



Banff Green Technologies, Inc

TEL: 86-21-54795870 FAX: 86-21-54795870 Email: sales@banffgt.com
ADDRESS: Floor 29, CapitaMalls Plaza, No. 6088 Humin Rd., Minhang Dist., Shanghai 201100, China

Material Safety Data Sheet

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

1.1 Product identifiers

Product name : D-Valine

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No.: 640-68-6

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

Laboratory chemicals, Manufacture of substances

Details of the supplier of the safety data sheet

Company: Banff Green Technologies, Inc.

Floor 29, CapitaMalls Plaza, No. 6088 Humin Rd.,

Minhang Dist., Shanghai 201100

CHINA

Telephone/Fax: +86 21-54795870

E-mail address: sales@banffgt.com

1.3 Emergency telephone number

Emergency Phone #: +86 21-61995660

★ SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

2.2 Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards - none

★ SECTION 3: Composition/information on ingredients

Synonyms: D-2-Amino-3-methylbutanoic acid , (R)- α -Aminoisovaleric acid



Formula: C5H11NO2

Molecular Weight: 117,15 g/mol

CAS-No.: 640-68-6

EC-No.: 211-368-9

No components need to be disclosed according to the applicable regulations.

★ SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed
no data available

★ SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available



Banff Green Technologies, Inc

TEL: 86-21-54795870 FAX: 86-21-54795870 Email: sales@banffgt.com
ADDRESS: Floor 29, CapitaMalls Plaza, No. 6088 Humin Rd.,Minhang Dist., Shanghai 201100, China

★ SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

★ SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

7.2 For precautions see section 2.2.

7.3 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.4 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated

★ SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
General industrial hygiene practice.

8.3 Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards



such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

★ SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: powder

Colour: white

b) Odour: no data available

c) Odour Threshold: no data available

d) pH: no data available

e) Melting point/freezing point: Melting point/range > 295 °C

f) Initial boiling point and boiling range: no data available

g) Flash point: no data available

h) Evaporation rate: no data available

i) Flammability (solid, gas): no data available

j) Upper/lower flammability or explosive limits: no data available

k) Vapour pressure: no data available

l) Vapour density: no data available

m) Relative density: no data available

n) Water solubility: no data available

o) Partition coefficient: noctanol/water

p) Auto-ignition temperature: no data available

q) Decomposition temperature: no data available



Banff Green Technologies, Inc

TEL: 86-21-54795870 FAX: 86-21-54795870 Email: sales@banffgt.com
ADDRESS: Floor 29, CapitaMalls Plaza, No. 6088 Humin Rd.,Minhang Dist., Shanghai 201100, China

- r) Viscosity: no data available
- s) Explosive properties: no data available
- t) Oxidizing properties: no data available

9.2 Other safety information

no data available

★ SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

★ SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Intraperitoneal - rat - 6.093 mg/kg

Remarks: Behavioral: Altered sleep time (including change in righting reflex). Lungs, Thorax, or Respiration: Dyspnea.

Nutritional and Gross Metabolic: Changes in: Body temperature decrease.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity



Banff Green Technologies, Inc

TEL: 86-21-54795870 FAX: 86-21-54795870 Email: sales@banffgt.com
ADDRESS: Floor 29, CapitaMalls Plaza, No. 6088 Humin Rd.,Minhang Dist., Shanghai 201100, China

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: YV9360000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

★ SECTION 12: Ecological information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

no data available

★ SECTION 13: Disposal considerations

Waste treatment methods

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

★ SECTION 14: Transport information



Banff Green Technologies, Inc

TEL: 86-21-54795870 FAX: 86-21-54795870 Email: sales@banffgt.com
ADDRESS: Floor 29, CapitaMalls Plaza, No. 6088 Humin Rd., Minhang Dist., Shanghai 201100, China

14.1 UN number

ADR/RID: -
IMDG: -
IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -
IMDG: -
IATA: -
IATA: -
IATA: no

14.4 Packaging group

ADR/RID: -
IMDG: -

14.5 Environmental hazards

ADR/RID: no
IMDG Marine pollutant: no

14.6 Special precautions for user

no data available



★ SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

For this product, a chemical safety assessment was not carried out.