

SAFETY DATA SHEET

VT-4B* (* = Replaced by 1/2/3/5/5sp/5L/7/7sp/9/C/D, etc)

SECTION 1: Identification

1.1. Product identifier

Trade name

VT-4B* (* = Replaced by 1/2/3/5/5sp/5L/7/7sp/9/C/D, etc)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture

Production of printed circuit board materials
Restricted to professional users.

Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company and address

Ventec USA720 Lee St,
Elk Grove Village,
Illinois.

60007 Illinois

USA

+1 630-422 1627

www.ventec-group.com

E-mail

saleseast@ventec-usa.com

SDS date

6/10/2025

SDS Version

5.0

Date of previous version

6/9/2025 (4.0)

1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® (triage.webpoisoncontrol.org)
to get specific guidance for your case

See also section 4 "First aid measures".

SECTION 2: Hazard(s) identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.1. Classification of the substance or mixture

Skin Irrit. 2; H315, Causes skin irritation.

2.2. Label elements

Hazard pictogram(s)



Signal word

Warning

Hazard statement(s)

Causes skin irritation. (H315)

Precautionary statement(s)

General

-

Prevention

Wash hands and exposed skin thoroughly after handling. (P264)

Wear eye protection/protective gloves. (P280)

Response

-

Storage

-

Disposal

-

Additional labelling

Not applicable.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
Aluminium	CAS No.: 7429-90-5	80-90%		
Copper Foil	CAS No.: 7440-50-8	5-10%		
Epoxy Resin - Proprietary Formulation - CCL/PP	CAS No.: 26265-08-7	5-10%	Skin Irrit. 2, H315	

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: First-aid measures

4.1. Description of first aid measures

General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

Skin contact

IF ON SKIN: Wash with plenty of water and soap.

Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.

If skin irritation occurs: Get medical advice/attention.

Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

Ingestion

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.

In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

Burns

Not applicable.

4.2. Most important symptoms and effects, both acute and delayed

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Dry powder (Class D), sodium chloride (granulate) or dry sand.

Unsuitable extinguishing media: DO NOT USE WATER!

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Some metal oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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6.2. Environmental precautions

-

6.3. Methods and material for containment and cleaning up

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6.4. Reference to other sections

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage material

As recommended under the TDS

Storage conditions

As recommended by TDS

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aluminium

Long term exposure limit (OSHA Table Z-1) (mg/m³): 15 Total dust / 5 Respirable fraction

Long term exposure limit (ACGIH TLV) (mg/m³): 1 Respirable fraction

Long term exposure limit (NIOSH REL) (mg/m³): 10 (Total dust), 5 (Respirable fraction)

Copper Foil

Long term exposure limit (OSHA Table Z-1) (mg/m³): 0,1 (Fume (as Cu))

Long term exposure limit (ACGIH TLV) (mg/m³): 0.2 (Fume (as Cu)) / 1 (Dusts and mists (as Cu))

Long term exposure limit (NIOSH REL) (mg/m³): 0.1 (Fume (as Cu)) / 1 (Dusts and mists (as Cu))

Part 1910 - Occupational Safety and Health Standards (29 CFR 1910.1000 TABLE Z-1 - Limits for Air Contaminants)

8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.

Airborne gas and dust concentrations must be kept at a minimum and below current limit values (see above).

Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure emergency eyewash and showers are clearly marked.

Hygiene measures

Take off contaminated clothing and wash it before reuse.

Measures to avoid environmental exposure


No specific requirements.

Individual protection measures, such as personal protective equipment


Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.


▼ Respiratory Equipment

Type	Class	Colour	Standards	
S/SL	P1	White	EN149	


Skin protection

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

▼ Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Polyester	-	-	-	

Eye protection

Type	Standards	
Safety glasses	EN ISO 16321-1	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Color

White

Odor

None

Odor threshold (ppm)

No data available.

pH

No data available.

Density (g/cm³)

No data available.

