

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

1 Identification

- Product identifier

- **Trade name:** Vibra-TITE® Threadlocker
- **Synonyms:** 150 Medium Strength Wicking Grade Threadlocker
- **Part number:** VT150
- **Application of the substance / the mixture** Thread Locking

- Details of the supplier of the safety data sheet

- **Manufacturer/Supplier:**
ND Industries, Inc
1000 North Crooks Road
Clawson, MI 48017
USA
Telephone: +1-248-288-0000
Email: info@ndindustries.com
Website: www.ndindustries.com
- **Information department:** Product safety department
- **Emergency telephone number:**
United States: 1-800-424-9300
International: +1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- Label elements

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS07 GHS08

- **Signal word** Warning

- Hazard-determining components of labeling:

2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate
methacrylic acid, monoester with propane-1,2-diol
dimethylbenzyl hydroperoxide
2'-phenylacetohydrazide

- Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P264 Wash face, hands and any exposed skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 1)

P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P280	Wear protective gloves.
P280	Wear eye protection / face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously 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.
P312	Call a poison center/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P321	Specific treatment (see on this label).
P337+P313	If eye irritation persists: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:**- NFPA ratings (scale 0 - 4)**

1	Health = 2
2	Fire = 1
0	Reactivity = 0

- HMIS-ratings (scale 0 - 4)

2	HEALTH	Health = *2
1	FIRE	Fire = 1
0	REACTIVITY	Reactivity = 0

- Other hazards**- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

CAS: 25852-47-5	2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	70 – 79%
CAS: 27813-02-1	methacrylic acid, monoester with propane-1,2-diol Eye Irrit. 2A, H319; Skin Sens. 1, H317	10 – 19%
	Modified Epoxy Acrylate Oligomer Skin Irrit. 2, H315; Flam. Liq. 4, H227; Eye Irrit. 2B, H320	1 – 4%
CAS: 80-15-9	dimethylbenzyl hydroperoxide Self-react. F, H242; Org. Perox. E, H242; Acute Tox. 3, H311; STOT RE 2, H373; Asp. Tox. 1, H304; Eye Dam. 1, H318; Acute Tox. 4, H302; STOT SE 3, H335; Flam. Liq. 4, H227	1 – 4%
CAS: 114-83-0	2'-phenylacetohydrazide Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤ 1%
CAS: 98-82-8	cumene Flam. Liq. 3, H226; Carc. 2, H351; Asp. Tox. 1, H304; Acute Tox. 4, H302; STOT SE 3, H335	≤ 1%

4 First-aid measures

- Description of first aid measures**- After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.

- After skin contact: Immediately wash with water and soap and rinse thoroughly.

- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- After swallowing: If symptoms persist consult doctor.

- Information for doctor:

- Most important symptoms and effects, both acute and delayed No further relevant information available.

- Indication of any immediate medical attention and special treatment needed

No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
CO₂, sand, extinguishing powder. Do not use water.
 - **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
 - **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
No special precautions are necessary if used correctly.
 - **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 80-15-9 dimethylbenzyl hydroperoxide

WEEL	Long-term value: 6 mg/m ³ , 1 ppm Skin
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CAS: 98-82-8 cumene

PEL	Long-term value: 245 mg/m ³ , 50 ppm Skin
REL	Long-term value: 245 mg/m ³ , 50 ppm Skin
TLV	Long-term value: (246) NIC-0.5 mg/m ³ , (50) NIC-0.1 ppm NIC-A3

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 3)

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Breathing equipment:**

Not required.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Nitrile rubber, NBR

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Fluid
- **Color:** Green
- **Odor:** Characteristic
- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** ≥ 200 °C (≥ 392 °F)

- **Flash point:** 95 °C (203 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

- **Lower:** Not determined.
- **Upper:** Not determined.

- **Vapor pressure at 20 °C (68 °F):** ≤ 0.1 hPa (≤ 0.1 mm Hg)

- **Density:**

- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 4)

- Solubility in / Miscibility with	
- Water:	Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water): Not determined.	
- Viscosity:	
- Dynamic:	Not determined.
- Kinematic:	Not determined.
- Solvent content:	
- Organic solvents:	0.8 %
- Water:	1.3 %
- VOC content:	0.80 %
	8.0 g/l / 0.07 lb/gal
- Solids content:	77.5 %
- Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 - Aldehyde
 - Hydrocarbons

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**

- LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	16,777 mg/kg (rat)
Dermal	LD50	29,762 mg/kg (rat)
Inhalative	LC50/4 h	13,095 mg/l (rat)

CAS: 80-15-9 dimethylbenzyl hydroperoxide

Oral	LD50	382 mg/kg (rat)
Dermal	LD50	500 mg/kg (rat)
Inhalative	LC50/4 h	220 mg/l (rat)

CAS: 114-83-0 2'-phenylacetohydrazide

Oral	LD50	270 mg/kg (mouse)
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CAS: 98-82-8 cumene

Oral	LD50	1,400 mg/kg (rat)
Dermal	LD50	12,300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

- Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

- Sensitization:

Sensitization possible through skin contact.

- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

CAS: 98-82-8	cumene	2B
CAS: 91-20-3	naphthalene	2B
CAS: 1330-20-7	xylene	3

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 5)

- NTP (National Toxicology Program)

CAS: 98-82-8	cumene	R
CAS: 130-15-4	1,4-naphthoquinone	R
CAS: 91-20-3	naphthalene	R

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
 - **General notes:**
 - Water hazard class 1 (Self-assessment): slightly hazardous for water
 - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
 - **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- UN-Number	
- DOT, ADN, IMDG, IATA	not regulated
- UN proper shipping name	
- DOT, ADN, IMDG, IATA	not regulated
- Transport hazard class(es)	
- DOT, ADN, IMDG, IATA	
- Class	not regulated
- Packing group	
- DOT, IMDG, IATA	not regulated
- Environmental hazards:	
- Marine pollutant:	No
- Special precautions for user	Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
- UN "Model Regulation":	not regulated

*15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Sara**

- Section 355 (extremely hazardous substances):

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):

CAS: 80-15-9	dimethylbenzyl hydroperoxide
CAS: 98-82-8	cumene
CAS: 91-20-3	naphthalene

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 6)

CAS: 1330-20-7	xylene	
- TSCA (Toxic Substances Control Act):		
2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate		
methacrylic acid, monoester with propane-1,2-diol		
Saccharin		
dimethylbenzyl hydroperoxide		
propane-1,2-diol		
2'-phenylacetohydrazide		
cumene		
2-Phenyl-2-propanol		
Distillates (petroleum), hydrotreated light naphthenic		
Solvent Blue 98		
tetrasodium ethylenediaminetetraacetate		
N-isopropylhydroxylamine		
1-hydroxyethane-1,1-diybis(phosphonic acid)		
Solvent naphtha (petroleum), heavy arom.		
1,4-naphthoquinone		
Colorant		
naphthalene		
phosphorous acid		
2-Propanone, oxime		
xylene		
Deionized water		
- TSCA new (21st Century Act): (Substances not listed)		
CAS: 25852-47-5	2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate	
	Modified Epoxy Acrylate Oligomer	
CAS: 114-83-0	2'-phenylacetohydrazide	
- Hazardous Air Pollutants		
CAS: 98-82-8	cumene	
CAS: 130-15-4	1,4-naphthoquinone	
CAS: 91-20-3	naphthalene	
CAS: 1330-20-7	xylene	
- Proposition 65		
- Chemicals known to cause cancer:		
CAS: 98-82-8	cumene	
CAS: 91-20-3	naphthalene	
- Chemicals known to cause reproductive toxicity for females:		
None of the ingredients is listed.		
- Chemicals known to cause reproductive toxicity for males:		
None of the ingredients is listed.		
- Chemicals known to cause developmental toxicity:		
None of the ingredients is listed.		
- Carcinogenic categories		
- EPA (Environmental Protection Agency)		
CAS: 98-82-8	cumene	D, CBD
CAS: 91-20-3	naphthalene	C, CBD
CAS: 1330-20-7	xylene	I
- TLV (Threshold Limit Value established by ACGIH)		
CAS: 91-20-3	naphthalene	A4
CAS: 1330-20-7	xylene	A4
- NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 7)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** ND Industries, Inc. - Safety, Health and Environmental Affairs

- **Contact:** Safety, Health and Environmental Affairs

- **Date of preparation / last revision** 03/06/2019 / 28

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flam. Liq. 3: Flammable liquids – Category 3
 Flam. Liq. 4: Flammable liquids – Category 4
 Self-react. F: Self-reactive substances and mixtures – Type E/F
 Org. Perox. E: Organic peroxides – Type E/F
 Acute Tox. 4: Acute toxicity – Category 4
 Acute Tox. 3: Acute toxicity – Category 3
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
 Skin Sens. 1: Skin sensitisation – Category 1
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 Asp. Tox. 1: Aspiration hazard – Category 1

- * **Data compared to the previous version altered.**

- **Disclaimer**

The information set forth is based on information that ND Industries, Incorporated believes to be accurate. No warranty, expressed or implied, is intended. The information is provided solely for your information and consideration and ND Industries Inc. assumes no legal responsibility for use or reliance thereon. In the event of a discrepancy between the information on the non-English document and its English counterpart, the English version shall supersede.

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Safety Data Sheet
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Printing date 03/06/2019

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1 Identification

- Product identifier

- **Trade name:** Vibra-TITE® Retaining Compound
- **Synonyms:** 541 High Strength - Slip Fit Retaining Compound
- **Part number:** VT541
- **Application of the substance / the mixture**
Assembly adhesive
Retanning agents

- Details of the supplier of the safety data sheet

- **Manufacturer/Supplier:**
ND Industries, Inc
1000 North Crooks Road
Clawson, MI 48017
USA
Telephone: +1-248-288-0000
Email: info@ndindustries.com
Website: www.ndindustries.com
- **Information department:** Product safety department
- **Emergency telephone number:**
United States: 1-800-424-9300
International: +1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- Label elements

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS05 GHS07 GHS08

- Signal word Danger

- Hazard-determining components of labeling:

(1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bismethacrylate
acrylic acid
methacrylic acid, monoester with propane-1,2-diol
7,7,9(or7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate
2'-phenylacetohydrazide

- Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.

- Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 1)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P264	Wash face, hands and any exposed skin thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P280	Wear protective gloves.
P280	Wear eye protection / face protection.
P302+P352	If on skin: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously 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.
P314	Get medical advice/attention if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P321	Specific treatment (see on this label).
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a poison center/doctor.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:**- NFPA ratings (scale 0 - 4)**

3	1	0	Health = 3
			Fire = 1
			Reactivity = 0

- HMIS-ratings (scale 0 - 4)

HEALTH 3	Health = *3
FIRE 1	Fire = 1
REACTIVITY 0	Reactivity = 0

- Other hazards**- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

CAS: 24448-20-2	(1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediy)l bismethacrylate	30 – 39%
	Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1B, H317	
CAS: 27813-02-1	methacrylic acid, monoester with propane-1,2-diol	20 – 29%
	Eye Irrit. 2A, H319; Skin Sens. 1, H317	
CAS: 7779-31-9	Methacrylate onomer	10 – 19%
	Skin Irrit. 2, H315; Eye Irrit. 2A, H319	
CAS: 72869-86-4	7,7,9(or7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	5 – 9%
	Skin Sens. 1, H317; Flam. Liq. 4, H227	
CAS: 79-10-7	acrylic acid	4.9%
	Flam. Liq. 3, H226; Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	
CAS: 114-83-0	2'-phenylacetohydrazide	≤ 1%
	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	
CAS: 98-82-8	cumene	≤ 1%
	Flam. Liq. 3, H226; Carc. 2, H351; Asp. Tox. 1, H304; Acute Tox. 4, H302; STOT SE 3, H335	

4 First-aid measures

- Description of first aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 2)

- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
 - **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
CO₂, sand, extinguishing powder. Do not use water.
 - **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
 - **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Wear protective clothing.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
 - **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 79-10-7 acrylic acid

REL	Long-term value: 6 mg/m ³ , 2 ppm Skin
TLV	Long-term value: 5.9 mg/m ³ , 2 ppm Skin

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 3)

CAS: 98-82-8 cumene	
PEL	Long-term value: 245 mg/m ³ , 50 ppm Skin
REL	Long-term value: 245 mg/m ³ , 50 ppm Skin
TLV	Long-term value: (246) NIC-0.5 mg/m ³ , (50) NIC-0.1 ppm NIC-A3

- **Additional information:** The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- Breathing equipment:

Not required.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Nitrile rubber, NBR

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection:



Tightly sealed goggles

- Body protection: Protective work clothing

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

- Form:

Fluid

- Color:

Green

- Odor:

Weak, characteristic

- Odor threshold:

Not determined.

- pH-value:

Not determined.

- Change in condition

- Melting point/Melting range:

Undetermined.

- Boiling point/Boiling range:

≥ 170 °C (≥ 338 °F)

- Flash point:

95 °C (203 °F)

- Flammability (solid, gaseous):

Not applicable.

- Decomposition temperature:

Not determined.

- Auto igniting:

Product is not selfigniting.

- Danger of explosion:

Product does not present an explosion hazard.

- Explosion limits:

- Lower:

Not determined.

- Upper:

Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 4)

- Vapor pressure at 20 °C (68 °F):	≤ 0.1 hPa (≤ 0.1 mm Hg)
- Density at 20 °C (68 °F):	~ 1.1 g/cm ³ (~ 9.1795 lbs/gal)
- Relative density	Not determined.
- Vapor density	Not determined.
- Evaporation rate	Not determined.
- Solubility in / Miscibility with	
- Water:	Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water):	Not determined.
- Viscosity:	
- Dynamic at 20 °C (68 °F):	1,500 mPas
- Kinematic:	Not determined.
- Solvent content:	
- Organic solvents:	0.7 %
- Water:	1.0 %
- VOC content:	0.70 % ~ 7.7 g/l / ~ 0.06 lb/gal
- Solids content:	17.7 %
- Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**

- LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	5,102 mg/kg (rat)
Dermal	LD50	4,774 mg/kg
Inhalative	LC50/4 h	224 mg/l

CAS: 79-10-7 acrylic acid

Oral	LD50	250 mg/kg (rat)
Dermal	LD50	280 mg/kg (rabbit)
Inhalative	LC50/4 h	11 mg/l (ATE)

CAS: 114-83-0 2'-phenylacetohydrazide

Oral	LD50	270 mg/kg (mouse)
------	------	-------------------

CAS: 98-82-8 cumene

Oral	LD50	1,400 mg/kg (rat)
Dermal	LD50	12,300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.

- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive
Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 5)

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

CAS: 79-10-7	acrylic acid	3
CAS: 98-82-8	cumene	2B
CAS: 91-20-3	naphthalene	2B
CAS: 1330-20-7	xylene	3

- NTP (National Toxicology Program)

CAS: 98-82-8	cumene	R
CAS: 130-15-4	1,4-naphthoquinone	R
CAS: 91-20-3	naphthalene	R

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

*12 Ecological information

- Toxicity

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability:** No further relevant information available.

- Behavior in environmental systems:

- **Bioaccumulative potential:** No further relevant information available.

- **Mobility in soil:** No further relevant information available.

- Ecotoxicological effects:

- **Remark:** Very toxic for fish

- Additional ecological information:

- General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

- Results of PBT and vPvB assessment

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects:** No further relevant information available.

13 Disposal considerations

- Waste treatment methods

- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packagings:

- **Recommendation:** Disposal must be made according to official regulations.

*14 Transport information

- UN-Number	
- DOT	not regulated
- IMDG, IATA	UN3082
- UN proper shipping name	
- DOT	not regulated
- IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MARINE POLLUTANT
- IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Transport hazard class(es)	
- DOT	
- Class	not regulated

(Contd. on page 7)

Safety Data Sheet


acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 6)

<p>- IMDG, IATA</p>  <p>- Class - Label</p>	<p>9 Miscellaneous dangerous substances and articles 9</p>
<p>- Packing group - DOT - IMDG, IATA</p>	<p>not regulated III</p>
<p>- Environmental hazards:</p> <p>- Marine pollutant:</p> <p>- Special marking (IATA):</p>	<p>Product contains environmentally hazardous substances: (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediy) bismethacrylate</p> <p>No Symbol (fish and tree) Symbol (fish and tree)</p>
<p>- Special precautions for user - Danger code (Kemler): - EMS Number: - Stowage Category</p>	<p>Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A</p>
<p>- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</p>	<p>Not applicable.</p>
<p>- Transport/Additional information:</p> <p>- IMDG - Limited quantities (LQ) - Excepted quantities (EQ)</p>	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<p>- UN "Model Regulation":</p>	<p>UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III</p>

