

Safety Data Sheet

#155 Conductive Epoxy Adhesive PART A

Safety Data Sheet dated: 05/30/2024 - version 7

Date of first edition: 07/18/2017

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: #155 Conductive Epoxy Adhesive PART A

Trade code: 9024851.VPI

Recommended use of the chemical and restrictions on use

Recommended use: Adhesive

Restrictions on use: Not available

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: VPI Corporation

3123 South 9th Street

53082 - Sheboygan - WI - USA

Phone: 920-458-4664

Responsible: Not available

Emergency 24 hour numbers:

1-800-255-3924

2. HAZARD(S) IDENTIFICATION



Classification of the chemical

Skin irritation, Category 2

Causes skin irritation.

Eye irritation, Category 2A

Causes serious eye irritation.

Skin Sensitization, Category 1A

May cause an allergic skin reaction.

Chronic (long term) aquatic hazard, category 2

Toxic to aquatic life with long lasting effects.

Label elements

Hazard pictograms and Signal Word



Warning

Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P272 Contaminated work clothing must not be allowed out of the workplace.

P273 Avoid release to the environment.

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

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see supplementary instructions on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P501 Dispose of contents/container in accordance with applicable regulations.

Ingredient(s) with unknown acute toxicity:

None

Hazards not otherwise classified identified during the classification process:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Not Relevant

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

List of components

Qty	Name	Ident. Numb.	Classification	Registration Number
25-50 %	bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS:1675-54-3, 25085-99-8 EC:216-823-5 Index:603-073-00-2	Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2A, H319; Aquatic Chronic 2, H411; Aquatic Acute 2, H401	01-2119456619-26-XXXX
5-10 %	benzyl alcohol; benzenemethanol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302; Eye Irrit. 2A, H319	01-2119492630-38-XXXX
5-10 %	alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) derivatives	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1B, H317	01-2119485289-22-XXXX
1-2.5 %	caster oil glycidyl ether; Homopolymer of glyceryl triester with 12-glycidyl-9-octadecenoic acid	CAS:74398-71-3 EC:616-085-8	Skin Irrit. 2, H315; Skin Sens. 1, H317	

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
Obtain medical attention if skin related symptoms persist.
Remove contaminated clothing immediately and dispose of safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

Eye irritation
Eye damages
Skin Irritation
Erythema

Indication of any immediate medical attention and special treatment needed

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

Treatment:

(see paragraph 4.1)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not Relevant

Oxidizing properties: Not Relevant

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Retain contaminated washing water and dispose it.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

Storage temperature: Not available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
benzyl alcohol; benzenemethanol CAS: 100-51-6	MAK	GERMANY	Long Term: 22 mg/m ³ - 5 ppm
	MAK	SWITZERLAN D	Long Term: 22 mg/m ³ - 5 ppm

Predicted No Effect Concentration (PNEC) values

alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) Exposure Route: Marine water; PNEC Limit: 0.00072 mg/l

derivatives
CAS: 68609-97-2

Exposure Route: Fresh Water; PNEC Limit: 0.0072 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 66.77 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 6.677 mg/kg
Exposure Route: Soil; PNEC Limit: 80.12 mg/kg
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Appropriate engineering controls: Not available

Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber - NBR: thickness $\geq 0,35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluorinated rubber - FKM: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: paste black

Odour: characteristic

Odour threshold: Not Relevant

pH: Not Relevant

Melting point / freezing point: Not Relevant

Initial boiling point and boiling range: Not Relevant

Flash point: 94 °C (201.2 °F)

Evaporation rate: Not Relevant

Upper/lower flammability or explosive limits: Not Relevant

Vapour density: Not Relevant

Vapour pressure: Not Relevant

Relative density: 1.31 g/cm³

Solubility in water: Not Relevant

Solubility in oil: Not Relevant

Partition coefficient (n-octanol/water): Not Relevant

Auto-ignition temperature: Not Relevant

Decomposition temperature: Not Relevant

Viscosity: Not Relevant

Explosive properties: Not Relevant

Oxidizing properties: Not Relevant

Solid/gas flammability: Not Relevant

Other information

Substance Groups relevant properties Not Relevant

Miscibility: Not Relevant

Fat Solubility: Not Relevant

Conductivity: Not Relevant

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Data not available.

Possibility of hazardous reactions

It may catch fire on contact with powerful oxidising agents.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin irritation, Category 2(H315)
c) serious eye damage/irritation	The product is classified: Eye irritation, Category 2A(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sensitization, Category 1A(H317)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

bis-[4-(2,3-epoxipropoxy)phenyl]propane	a) acute toxicity	LD50 Skin Rabbit = 20 mg/kg LD50 Oral Rat = 11300 µL/kg
benzyl alcohol; benzenemethanol	a) acute toxicity	LD50 Oral Rat = 1620 mg/kg
alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) derivatives	a) acute toxicity	LD50 Oral Rat = 19200 mg/kg LD50 Skin Rabbit = 4000 mg/kg

Substance(s) listed on the IARC Monographs:

bis-[4-(2,3-epoxipropoxy)phenyl]propane Group 3

Substance(s) listed as OSHA Carcinogen(s):

None

Substance(s) listed as NIOSH Carcinogen(s):

None

Substance(s) listed on the NTP report on Carcinogens:

