



SAFETY DATA SHEET

VT-4A1 / VT-4A2 / VT-4A2H

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name VT-4A1 / VT-4A2 / VT-4A2H

Synonyms; trade names IMS - Insulated Metal Substrate for Thermal Management Applications.

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

Identified uses Production of printed circuit board materials.

1.3. Details of the supplier of the safety data sheet

Supplier Ventec Electronics (Suzhoe) Co. Ltd.
308, Taishan Road,
New District,
Suzhoe Jiangsu,
P.R.C. 215129

Manufacturer Ventec Electronics (Suzhoe) Co. Ltd.
308, Taishan Road,
New District,
Suzhoe Jiangsu,
P.R.C. 215129

1.4. Emergency telephone number

Emergency telephone 0086-512-68091810

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Aluminium	83.0%
CAS number: 7429-90-5	EC number: 231-072-3
Classification	
Flam. Sol. 1 - H228	
Water-react. 2 - H261	
Copper Foil	8.0%
CAS number: 7440-50-8	EC number: 231-159-6
Classification	
Not Classified	
Epoxy Resin - Proprietary Formulation	7.0%
CAS number: 26265-08-7	
Classification	
Skin Irrit. 2 - H315	
Glass cloth	2.0%
CAS number: 65997-17-3	
Classification	
Not Classified	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments Based on 0.004" Al - 1.0 / Cu 1oz

Ingredient notes Hazards classifications shown above for aluminium relate to generated dust.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
Inhalation	IF INHALED: Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Consult a physician for specific advice.
Ingestion	IF SWALLOWED: Rinse mouth thoroughly with water. Consult a physician for specific advice.
Skin contact	Remove contaminated clothing. Rinse immediately with plenty of water.
Eye contact	If dust has entered the eyes, proceed as follows. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist after washing.
Protection of first aiders	If it is suspected that airborne contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus.

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

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Inhalation	Inhalation of dust during cutting, grinding or sanding operations involving this product may cause irritation of the respiratory tract.
Ingestion	Due to the physical nature of this product, it is unlikely that ingestion will occur. May cause discomfort if swallowed.
Skin contact	Dust may cause slight irritation.
Eye contact	Dust may cause slight irritation.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media suitable for the surrounding fire. Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	None known.

5.2. Special hazards arising from the substance or mixture

Specific hazards	The product is not flammable.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO ₂). Carbon monoxide (CO). Acrid smoke or fumes. Toxic gases or vapours.

5.3. Advice for firefighters

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid inhalation of dust and contact with skin and eyes.
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6.2. Environmental precautions

Environmental precautions	Avoid release to the environment. Avoid spreading dust or contaminated materials.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into suitable waste disposal containers and seal securely.
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6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	No specific requirements are anticipated under normal conditions of use.
Advice on general occupational hygiene	No specific requirements are anticipated under normal conditions of use.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	No specific requirements are anticipated under normal conditions of use.
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7.3. Specific end use(s)

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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Aluminium

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust

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Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

WEL = Workplace Exposure Limit

8.2. Exposure controls

Appropriate engineering controls

Mechanical ventilation or local exhaust ventilation may be required.

Personal protection

The following personal protection may be needed if long term exposure during machining, grinding and sawing.

Eye/face protection

Wear eye protection.

Hand protection

Wear protective gloves.

Other skin and body protection

No specific requirements are anticipated under normal conditions of use.

Hygiene measures

Good personal hygiene procedures should be implemented.

Respiratory protection

Wear a suitable dust mask.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Solid.

Odour

No characteristic odour.

Odour threshold

Does not apply, as product is odourless.

Flammability (solid, gas)

UL-94 V0

Relative density

~ 1.6 - 1.9

Decomposition Temperature

380°C

Comments

Information given is applicable to the product as supplied.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity

Not reactive under normal use and conditions.

10.2. Chemical stability

Stability

Stable under normal use and conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions

Product is stable. Hazardous polymerisation will not occur.

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10.4. Conditions to avoid

Conditions to avoid Avoid generation and spreading of dust.

10.5. Incompatible materials

Materials to avoid Strong acids. Strong alkalis. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Will decompose at temperatures exceeding 380°C. Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrous gases (NO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects No data available on the specific mixture.

Skin contact Powder may irritate skin.

Eye contact Powder may irritate the eyes.

SECTION 12: Ecological Information

12.1. Toxicity

12.2. Persistence and degradability

Persistence and degradability The product is not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility No data available.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information External recovery, treatment, recycling and disposal of waste should comply with all applicable local and/or national regulations.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

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

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National regulations	None Listed.
EU legislation	None Listed.
Guidance	No Polybrominated-Biphenyls or Polybrominated-Biphenyl-Oxides used as a flame retardant in the resin system.

15.2. Chemical safety assessment**SECTION 16: Other information**

Issued by	HS&E Manager.
Revision date	16/09/2017
Revision	Issue 1
SDS number	4557
SDS status	Approved.
Hazard statements in full	H228 Flammable solid. H261 In contact with water releases flammable gases. H315 Causes skin irritation.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.