*15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Sara

- Section 355 (extremely hazardous substances):

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):

CAS: 79-10-7	acrylic acid
CAS: 80-15-9	dimethylbenzyl hydroperoxide
CAS: 98-82-8	cumene
CAS: 98-86-2	acetophenone
CAS: 91-20-3	naphthalene
CAS: 1330-20-7	xylene

- TSCA (Toxic Substances Control Act):

(1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediy) bismethacrylate
methacrylic acid, monoester with propane-1,2-diol
Methacrylate onomer
7,7,9(or7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate
acrylic acid
dimethylbenzyl hydroperoxide
Saccharin
Methacrylic acid
propane-1,2-diol
2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate
2'-phenylacetohydrazide
cumene
2,5-thiophenediylbis(5-tert-butyl-1,3-benzoxazole)

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 7)

tetrasodium ethylenediaminetetraacetate
Distillates (petroleum), hydrotreated light naphthenic
Solvent Blue 98
2-Phenyl-2-propanol
acetophenone
N-isopropylhydroxylamine
1-hydroxyethane-1,1-diylbis(phosphonic acid)
Solvent naphtha (petroleum), heavy arom.
1,4-naphthoquinone
naphthalene
2-Propanone, oxime
phosphorous acid
xylene
Deionized water

- TSCA new (21st Century Act): (Substances not listed)

CAS: 7779-31-9	Methacrylate onomer
CAS: 114-83-0	2'-phenylacetohydrazide

- Hazardous Air Pollutants

CAS: 79-10-7	acrylic acid
CAS: 98-82-8	cumene
CAS: 98-86-2	acetophenone
CAS: 130-15-4	1,4-naphthoquinone
CAS: 91-20-3	naphthalene
CAS: 1330-20-7	xylene

- Proposition 65

- Chemicals known to cause cancer:

CAS: 98-82-8	cumene
CAS: 91-20-3	naphthalene

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- Carcinogenic categories

- EPA (Environmental Protection Agency)

CAS: 98-82-8	cumene	D, CBD
CAS: 98-86-2	acetophenone	D
CAS: 91-20-3	naphthalene	C, CBD
CAS: 1330-20-7	xylene	I

- TLV (Threshold Limit Value established by ACGIH)

CAS: 79-10-7	acrylic acid	A4
CAS: 91-20-3	naphthalene	A4
CAS: 1330-20-7	xylene	A4

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: ND Industries, Inc. - Safety, Health and Environmental Affairs

- Contact: Safety, Health and Environmental Affairs

- Date of preparation / last revision 03/06/2019 / 45

- Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Retaining Compound

(Contd. of page 8)

IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flam. Liq. 3: Flammable liquids – Category 3
 Flam. Liq. 4: Flammable liquids – Category 4
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Skin Sens. 1: Skin sensitisation – Category 1
 Skin Sens. 1B: Skin sensitisation – Category 1B
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 Asp. Tox. 1: Aspiration hazard – Category 1

- * **Data compared to the previous version altered.**

- **Disclaimer**

The information set forth is based on information that ND Industries, Incorporated believes to be accurate. No warranty, expressed or implied, is intended. The information is provided solely for your information and consideration and ND Industries Inc. assumes no legal responsibility for use or reliance thereon. In the event of a discrepancy between the information on the non-English document and its English counterpart, the English version shall supersede.

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Safety Data Sheet
acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

1 Identification

- Product identifier

- **Trade name:** Vibra-TITE® Threadlocker
- **Synonyms:** 121 Medium Strength Threadlocker
- **Part number:** VT121
- **Application of the substance / the mixture** Thread Locking

- Details of the supplier of the safety data sheet

- **Manufacturer/Supplier:**
ND Industries, Inc
1000 North Crooks Road
Clawson, MI 48017
USA
Telephone: +1-248-288-0000
Email: info@ndindustries.com
Website: www.ndindustries.com
- **Information department:** Product safety department
- **Emergency telephone number:**
United States: 1-800-424-9300
International: +1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- Label elements

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS07 GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**
2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate
methacrylic acid, monoester with propane-1,2-diol
dimethylbenzyl hydroperoxide
2'-phenylacetohydrazide

- Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P264 Wash face, hands and any exposed skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 1)

P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P280	Wear protective gloves.
P280	Wear eye protection / face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously 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.
P312	Call a poison center/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P321	Specific treatment (see on this label).
P337+P313	If eye irritation persists: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:**- NFPA ratings (scale 0 - 4)**

1	Health = 2
2	Fire = 1
0	Reactivity = 0

- HMIS-ratings (scale 0 - 4)

2	HEALTH	Health = *2
1	FIRE	Fire = 1
0	REACTIVITY	Reactivity = 0

- Other hazards**- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

CAS: 25852-47-5	2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	50 – 59%
CAS: 27813-02-1	methacrylic acid, monoester with propane-1,2-diol Eye Irrit. 2A, H319; Skin Sens. 1, H317	5 – 9%
CAS: 67762-90-7	Amorphous Silica Combustible Dust	1 – 4%
CAS: 80-15-9	dimethylbenzyl hydroperoxide Self-react. F, H242; Org. Perox. E, H242; Acute Tox. 3, H311; STOT RE 2, H373; Asp. Tox. 1, H304; Eye Dam. 1, H318; Acute Tox. 4, H302; STOT SE 3, H335; Flam. Liq. 4, H227	1 – 4%
CAS: 114-83-0	2'-phenylacetohydrazide Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤ 1%
CAS: 98-82-8	cumene Flam. Liq. 3, H226; Carc. 2, H351; Asp. Tox. 1, H304; Acute Tox. 4, H302; STOT SE 3, H335	≤ 1%

4 First-aid measures

- Description of first aid measures**- After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.

- After skin contact: Immediately wash with water and soap and rinse thoroughly.

- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- After swallowing: If symptoms persist consult doctor.

- Information for doctor:

- Most important symptoms and effects, both acute and delayed No further relevant information available.

- Indication of any immediate medical attention and special treatment needed

No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
CO₂, sand, extinguishing powder. Do not use water.
 - **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
 - **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
No special precautions are necessary if used correctly.
 - **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 80-15-9 dimethylbenzyl hydroperoxide

WEEL	Long-term value: 6 mg/m ³ , 1 ppm
	Skin

CAS: 98-82-8 cumene

PEL	Long-term value: 245 mg/m ³ , 50 ppm
	Skin
REL	Long-term value: 245 mg/m ³ , 50 ppm
	Skin
TLV	Long-term value: (246) NIC-0.5 mg/m ³ , (50) NIC-0.1 ppm
	NIC-A3

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 3)

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Breathing equipment:**

Not required.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Nitrile rubber, NBR

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Liquid
- **Color:** Blue
- **Odor:** Characteristic
- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** ≥ 200 °C (≥ 392 °F)

- **Flash point:** 95 °C (203 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

- **Lower:** Not determined.
- **Upper:** Not determined.

- **Vapor pressure at 20 °C (68 °F):** n.a. hPa

- **Density at 20 °C (68 °F):** ~ 1.07 g/cm³ (~ 8.92915 lbs/gal)

- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 4)

- Solubility in / Miscibility with	
- Water:	Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water):	Not determined.
- Viscosity:	
- Dynamic:	Not determined.
- Kinematic:	Not determined.
- Solvent content:	
- Organic solvents:	0.6 %
- Water:	1.3 %
- VOC content:	0.64 % ~ 6.8 g/l / ~ 0.06 lb/gal
- Solids content:	86.5 %
- Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 - Aldehyde
 - Hydrocarbons

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**

- LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	5,991 mg/kg (rat)
Dermal	LD50	29,467 mg/kg (rat)
Inhalative	LC50/4 h	12,966 mg/l (rat)

CAS: 80-15-9 dimethylbenzyl hydroperoxide

Oral	LD50	382 mg/kg (rat)
Dermal	LD50	500 mg/kg (rat)
Inhalative	LC50/4 h	220 mg/l (rat)

CAS: 114-83-0 2'-phenylacetohydrazide

Oral	LD50	270 mg/kg (mouse)
------	------	-------------------

CAS: 98-82-8 cumene

Oral	LD50	1,400 mg/kg (rat)
Dermal	LD50	12,300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

- Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

- Sensitization:

Sensitization possible through skin contact.

- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

CAS: 98-82-8	cumene	2B
CAS: 13463-67-7	titanium dioxide	2B
CAS: 111-76-2	2-butoxyethanol	3

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 5)

- NTP (National Toxicology Program)

CAS: 98-82-8	cumene	R
CAS: 130-15-4	1,4-naphthoquinone	R

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- Toxicity

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- Behavior in environmental systems:

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- Additional ecological information:

- General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- Results of PBT and vPvB assessment

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- Waste treatment methods

- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packagings:

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- UN-Number

- **DOT, ADN, IMDG, IATA** not regulated

- UN proper shipping name

- **DOT, ADN, IMDG, IATA** not regulated

- Transport hazard class(es)

- **DOT, ADN, IMDG, IATA**
- **Class** not regulated

- Packing group

- **DOT, IMDG, IATA** not regulated

- Environmental hazards:

- **Marine pollutant:** No

- Special precautions for user

Not applicable.

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

Not applicable.

- UN "Model Regulation":

not regulated

*15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture

- **Sara**

- Section 355 (extremely hazardous substances):

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):

CAS: 80-15-9 dimethylbenzyl hydroperoxide

CAS: 98-82-8 cumene

CAS: 111-76-2 2-butoxyethanol

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 6)

- TSCA (Toxic Substances Control Act):		
2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate		
Tetraethylene glycol hexoate		
methacrylic acid, monoester with propane-1,2-diol		
Amorphous Silica		
dimethylbenzyl hydroperoxide		
Saccharin		
propane-1,2-diol		
2'-phenylacetohydrazide		
cumene		
2-Phenyl-2-propanol		
titanium dioxide		
tetrasodium ethylenediaminetetraacetate		
N-isopropylhydroxylamine		
1,4-naphthoquinone		
Colorant		
Alumina Trihydrate		
2-Propanone, oxime		
2,4,7,9-tetramethyldec-5-yne-4,7-diol		
2-butoxyethanol		
Deionized water		
- TSCA new (21st Century Act): (Substances not listed)		
CAS: 25852-47-5	2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate	
CAS: 114-83-0	2'-phenylacetohydrazide	
- Hazardous Air Pollutants		
CAS: 98-82-8	cumene	
CAS: 130-15-4	1,4-naphthoquinone	
- Proposition 65		
- Chemicals known to cause cancer:		
CAS: 98-82-8	cumene	
- Chemicals known to cause reproductive toxicity for females:		
None of the ingredients is listed.		
- Chemicals known to cause reproductive toxicity for males:		
None of the ingredients is listed.		
- Chemicals known to cause developmental toxicity:		
None of the ingredients is listed.		
- Carcinogenic categories		
- EPA (Environmental Protection Agency)		
CAS: 98-82-8	cumene	D, CBD
CAS: 111-76-2	2-butoxyethanol	NL
- TLV (Threshold Limit Value established by ACGIH)		
CAS: 13463-67-7	titanium dioxide	A4
CAS: 111-76-2	2-butoxyethanol	A3
- NIOSH-Ca (National Institute for Occupational Safety and Health)		
CAS: 13463-67-7	titanium dioxide	
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.		

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** ND Industries, Inc. - Safety, Health and Environmental Affairs

- **Contact:** Safety, Health and Environmental Affairs

- **Date of preparation / last revision** 03/06/2019 / 59

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 02/28/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 7)

EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flam. Liq. 3: Flammable liquids – Category 3
 Flam. Liq. 4: Flammable liquids – Category 4
 Self-react. F: Self-reactive substances and mixtures – Type E/F
 Org. Perox. E: Organic peroxides – Type E/F
 Acute Tox. 4: Acute toxicity – Category 4
 Acute Tox. 3: Acute toxicity – Category 3
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Skin Sens. 1: Skin sensitisation – Category 1
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 Asp. Tox. 1: Aspiration hazard – Category 1

- * **Data compared to the previous version altered.**

- **Disclaimer**

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Safety Data Sheet
acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

1 Identification

- Product identifier

- **Trade name:** Vibra-TITE® Threadlocker
- **Synonyms:** 140 High Strength Threadlocker
- **Part number:** VT140
- **Application of the substance / the mixture** Thread Locking

- Details of the supplier of the safety data sheet

- **Manufacturer/Supplier:**
ND Industries, Inc
1000 North Crooks Road
Clawson, MI 48017
USA
Telephone: +1-248-288-0000
Email: info@ndindustries.com
Website: www.ndindustries.com
- **Information department:** Product safety department
- **Emergency telephone number:**
United States: 1-800-424-9300
International: +1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- Label elements

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS07 GHS08

- **Signal word** Warning

- Hazard-determining components of labeling:

2-hydroxyethyl methacrylate
2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate
dimethylbenzyl hydroperoxide
2'-phenylacetohydrazide

- Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P264 Wash face, hands and any exposed skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 1)

P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P280	Wear protective gloves.
P280	Wear eye protection / face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously 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.
P312	Call a poison center/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P321	Specific treatment (see on this label).
P337+P313	If eye irritation persists: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- Additional information:

8.5 % of the mixture consists of component(s) of unknown toxicity.

- Classification system:**- NFPA ratings (scale 0 - 4)**

2	1	0	Health = 2
			Fire = 1
			Reactivity = 0

- HMIS-ratings (scale 0 - 4)

HEALTH 2	Health = *2
FIRE 1	Fire = 1
REACTIVITY 0	Reactivity = 0

- Other hazards**- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures- **Description:** Mixture of the substances listed below with nonhazardous additions.**- Dangerous components:**

CAS: 25852-47-5	2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	30 – 39%
CAS: 868-77-9	2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	20 – 29%
CAS: 39382-25-7	2-Butenedioic acid (2E)-, polymer with α,α' -[[1-methylethylidene]di-4,1-phenylene]bis[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]] Eye Irrit. 2A, H319	20 – 29%
CAS: 41637-38-1	Ethoxylated Bisphenol A Dimethacrylate Esters Eye Irrit. 2A, H319	5 – 9%
	Modified Epoxy Acrylate Oligomer Skin Irrit. 2, H315; Flam. Liq. 4, H227; Eye Irrit. 2B, H320	1 – 4%
CAS: 80-15-9	dimethylbenzyl hydroperoxide Self-react. F, H242; Org. Perox. E, H242; Acute Tox. 3, H311; STOT RE 2, H373; Asp. Tox. 1, H304; Eye Dam. 1, H318; Acute Tox. 4, H302; STOT SE 3, H335; Flam. Liq. 4, H227	1 – 4%
CAS: 57-55-6	propane-1,2-diol Acute Tox. 4, H302	1 – 4%
CAS: 114-83-0	2'-phenylacetohydrazide Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤ 1%
CAS: 98-82-8	cumene Flam. Liq. 3, H226; Carc. 2, H351; Asp. Tox. 1, H304; Acute Tox. 4, H302; STOT SE 3, H335	≤ 1%

4 First-aid measures

- Description of first aid measures**- After inhalation:**

Supply fresh air and to be sure call for a doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 2)

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air; consult doctor in case of complaints.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
 - **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
CO₂, sand, extinguishing powder. Do not use water.
 - **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
 - **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
No special precautions are necessary if used correctly.
 - **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 3)

CAS: 80-15-9 dimethylbenzyl hydroperoxide	
WEEL	Long-term value: 6 mg/m ³ , 1 ppm Skin
CAS: 57-55-6 propane-1,2-diol	
WEEL	Long-term value: 10 mg/m ³
CAS: 98-82-8 cumene	
PEL	Long-term value: 245 mg/m ³ , 50 ppm Skin
REL	Long-term value: 245 mg/m ³ , 50 ppm Skin
TLV	Long-term value: (246) NIC-0.5 mg/m ³ , (50) NIC-0.1 ppm NIC-A3

- **Additional information:** The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- Breathing equipment:

Not required.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection:



Tightly sealed goggles

- Body protection: Protective work clothing

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

- Form:

Fluid

- Color:

Red

- Odor:

Characteristic

- Odor threshold:

Not determined.

- pH-value:

Not determined.

- Change in condition

- Melting point/Melting range:

Undetermined.

- Boiling point/Boiling range:

> 195 °C (> 383 °F)

- Flash point:

94 °C (201.2 °F)

- Flammability (solid, gaseous):

Not applicable.

