

Kit Components

Product code	Description
VT943	Vibra-Tite Epoxy 943 Toughened Medium Viscosity

Components:

VT943A	Vibra-TITE® Epoxy 943 High Durability Structural Epoxy - Part A
VT943B	Vibra-TITE® Epoxy 943 High Durability Structural Epoxy - Part B

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/13/2020

Reviewed on 12/06/2019

1 Identification**- Product identifier**

- **Trade name:** Vibra-TITE® Epoxy
- **Synonyms:** 943 High Durability Structural Epoxy - Part A
- **Part number:** VT943A
- **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(s) identification**- Classification of the substance or mixture**

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

- Signal word Warning**- Hazard-determining components of labeling:**

Bisphenol-A epoxy resin
Bisphenol F epoxy resin

- Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

- Precautionary statements

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.
P272 Contaminated work clothing must not be allowed out of the workplace.
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.
P312 Call a poison center/doctor 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.

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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.

- 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: 25068-38-6	Bisphenol-A epoxy resin	Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	60 – 69%
CAS: 9003-36-5	Bisphenol F epoxy resin	Skin Irrit. 2, H315; Skin Sens. 1, H317	30 – 39%
CAS: 67762-90-7	Amorphous Silica	Combustible Dust	1 – 4%

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.
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:** Use fire fighting measures that suit the environment.

- 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:

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:

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.

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- 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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **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.

- **As protection from splashes gloves made of the following materials are suitable:** Nitrile rubber, NBR

- 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:

Viscous

- 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:

> 200 °C (> 392 °F)

- Flash point:

> 200 °C (> 392 °F)

- Flammability (solid, gaseous):

Not applicable.

- Decomposition temperature:

Not determined.

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- 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:	Not determined.
- Density at 20 °C (68 °F):	~ 1.1859 g/cm ³ (~ 9.89634 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:	
- VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
- Solids content:	1.5 %
- 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:** No dangerous decomposition products known.

11 Toxicological information

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

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.

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- **Ecotoxicological effects:**
 - **Remark:** Toxic for fish
- **Additional ecological information:**
 - **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
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

<ul style="list-style-type: none"> - UN-Number - DOT, IMDG, IATA 	UN3082
<ul style="list-style-type: none"> - UN proper shipping name - DOT - IMDG - IATA 	Environmentally hazardous substance, liquid, n.o.s. (LIQUID EPOXY RESIN, Bisphenol F epoxy resin) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Bisphenol F epoxy resin), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Bisphenol F epoxy resin)
<ul style="list-style-type: none"> - Transport hazard class(es) - DOT, IMDG, IATA <div style="display: flex; align-items: center; gap: 10px;">   </div> <ul style="list-style-type: none"> - Class - Label 	9 Miscellaneous dangerous substances and articles 9
<ul style="list-style-type: none"> - Packing group - DOT, IMDG, IATA 	III
<ul style="list-style-type: none"> - Environmental hazards: - Marine pollutant: - Special marking (IATA): 	Product contains environmentally hazardous substances: LIQUID EPOXY RESIN Yes (DOT) Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> - Special precautions for user - Hazard identification number (Kemler code): - EMS Number: - Stowage Category 	Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A
<ul style="list-style-type: none"> - Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> - Transport/Additional information: - DOT - Quantity limitations - Remarks: 	On passenger aircraft/rail: No limit On cargo aircraft only: No limit Special marking with the symbol (fish and tree).

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- IMDG - Limited quantities (LQ) - Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
- UN "Model Regulation":	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, BISPHENOL F EPOXY RESIN), 9, III

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):

All components have the value ACTIVE.

- Hazardous Air Pollutants

None of the ingredients is listed.

- 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)

None of the ingredients is listed.

- 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

- Classification System:

- HMIS-ratings (scale 0 - 4)

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

- NFPA ratings (scale 0 - 4)

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

- Date of preparation / last revision 01/13/2020 / 3

- 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

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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)
VOC: Volatile Organic Compounds (USA, EU)
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
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

- **Disclaimer**

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1 Identification

- Product identifier

- **Trade name:** Vibra-TITE® Epoxy

- **Synonyms:** 943 High Durability Structural Epoxy - Part B
- **Part number:** VT943B
- **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(s) identification

- Classification of the substance or mixture



GHS08 Health hazard

Repr. 1B H360 May damage fertility or the unborn child.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

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:

Curing agent
bisphenol A
Fatty Acids, C18-unsatd, dimers, polymers with bisphenol A, epichlorohydrin, tall-oil fatty acids, tetraethylenepentamine and TETA
Nonylphenol
Mercaptan-terminated polymer
2,2'-iminodiethylamine
triethylenetetramine
Epoxy curing agent

- Hazard statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H360 May damage fertility or the unborn child.

- Precautionary statements

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

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Trade name: Vibra-TITE® Epoxy

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P260	Do not breathe dusts or mists.
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.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P302+P352	If on skin: Wash with plenty of water.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311	Call a poison center/doctor.
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).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- 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:

	Curing agent Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1, H317	20 – 29%
CAS: 106906-26-7	Fatty Acids, C18-unsatd, dimers, polymers with bisphenol A, epichlorohydrin, tall-oil fatty acids, tetraethylenepentamine and TETA Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317	20 – 29%
CAS: 72244-98-5	Mercaptan-terminated polymer Skin Sens. 1B, H317	10 – 19%
CAS: 100-51-6	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2A, H319	5 – 9%
CAS: 84852-15-3	Nonylphenol Repr. 2, H361; Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302	5 – 9%
CAS: 111-40-0	2,2'-iminodiethylamine Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	5 – 9%
CAS: 90-72-2	Aminophenol Skin Corr. 1C, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312	4.47%
CAS: 80-05-7	bisphenol A Repr. 1B, H360; Eye Dam. 1, H318; Skin Sens. 1, H317; STOT SE 3, H335	4.39%
CAS: 112-24-3	triethylenetetramine Skin Corr. 1B, H314; Acute Tox. 4, H312; Skin Sens. 1, H317	≤ 1%
CAS: 112-57-2	Epoxy curing agent Skin Corr. 1B, H314; Acute Tox. 4, H312; Skin Sens. 1, H317	≤ 1%

4 First-aid measures

- Description of first aid measures**- General information:**

Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- 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:

Immediately call a doctor.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.

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- 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

- 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: 100-51-6 Benzyl alcohol	
WEEL	Long-term value: 10 ppm
CAS: 111-40-0 2,2'-iminodiethylamine	
REL	Long-term value: 4 mg/m ³ , 1 ppm Skin
TLV	Long-term value: 4.2 mg/m ³ , 1 ppm Skin

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CAS: 112-24-3 triethylenetetramine	
WEEL	Long-term value: 6 mg/m ³ , 1 ppm Skin
CAS: 112-57-2 Epoxy curing agent	
WEEL	Long-term value: 5 mg/m ³ Skin; DSEN

- **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.

- As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR

- 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:

Viscous

- 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:

≥ 205.4 °C (≥ 401.7 °F)

- Flash point:

> 94 °C (> 201.2 °F)

- Flammability (solid, gaseous):

Not applicable.

- Ignition temperature:

≥ 435 °C (≥ 815 °F)

- 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.

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- Upper:	Not determined.
- Vapor pressure:	Not determined.
- Density at 20 °C (68 °F):	~ 1.06188 g/cm ³ (~ 8.86139 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:	8.9 %
- VOC content:	8.90 % ~ 94.5 g/l / ~ 0.79 lb/gal
- Solids content:	5.6 %
- 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	2,771 mg/kg (rat)
Dermal	LD50	4,160 mg/kg
Inhalative	LC50/4 h	124 mg/l

Curing agent

Oral	LD50	4,310 mg/kg (rat)
Dermal	LD50	2,510 mg/kg (rabbit)

CAS: 72244-98-5 Mercaptan-terminated polymer

Oral	LD50	2,600 mg/kg (rat)
------	------	-------------------

CAS: 100-51-6 Benzyl alcohol

Oral	LD50	1,230 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	11 mg/l (ATE)

