

Safety Data Sheet
according to HPR, Schedule 1

Printing date 01/29/2024

Reviewed on 01/29/2024

1 Identification

- Product identifier

- **Trade name:** Vibra-TITE® Methacrylate Adhesives
 - **Synonyms:** PB500 Low Surface Energy Bonding Resin - Part A
 - **Part number:** VTPB500A
 - **Application of the substance / the mixture** Adhesives

- 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 identification

- Classification of the substance or mixture



GHS08 Health hazard

- | | |
|---|--|
| Respiratory Sensitizer - Category 1 | H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Reproductive Toxicity - Category 1B | H360 May damage fertility or the unborn child. |
| Specific Target Organ Toxicity - Repeated Exposure - Category 1 | H372 Causes damage to the respiratory system through prolonged or repeated exposure. |



GHS05 Corrosion

- | | |
|---------------------------------|---------------------------------|
| Serious Eye Damage - Category 1 | H318 Causes serious eye damage. |
|---------------------------------|---------------------------------|



GHS07

- | | |
|---|---|
| Skin Irritation - Category 2 | H315 Causes skin irritation. |
| Skin Sensitizer - Category 1 | H317 May cause an allergic skin reaction. |
| Specific Target Organ Toxicity - Single Exposure - Category 3 | H335 May cause respiratory irritation. |
| Flammable Liquids - Category 4 | H227 Combustible liquid. |

- 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:**

- maleic anhydride
- tetrahydrofurfuryl methacrylate
- 2-ethylhexyl methacrylate
- tetrahydro-2-furylmethanol
- Monofunctional acid ester

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- Hazard statements

- H227 Combustible liquid.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H317 May cause an allergic skin reaction.
 H360 May damage fertility or the unborn child.
 H335 May cause respiratory irritation.
 H372 Causes damage to the respiratory system through prolonged or repeated exposure.

- Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P280 Wear protective gloves.
 P284 [In case of inadequate ventilation] wear respiratory 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.
 P310 Immediately call a poison center/doctor.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P321 Specific treatment (see on this label).
 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.
 P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
 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:

4 % of the mixture consists of an ingredient or ingredients of unknown acute toxicity.

3 Composition/Information on ingredients

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

CAS: 2455-24-5	tetrahydrofurfuryl methacrylate Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H335	30 – 60% w/w
CAS: 20882-04-6	Butanedioic acid Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319	5 – 10% w/w
CAS: 688-84-6	2-ethylhexyl methacrylate Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317; Specific Target Organ Toxicity - Single Exposure - Category 3, H335; Flammable Liquids - Category 4, H227	3 – 7% w/w
CAS: 69912-79-4	Desiccant Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H335	1 – 5% w/w
CAS: 108-31-6	maleic anhydride Respiratory Sensitizer - Category 1, H334; Specific Target Organ Toxicity - Repeated Exposure - Category 1, H372; Skin Corrosion - Category 1B, H314; Serious Eye Damage - Category 1, H318; Acute Toxicity (Oral) - Category 4, H302; Skin Sensitizer - Category 1, H317	1 – 5% w/w
	Monofunctional acid ester Acute Toxicity (Dermal) – Category 3, H311; Skin Corrosion - Category 1C, H314; Serious Eye Damage - Category 1, H318; Skin Sensitizer - Category 1, H317	0.1 – 1% w/w
CAS: 97-99-4	tetrahydro-2-furylmethanol Reproductive Toxicity - Category 1B, H360; Acute Toxicity (Oral) - Category 4, H302; Eye Irritation - Category 2A, H319; Flammable Liquids - Category 4, H227	0.1 – 1% w/w

4 First-aid measures

- Description of first aid measures**- 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.

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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, 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**
Ensure adequate ventilation
Keep away from ignition sources
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).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
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:** 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:** 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 section 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: 108-31-6 maleic anhydride

EL (Canada)	TWA: 0.1 ppm S(D), S(R)
EV (Canada)	TWA: 0.1 ppm
PEL (USA)	TWA: 1 mg/m ³ , 0.25 ppm
REL (USA)	TWA: 1 mg/m ³ , 0.25 ppm
TLV (USA)	TWA: 0.01* mg/m ³ DSEN, RSEN;*inh. fraction + vapor, A4

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CAS: 97-99-4 tetrahydro-2-furylmethanol

WEEL (USA) | TWA: 0.5 ppm

- **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:

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.

- Body protection: Protective work clothing

9 Physical and chemical properties

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

Pasty

- Color:

According to product specification

- Odor:

Characteristic

- Odor threshold:

Not determined.

- pH-value:

Not determined.

- Change in condition**- Melting point/Melting range:**

Undetermined.

- Boiling point/Boiling range:

≥ 59 – ≤ 62 °C

- Flash point:

≥ 92 °C

- Flammability (solid, gaseous):

Not applicable.

- Decomposition temperature:

Not determined.

- Ignition temperature:

Product is not selfigniting.

- Danger of explosion:

Not determined.

- Explosion limits:**- Lower:**

Not determined.

- Upper:

Not determined.

- Vapor pressure:

Not determined.

- Density at 20 °C:~ 1.11747 g/cm³**- 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.

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- Viscosity:	
- Dynamic:	Not determined.
- Kinematic:	Not determined.
- Solvent content:	
- Organic solvents:	0.2 %
- VOC content:	0.22 % ~ 2.4 g/l / ~ 0.02 lb/gal
- Solids content:	20.2 %
- 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	11,429 mg/kg (rat)
Dermal	LD50	30,000 mg/kg

CAS: 108-31-6 maleic anhydride

Oral	LD50	400 mg/kg (rat)
Dermal	LD50	2,620 mg/kg (rabbit)

Monofunctional acid ester

Dermal	LD50	300 mg/kg (ATE)
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CAS: 97-99-4 tetrahydro-2-furylmethanol

Oral	LD50	1,600 mg/kg (rat)
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- Primary irritant effect:

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

- Sensitization:

- Sensitization possible through inhalation.
- Sensitization possible through skin contact.

- Additional toxicological information:

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

- 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.

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.

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- 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/TDG, ADR, ADN, IMDG, IATA	not regulated
- UN proper shipping name	
- DOT/TDG, ADR, ADN, IMDG, IATA	not regulated
- Transport hazard class(es)	
- DOT/TDG, ADR, ADN, IMDG, IATA	
- Class	not regulated
- Packing group	
- DOT/TDG, ADR, IMDG, IATA	not regulated
- Environmental hazards:	Not applicable.
- 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**

No further relevant information available.

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

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):

CAS: 108-31-6 maleic anhydride

Monofunctional acid ester

- TSCA (Toxic Substances Control Act):

tetrahydrofurfuryl methacrylate	ACTIVE
Butanedioic acid	ACTIVE
Neoprene polychloroprene	ACTIVE
2-ethylhexyl methacrylate	ACTIVE
Desiccant	ACTIVE
Nipol 1472X	*
Ethoxylated Bisphenol A Dimethacrylate Esters	ACTIVE
maleic anhydride	ACTIVE
Amorphous Silica	ACTIVE
Soda-Lime Glass	ACTIVE
Monofunctional acid ester	ACTIVE
tetrahydro-2-furylmethanol	ACTIVE
tert-butyl perbenzoate	ACTIVE
Polymerization inhibitor	ACTIVE

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- Canadian substance listings:**- Canadian Domestic Substances List (DSL)**

CAS: 2455-24-5	tetrahydrofurfuryl methacrylate
	Neoprene polychloroprene
CAS: 688-84-6	2-ethylhexyl methacrylate
	Nipol 1472X
CAS: 41637-38-1	Ethoxylated Bisphenol A Dimethacrylate Esters
CAS: 108-31-6	maleic anhydride
CAS: 67762-90-7	Amorphous Silica
CAS: 65997-17-3	Soda-Lime Glass
	Monofunctional acid ester
CAS: 97-99-4	tetrahydro-2-furylmethanol
CAS: 614-45-9	tert-butyl perbenzoate
	Polymerization inhibitor

- Canadian Non-Domestic Substances List (NDSL)

CAS: 20882-04-6 Butanedioic acid

- Canadian Ingredient Disclosure list (limit 0.1%)

CAS: 108-31-6 maleic anhydride

- Canadian Ingredient Disclosure list (limit 1%)

CAS: 2455-24-5 tetrahydrofurfuryl methacrylate

CAS: 688-84-6 2-ethylhexyl methacrylate

- 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**- Classification System:****- HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = *3
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

- NFPA ratings (scale 0 - 4)

2	Health = 3
2	Fire = 2
0	Reactivity = 0

- Date of the latest revision of the safety data sheet 01/29/2024**- Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 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)
 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

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