- Ignition temperature:

n.a. °C

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 4)

- Decomposition temperature:	Not determined.
- Auto igniting:	Product is not selfigniting.
- Danger of explosion:	Product does not present an explosion hazard.
- Explosion limits:	
- Lower:	Not determined.
- Upper:	Not determined.
- Vapor pressure at 68 °C (154.4 °F):	≤ 1.3 hPa (≤ 1 mm Hg)
- Density at 20 °C (68 °F):	~ 1.1 g/cm ³ (~ 9.1795 lbs/gal)
- Relative density	Not determined.
- Vapor density	Not determined.
- Evaporation rate	Not determined.
- Solubility in / Miscibility with	
- Water:	Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water):	Not determined.
- Viscosity:	
- Dynamic:	Not determined.
- Kinematic:	Not determined.
- Solvent content:	
- Organic solvents:	1.6 %
- Water:	1.4 %
- VOC content:	1.59 % ~ 17.5 g/l / ~ 0.15 lb/gal
- Solids content:	56.5 %
- Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 - Aldehyde
 - Hydrocarbons

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)		
Oral	LD50	15,284 mg/kg (rat)
Dermal	LD50	27,945 mg/kg (rat)
Inhalative	LC50/4 h	12,296 mg/l (rat)
CAS: 868-77-9 2-hydroxyethyl methacrylate		
Oral	LD50	5,050 mg/kg (rat)
CAS: 80-15-9 dimethylbenzyl hydroperoxide		
Oral	LD50	382 mg/kg (rat)
Dermal	LD50	500 mg/kg (rat)
Inhalative	LC50/4 h	220 mg/l (rat)
CAS: 57-55-6 propane-1,2-diol		
Oral	LD50	2,000 mg/kg (rat)
Dermal	LD50	20,800 mg/kg (rabbit)
CAS: 114-83-0 2'-phenylacetohydrazide		
Oral	LD50	270 mg/kg (mouse)

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 5)

CAS: 98-82-8 cumene

Oral	LD50	1,400 mg/kg (rat)
Dermal	LD50	12,300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

- Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:** Sensitization possible through skin contact.

- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- Carcinogenic categories**- IARC (International Agency for Research on Cancer)**

CAS: 98-82-8	cumene	2B
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- NTP (National Toxicology Program)

CAS: 98-82-8	cumene	R
CAS: 130-15-4	1,4-naphthoquinone	R

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**- Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability:** No further relevant information available.

- Behavior in environmental systems:

- **Bioaccumulative potential:** No further relevant information available.

- **Mobility in soil:** No further relevant information available.

- Additional ecological information:**- General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- Results of PBT and vPvB assessment

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects:** No further relevant information available.

13 Disposal considerations**- Waste treatment methods**

- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packagings:

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information**- UN-Number**

- **DOT, ADN, IMDG, IATA** not regulated

- UN proper shipping name

- **DOT, ADN, IMDG, IATA** not regulated

- Transport hazard class(es)

- **DOT, ADN, IMDG, IATA**
- **Class** not regulated

- Packing group

- **DOT, IMDG, IATA** not regulated

- Environmental hazards:

- **Marine pollutant:** No

- Special precautions for user

Not applicable.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 6)

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

- **UN "Model Regulation":** not regulated

*15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

CAS: 80-15-9 dimethylbenzyl hydroperoxide

CAS: 98-82-8 cumene

- **TSCA (Toxic Substances Control Act):**

2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate

2-hydroxyethyl methacrylate

2-Butenedioic acid (2E)-, polymer with α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]]

Ethoxylated Bisphenol A Dimethacrylate Esters

dimethylbenzyl hydroperoxide

Saccharin

propane-1,2-diol

2'-phenylacetohydrazide

cumene

2-Phenyl-2-propanol

tetrasodium ethylenediaminetetraacetate

N-isopropylhydroxylamine

1-hydroxyethane-1,1-diylbis(phosphonic acid)

Colorant

1,4-naphthoquinone

Colorant

phosphorous acid

2-Propanone, oxime

Deionized water

- **TSCA new (21st Century Act): (Substances not listed)**

CAS: 25852-47-5 2-(2-methylprop-2-enoyloxy)ethyl 2-methylprop-2-enoate

Modified Epoxy Acrylate Oligomer

CAS: 114-83-0 2'-phenylacetohydrazide

- **Hazardous Air Pollutants**

CAS: 98-82-8 cumene

CAS: 130-15-4 1,4-naphthoquinone

- **Proposition 65**

- **Chemicals known to cause cancer:**

CAS: 41637-38-1 Ethoxylated Bisphenol A Dimethacrylate Esters

CAS: 98-82-8 cumene

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

CAS: 98-82-8 cumene

D, CBD

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2019

Reviewed on 03/05/2019

Trade name: Vibra-TITE® Threadlocker

(Contd. of page 7)

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** ND Industries, Inc. - Safety, Health and Environmental Affairs- **Contact:** Safety, Health and Environmental Affairs- **Date of preparation / last revision** 03/06/2019 / 39- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flam. Liq. 3: Flammable liquids – Category 3
 Flam. Liq. 4: Flammable liquids – Category 4
 Self-react. F: Self-reactive substances and mixtures – Type E/F
 Org. Perox. E: Organic peroxides – Type E/F
 Acute Tox. 4: Acute toxicity – Category 4
 Acute Tox. 3: Acute toxicity – Category 3
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
 Skin Sens. 1: Skin sensitisation – Category 1
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 Asp. Tox. 1: Aspiration hazard – Category 1

- * **Data compared to the previous version altered.**- **Disclaimer**

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Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2016

Reviewed on 11/28/2016

1 Identification

- Product identifier

- **Trade name:** DriveGrip®
- **Synonyms:** 470 DriveGrip® Anti Cam-Out Fluid
- **Part number:** VT470

- Details of the supplier of the safety data sheet

- Manufacturer/Supplier:
 ND Industries, Inc
 1000 North Crooks Road
 Clawson, MI 48017
 USA
 Telephone: +1-248-288-0000
 Email: info@ndindustries.com
 Website: www.ndindustries.com

- Information department: Product safety department

- Emergency telephone number:

United States: 1-800-424-9300
 International: +1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture The product is not classified according to the Globally Harmonized System (GHS).

