Evaluation, Authorization and Restriction of Chemicals  
SARA: Superfund Amendments and Reauthorization Act  
STEL: short-term exposure limits

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TSCA: Toxic Substances Control Act  
TWA: time weighted average  
VOC: Volatile Organic Compounds

### Other data

Classification according 29 CFR Part 1910.1200: - Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*