CAS: 84852-15-3 Nonylphenol

Oral	LD50	1,412 mg/kg (rat)
------	------	-------------------

CAS: 111-40-0 2,2'-iminodiethylamine

Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	1,090 mg/kg (rabbit)

CAS: 90-72-2 Aminophenol

Oral	LD50	1,200 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rat)

CAS: 80-05-7 bisphenol A

Oral	LD50	3,250 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)

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CAS: 112-24-3 triethylenetetramine		
Oral	LD50	2,500 mg/kg (rat)
Dermal	LD50	805 mg/kg (rabbit)
CAS: 112-57-2 Epoxy curing agent		
Oral	LD50	2,140 mg/kg (rat)
Dermal	LD50	> 660 mg/kg (rabbit)

- Primary irritant effect:

- **on the skin:** Strong 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:

Harmful

Corrosive

Irritant

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

- 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.

- Ecotoxicological effects:

- **Remark:** Toxic for fish

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

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

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, IMDG, IATA**

UN1760

- UN proper shipping name

- **DOT**

Corrosive liquids, n.o.s. (3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine, Diethylenetriamine)

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- IMDG	CORROSIVE LIQUID, N.O.S. (3,3'-(Oxybis(2,1-ethane-diyloxy)) bis-1-
- IATA	propanamine, DIETHYLENETRIAMINE), MARINE POLLUTANT CORROSIVE LIQUID, N.O.S. (3,3'-(Oxybis(2,1-ethane-diyloxy)) bis-1- propanamine, DIETHYLENETRIAMINE)
- Transport hazard class(es)	
- DOT	
	
- Class	8 Corrosive substances
- Label	8
<hr/>	
- IMDG	
	
- Class	8 Corrosive substances
- Label	8
<hr/>	
- IATA	
	
- Class	8 Corrosive substances
- Label	8
<hr/>	
- Packing group	
- DOT, IMDG, IATA	II
- Environmental hazards:	
- Marine pollutant:	Yes (DOT) Symbol (fish and tree)
- Special precautions for user	
- Hazard identification number (Kemler code):	Warning: Corrosive substances 80
- EMS Number:	F-A,S-B
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
	Not applicable.
- Transport/Additional information:	
- DOT	
- Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
- Remarks:	Special marking with the symbol (fish and tree).
<hr/>	
- IMDG	
- Limited quantities (LQ)	1L
- Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<hr/>	
- UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (3,3'-(OXYBIS(2,1-ETHANE-DIYLOXY))BIS-1-PROPANAMINE, DIETHYLENETRIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

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.

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- Section 313 (Specific toxic chemical listings):	
CAS: 84852-15-3	Nonylphenol
CAS: 80-05-7	bisphenol A
- TSCA (Toxic Substances Control Act):	
Curing agent	*
Fatty Acids, C18-unsatd, dimers, polymers with bisphenol A, epichlorohydrin, tall-oil fatty acids, tetraethylenepentamine and TETA	ACTIVE
Mercaptan-terminated polymer	ACTIVE
Benzyl alcohol	ACTIVE
Nonylphenol	ACTIVE
2,2'-iminodiethylamine	ACTIVE
Aminophenol	ACTIVE
bisphenol A	ACTIVE
Silicon dioxide, amorphous	ACTIVE
Bis (dimethylaminomethyl) phenol	*
triethylenetetramine	ACTIVE
Epoxy curing agent	ACTIVE
- Hazardous Air Pollutants	
None of the ingredients is listed.	
- Proposition 65	
- Chemicals known to cause cancer:	
None of the ingredients is listed.	
- Chemicals known to cause reproductive toxicity for females:	
CAS: 80-05-7	bisphenol A
- 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)	
None of the ingredients is listed.	
- 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

- **Classification System:**

- **HMIS-ratings (scale 0 - 4)**

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

- **NFPA ratings (scale 0 - 4)**

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

- **Date of preparation / last revision** 01/13/2020 / 5

- **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

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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
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B
 Skin Corr. 1C: Skin corrosion/irritation – Category 1C
 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
 Repr. 1B: Reproductive toxicity – Category 1B
 Repr. 2: Reproductive toxicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

- **Disclaimer**

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