- Label elements

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void

- Classification system:

- NFPA ratings (scale 0 - 4)



- HMIS-ratings (scale 0 - 4)



- Other hazards

- Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

409-21-2	silicon carbide		20-29%
	Thickening agent	Combustible Dust	5-9%
	Intermediate copolymer	Eye Irrit. 2B, H320; Combustible Dust	1-4%

4 First-aid measures

- Description of first aid measures

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2016

Reviewed on 11/28/2016

Trade name: DriveGrip®

(Contd. of page 1)

- Information for doctor:

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- Extinguishing media**- Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**- Special hazards arising from the substance or mixture** No further relevant information available.**- Advice for firefighters****- Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Wear protective clothing.

- Environmental precautions: Do not allow to enter sewers/ surface or ground water.**- Methods and material for containment and cleaning up:** Dispose of the collected material according to regulations.**- Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- Protective Action Criteria for Chemicals**- PAC-1:**

409-21-2 silicon carbide

45 mg/m³**- PAC-2:**

409-21-2 silicon carbide

500 mg/m³**- PAC-3:**

409-21-2 silicon carbide

3,000 mg/m³

7 Handling and storage

- Handling:**- Precautions for safe handling** No special measures required.**- Information about protection against explosions and fires:** No special measures required.**- Conditions for safe storage, including any incompatibilities****- Storage:****- Requirements to be met by storerooms and receptacles:** No special requirements.**- Information about storage in one common storage facility:** Not required.**- Further information about storage conditions:** None.**- Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.**- Control parameters****- Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

409-21-2 silicon carbide

PEL	Long-term value: 15* 5** mg/m ³ fibrous dust: *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV	Long-term value: 10* 3** mg/m ³ fibrous dust: 0.1 f/cc; nonfibrous: *inh., **resp.

- Additional information: The lists that were valid during the creation were used as basis.**- Exposure controls****- Personal protective equipment:****- General protective and hygienic measures:** The usual precautionary measures for handling chemicals should be followed.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2016

Reviewed on 11/28/2016

Trade name: DriveGrip®

(Contd. of page 2)

- Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Nitrile rubber, NBR

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection: Goggles recommended during refilling.

- Body protection: Protective work clothing

9 Physical and chemical properties

- Information on basic physical and chemical properties**- General Information****- Appearance:**

- **Form:** Viscous
- **Color:** Dark grey
- **Odor:** Characteristic
- **Odor threshold:** Not determined.

- pH-value: Not determined.

- Change in condition

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 100 °C (212 °F)

- Flash point: Not applicable.

- Flammability (solid, gaseous): Not applicable.

- Ignition temperature:

- Decomposition temperature: Not determined.

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

- Explosion limits:

- **Lower:** Not determined.
- **Upper:** Not determined.

- Vapor pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)

- Density: Not determined.

- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.

- Solubility in / Miscibility with

- Water: Not miscible or difficult to mix.

- Partition coefficient (n-octanol/water): Not determined.

- Viscosity:

- **Dynamic:** Not determined.
- **Kinematic:** Not determined.

- Solvent content:

- **Organic solvents:** 0.0 %
- **Water:** 64.9 %
- **VOC content:** 0.0 g/l / 0.00 lb/gl

- Solids content: 34.6 %

- Other information No further relevant information available.

10 Stability and reactivity

- Reactivity No further relevant information available.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2016

Reviewed on 11/28/2016

Trade name: DriveGrip®

(Contd. of page 3)

- Chemical stability

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects

- Acute toxicity:

- LD/LC50 values that are relevant for classification:

Intermediate copolymer

Oral	LD50	>5000 mg/kg (rat)
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- Primary irritant effect:

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

- Sensitization: No sensitizing effects known.

- Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

- NTP (National Toxicology Program)

None of the ingredients is listed.

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

*12 Ecological information

- Toxicity

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.

- Additional ecological information:

- General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- Waste treatment methods

- **Recommendation:** Smaller quantities can be disposed of with household waste.

- Uncleaned packagings:

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- UN-Number

- **DOT, ADN, IMDG, IATA** not regulated

- UN proper shipping name

- **DOT, ADN, IMDG, IATA** not regulated

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2016

Reviewed on 11/28/2016

Trade name: DriveGrip®

(Contd. of page 4)

- Transport hazard class(es) - DOT, ADN, IMDG, IATA - Class	not regulated
- Packing group - DOT, IMDG, IATA	not regulated
- Environmental hazards: - Marine pollutant:	No
- Special precautions for user	Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
- UN "Model Regulation":	not regulated

*15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

silicon carbide

Deionized water

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

409-21-2 silicon carbide

A2

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** ND Industries, Inc. - Safety, Health and Environmental Affaires
- **Contact:** Safety, Health and Environmental Affaires

- **Date of preparation / last revision** 12/13/2016 / 12

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/13/2016

Reviewed on 11/28/2016

Trade name: DriveGrip®

(Contd. of page 5)

LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

- * **Data compared to the previous version altered.**

- **Disclaimer**

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