

## SAFETY DATA SHEET

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

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## 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-Europe Limited**Unit 1, Trojan Business Centre,  
Tachbrook Park Estate  
CV34 6RH Warwick  
United Kingdom  
+44 (0) 1926 889822  
www.ventec-europe.com/

## E-mail

sales@ventec-europe.com

## Revision

10/06/2025

## SDS Version

5.0

## Date of previous version

09/06/2025 (4.0)

## 1.4. Emergency telephone number

Healthcare professionals: Dial 0344 892 0111 to reach The National Poisons Information Service (NPIS) (24 hour service)

General public:

England - Dial 111 to reach NHS 111 (24 hour service)

Scotland - Dial 112 to reach NHS 24 (24 hour service)

Wales - Dial 111 or 0845 4647 to reach NHS Direct (24 hour service)

See section 4 "First aid measures".

## SECTION 2: Hazards identification

Classified according to Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

## 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

-

#### Hazardous substances

Does not contain any substances required to report

#### Additional labelling

Not applicable.

### 2.3. Other hazards

#### Additional warnings

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

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

## 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 EC No.: 231-072-3 UK-REACH: Index No.: 013-001-00-6	80-90%		
Copper Foil	CAS No.: 7440-50-8 EC No.: 231-159-6 UK-REACH: Index No.:	5-10%		
Epoxy Resin - Proprietary Formulation - CCL/PP	CAS No.: 26265-08-7 EC No.: 607-901-3 UK-REACH: Index No.:	5-10%	Skin Irrit. 2, H315	

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

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.

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: Firefighting 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 National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

-

**6.2. Environmental precautions**

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**6.3. Methods and material for containment and cleaning up**

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**6.4. Reference to other sections**

-

**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 (8 hours) (mg/m<sup>3</sup>): 10(inhalable)/4(respirable)

#### Copper Foil

Long term exposure limit (8 hours) (mg/m<sup>3</sup>): 0,2(fume)/1(dust)

Short term exposure limit (15 minutes) (mg/m<sup>3</sup>): 2 (dusts, mists)

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677 The Stationery Office 2002.  
 EH40/2005 Workplace exposure limits (Fourth Edition 2020).

### DNEL

#### Aluminium

Duration:	Route of exposure:	DNEL:
Long term – Local effects - Workers	Inhalation	3.72 mg/m <sup>3</sup>
Long term – Systemic effects - Workers	Inhalation	3.72 mg/m <sup>3</sup>

#### Copper Foil

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - Workers	Dermal	137 mg/kg bw/day
Short term – Systemic effects - Workers	Dermal	273 mg/kg bw/day
Long term – Local effects - Workers	Inhalation	1 mg/m <sup>3</sup>
Short term – Local effects - Workers	Inhalation	1 mg/m <sup>3</sup>

### PNEC

#### Aluminium

Route of exposure:	Duration of Exposure:	PNEC:
Sewage treatment plant		20 mg/L

#### Copper Foil

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		6.3 µg/L
Freshwater sediment		87 mg/kg
Marine water		5.2 µg/L
Marine water sediment		676 mg/kg
Sewage treatment plant		230 µg/L
Soil		65 mg/kg

### 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 UKCA marked protective equipment.

##### ▼ 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

#### Colour

White

#### Odour / Odour threshold

None

#### pH

No data available.

#### Density (g/cm<sup>3</sup>)

-

#### Relative density

## 2.0-2.2

## Kinematic viscosity

Does not apply to solids.

## Particle characteristics

No data available.

## Phase changes

## Melting point/Freezing point (°C)

No data available.

## Softening point/range (°C)

Does not apply to solids.

## Boiling point (°C)

Does not apply to solids.

## Vapour pressure

No data available.

## Relative vapour density

Does not apply to solids.

## Decomposition temperature (°C)

380-400

## Data on fire and explosion hazards

## Flash point (°C)

Does not apply to solids.

## Flammability (°C)

No data available.

## Auto-ignition temperature (°C)

No data available.

## Lower and upper explosion limit (% 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

## Oxidizing properties

No data available.

## Other physical and chemical parameters

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

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 hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

#### 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.

### 11.2. Information on other hazards

#### 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.

#### Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

#### 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. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

### 12.7. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### Waste treatment methods

Product is not covered by regulations on dangerous waste.

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

### EWG code

16 02                      Wastes from electrical and electronic equipment

### 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:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

\* Packing group

\*\* Environmental hazards

#### Additional information

Not dangerous goods according to ADR, IATA and IMDG.

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Maritime 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

#### Restrictions for application

Restricted to professional users.

#### Demands for specific education

No specific requirements.

#### Control of Major Accident Hazards (COMAH) - Categories / dangerous substances

Not applicable.

#### Regulation on explosives precursors

Aluminium (Annex II)

#### Additional information

No Polybrominated-Biphenyls or Polybrominated-Biphenyl-Oxides used as flame retardant in the resin system.

#### Sources

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

Council Regulation (EC) No 2019/1148 on explosives precursors as retained and amended in UK law.

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

### 15.2. Chemical safety assessment

No

## SECTION 16: Other information

### Full text of H-phrases as mentioned in section 3

H315, Causes skin irritation.

### Abbreviations and acronyms

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

CE = Conformité Européenne (European conformity)



CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
CSA = Chemical Safety Assessment  
CSR = Chemical Safety Report  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EINECS = European Inventory of Existing Commercial chemical Substances  
ES = Exposure Scenario  
EUH statement = CLP-specific Hazard statement  
EuPCS = European Product Categorisation System  
EWC = European Waste Catalogue  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
GWP = Global warming potential  
IARC = International Agency for Research on Cancer (IARC)  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
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)  
OECD = Organisation for Economic Co-operation and Development  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SCL = A specific concentration limit  
SVHC = Substances of Very High Concern  
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
STOT-SE = Specific Target Organ Toxicity - Single Exposure  
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 substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

#### 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: GB-en