-

Relative density

2.0-2.2

Kinematic viscosity

Does not apply to solids.

Particle characteristics

No data available.

Phase changes

Melting point/freezing point (°F)

No data available.

Softening point/range (°F)

Does not apply to solids.

Boiling point (°F)

Does not apply to solids.

Vapor pressure

No data available.

Relative vapor density

Does not apply to solids.

Decomposition temperature (°F)

-

Decomposition temperature (°C)

380-400

Data on fire and explosion hazards

Flash point (°F)

Does not apply to solids.

Flammability (°F)

No data available.

Auto-ignition temperature (°F)

No data available.

Explosion limits (% v/v)

Does not apply to solids.

Solubility

Solubility in water

No data available.

n-octanol/water coefficient (LogKow)

No data available.

Solubility in fat (g/L)

No data available.

9.2. Other information

Other physical and chemical parameters

No data available.

Oxidizing properties

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies

None known.

10.4. Conditions to avoid

Accumulation of dust

Generation of dust

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

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

Respiratory sensitisation

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

Skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Long term effects

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs.

Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Other information

None known.

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

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

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Other adverse effects

None known.

SECTION 13: Disposal considerations

RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)

None of the components are listed

Specific labelling

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
DOT	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group

** Environmental hazards

Additional information

Not dangerous goods according to DOT, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to IMO instruments

No data available.

SECTION 15: Regulatory information

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

15.2. U.S. Federal regulations

TSCA (the non-confidential portion)

Aluminium is listed

Copper Foil is listed

Epoxy Resin - Proprietary Formulation - CCL/PP is listed

Clean Air Act

None of the components are listed

EPCRA Section 302

None of the components are listed

EPCRA Section 304

None of the components are listed

EPCRA section 313

Aluminium is listed

Copper Foil is listed

CERCLA

Copper Foil is regulated with a Reportable Quantity (RQ) of: 5000 pounds

Hazardous chemical inventory reporting

This product is subject to Tier II reporting.

State regulations

California / Prop. 65

None of the components are listed

Massachusetts / Right To Know Act

Aluminium is listed

Copper Foil is listed

New Jersey / Right To Know Act

Aluminium / Substance number: 0054

Aluminium is on the Special Health Hazard Substance List

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Copper Foil / Substance number: 0528

—
New York / Right To Know Act

Aluminium is listed

Aluminium is regulated with a Threshold Reporting Quantity (TRQ) of: 1 pounds

—
Copper Foil is listed

Copper Foil is regulated with a Reportable Quantity (RQ) of: 5000* pounds

Copper Foil is regulated with a Threshold Reporting Quantity (TRQ) of: 100 pounds

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Pennsylvania / Right To Know Act

Aluminium is listed

Aluminium is hazardous to the environment (E)

—
Copper Foil is listed

Copper Foil is hazardous to the environment (E)

—
15.4. Restrictions for application

Restricted to professional users.

15.5. Demands for specific education

No specific requirements.

15.6. Additional information

Not applicable.

15.7. Chemical safety assessment

No

15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H315, Causes skin irritation.

The full text of identified uses as mentioned in section 1

None known.

Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances

EPCRA = Emergency Planning and Community Right-To-Know Act

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HCIS = Hazardous Chemical Information System

HNOC = Hazards Not Otherwise Classified

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

NFPA = National Fire Protection Association

NIOSH = National Institute for Occupational Safety and Health

OECD = Organisation for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

PBT = Persistent, Bioaccumulative and Toxic

RCRA = Resource Conservation and Recovery Act

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

RRN = REACH Registration Number

SARA = Superfund Amendments and Reauthorization Act

SCL = A specific concentration limit.

STEL = Short-term exposure limits

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

TSCA = The Toxic Substances Control Act

TWA = Time weighted average

UN = United Nations

UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound

vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by HCS (29 CFR 1910.1200).

The safety data sheet is validated by

Sunny Kwok

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

Country-language: US-en