None

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

The product is classified: Chronic (long term) aquatic hazard, category 2(H411)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS: 1675-54-3 - 25085-99-8 - EINECS: 216- 823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish = 2 mg/L 96h
benzyl alcohol; benzenemethanol	CAS: 100-51-6 - EINECS: 202- 859-9 - INDEX: 603-057-00-5	a) Aquatic acute toxicity : EC50 Daphnia = 1.8 mg/L 48h LC50 Fish Pimephales promelas = 460 mg/L 96h EPA
alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) derivatives	CAS: 68609-97- 2 - EINECS: 271-846-8 - INDEX: 603- 103-00-4	a) Aquatic acute toxicity : LC50 Fish > 100 mg/L 96h a) Aquatic acute toxicity : EL50 Daphnia = 7.2 mg/L 48h a) Aquatic acute toxicity : EC50 Algae = 843 mg/L 72h b) Aquatic chronic toxicity : NOEC Algae = 500 mg/L 72h

Persistence and degradability

Component	Persistence/Degradability:
alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) derivatives	Readily biodegradable

Bioaccumulative potential

Component	Bioaccumulation
alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) derivatives	Not bioaccumulative

Mobility in soil

N.A.

Other adverse effects

N.A.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

UN number

DOT-UN Number: UN3082
ADR-UN number: 3082
IATA-Un number: 3082
IMDG-Un number: 3082

UN proper shipping name

DOT-Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (epoxy resins)
ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resins)
IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resins)
IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resins)

Transport hazard class(es)

DOT-Hazard Class: 9
ADR-Class: 9
IATA-Class: 9
IMDG-Class: 9

Packing group

DOT Packing Group: III
ADR-Packing Group: III
IATA-Packing group: III
IMDG-Packing group: III

Environmental hazards

Marine pollutant: Yes
Environmental Pollutant: Not Applicable
DOT-RQ: No

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

Special precautions

Department of Transportation (DOT):

DOT-Special Provision(s): 8, 146, 173, 335, IB3, T4, TP1, TP29
DOT-Label(s): 9
DOT-Symbol: N/A
DOT-Cargo Aircraft: N/A
DOT-Passenger Aircraft: N/A
DOT-Bulk: N/A
DOT-Non-Bulk: N/A
DOT-Limited Quantity threshold: 5 L

Road and Rail (ADR-RID) :

ADR exempt: No
ADR-Label: 9
ADR-Hazard identification number: 90
ADR-Transport category (Tunnel restriction code): 3 (E)

Air (IATA) :

IATA-Passenger Aircraft: 964
IATA-Cargo Aircraft: 964
IATA-Label: 9
IATA-Subsidiary hazards: -
IATA-Erg: 9L
IATA-Special Provisioning: A97 A158 A197

Sea (IMDG) :

IMDG-Stowage Code: Category A
IMDG-Stowage Note: -
IMDG-Subsidiary hazards: -
IMDG-Special Provisioning: 274 335
IMDG-EMS: F-A, S-F

15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

All the components are listed on the TSCA inventory

TSCA listed substances:

bis-[4-(2,3-epoxipropoxy)phenyl]propane is listed in TSCA Section 8b

benzyl alcohol; benzenemethanol is listed in TSCA Section 8b

alkyl epoxy resin; Oxirane, mono((C12-14-alkyloxy)methyl) derivatives is listed in TSCA Section 8b

caster oil glycidyl ether; Homopolymer of glyceryl triester with 12-glycidyl-9-octadecenoic acid is listed in TSCA Section 8b

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

No substances listed

Section 304 - Hazardous substances:

No substances listed

Section 313 - Toxic chemical list:

No substances listed

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

No substances listed

CAA - Clean Air Act

CAA listed substances:

benzyl alcohol; benzenemethanol is listed in CAA Section 112(b) - HON

CWA - Clean Water Act

CWA listed substances:

No substances listed

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

No substances listed

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

benzyl alcohol; benzenemethanol

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

benzyl alcohol; benzenemethanol

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

No substances listed

Canada - Federal regulations

DSL - Domestic Substances List

All the substances are listed in the DSL.

NDSL - Non Domestic Substances List

This product complies with NDSL inventory

NPRI - National Pollutant Release Inventory

NPRI (National Pollutant Release Inventory) - List of substances listed.

No substances listed

16. OTHER INFORMATION

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Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
A.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
A.2/2	Skin Irrit. 2	Skin irritation, Category 2
A.3/2A	Eye Irrit. 2A	Eye irritation, Category 2A
A.4.2/1	Skin Sens. 1	Skin Sensitization, Category 1
A.4.2/1B	Skin Sens. 1B	Skin Sensitization, Category 1B
US-HAE/A2	Aquatic Acute 2	Acute aquatic hazard, category 2
US-HAE/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

Legend to abbreviations and acronyms used in the safety data sheet:

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
- RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
- IMDG: International Maritime Code for Dangerous Goods.
- IATA: International Air Transport Association.
- IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
- ICAO: International Civil Aviation Organization.
- ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
- GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
- CLP: Classification, Labeling, Packaging.
- EINECS: European Inventory of Existing Commercial Chemical Substances.
- INCI: International Nomenclature of Cosmetic Ingredients.
- CAS: Chemical Abstracts Service (division of the American Chemical Society).
- GefStoffVO: Ordinance on Hazardous Substances, Germany.
- LC50: Lethal concentration, for 50 percent of test population.
- LD50: Lethal dose, for 50 percent of test population.
- DNEL: Derived No Effect Level.
- PNEC: Predicted No Effect Concentration.
- TLV: Threshold Limiting Value.
- TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
- STEL: Short Term Exposure limit.
- STOT: Specific Target Organ Toxicity.
- WGK: German Water Hazard Class.
- KSt: Explosion coefficient.

Paragraphs modified from the previous revision:

- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION