

## SAFETY DATA SHEET (SDS)

TrailBio<sup>®</sup> SB-431542

### 1. Identification

**Product Name:** TrailBio<sup>®</sup> SB-431542

**Synonyms:** TGF- $\beta$  RI Kinase Inhibitor VI, SB431542

**Product Code:** TB02309, TB46416

**CAS No.:** 301836-41-9

**Molecular Formula:** C<sub>22</sub>H<sub>16</sub>N<sub>4</sub>O<sub>3</sub>

**Molecular Weight:** 384.39 g/mol

**Product Use:** For Research Use Only (RUO). Laboratory chemical; manufacture of substances.

**Uses Advised Against:** Any use other than the identified research use.

**Distributed by:** Trailhead Biosystems Inc.

23215 Commerce Park Road, Beachwood, Ohio, 44122

**SDSs are available at the following website:** [www.trailbio.com](http://www.trailbio.com)

**Company Phone Number:** +1 (216) 490-3304

**Emergency Telephone Number:** +1-800-424-9300

**Email:** [support@trailbio.com](mailto:support@trailbio.com)

### 2. Hazard(s) Identification

#### **Classification (OSHA HCS 2024, GHS Rev. 7; 29 CFR 1910.1200)**

Acute toxicity, oral – Category 4, H302

Skin corrosion/irritation – Category 2, H315

Serious eye damage/eye irritation – Category 2A, H319

Specific target organ toxicity, single exposure; Respiratory tract irritation – Category 3, H335

#### **Hazards not otherwise classified (HNOC)**

None.

#### **GHS Label Elements**



**Pictogram:**

**Signal Word:** Warning

#### **Hazard Statements**

H302 – Harmful if swallowed

H315 – Causes skin irritation

H319 – Causes serious eye irritation

H335 – May cause respiratory irritation

#### **Precautionary Statements – Prevention**

P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 – Wash hands thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

P271 – Use only outdoors or in a well-ventilated area.

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

**Precautionary Statements – Response**

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

P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

P330 – Rinse mouth.

P362+P364 – Take off contaminated clothing and wash it before reuse.

**Precautionary Statements – Storage**

P403+P233 – Store in a well-ventilated place. Keep container tightly closed.

P405 – Store locked up.

**Precautionary Statements – Disposal**

P501 – Dispose of contents/container in accordance with local regulations.

### 3. Composition/Information on Ingredients

**Substance**

**Chemical Name:** SB-431542

**CAS No.:** 301836-41-9

**Molecular Formula:** C<sub>22</sub>H<sub>16</sub>N<sub>4</sub>O<sub>3</sub>

**Molecular Weight:** 384.39 g/mol

Single substance supplied at ≥ 98% (as supplied). See Section 2 for hazard classification.

### 4. First-Aid Measures

**Description of first-aid measures**

**Eye Contact**

Remove any contact lenses, locate eye-wash station, and flush eyes immediately with large amounts of water. Separate eyelids with fingers to ensure adequate flushing. Promptly call a physician.

**Skin Contact**

Rinse skin thoroughly with large amounts of water. Remove contaminated clothing and shoes and call a physician.

**Inhalation**

Immediately relocate self or casualty to fresh air. If breathing is difficult, give cardiopulmonary resuscitation (CPR). Avoid mouth-to-mouth resuscitation.

**Ingestion**

Wash out mouth with water; do NOT induce vomiting; call a physician.

**Most important symptoms/effects, acute and delayed**

The most important known symptoms and effects are described in the labelling (see Section 2). See Section 2 for hazard classification.

**Indication of immediate medical attention and special treatment needed**

Treat symptomatically.

## 5. Fire-Fighting Measures

### Suitable Extinguishing Media

Carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, dry chemical powder, or water spray.

### Unsuitable Extinguishing Media

None known.

### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours. Under fire conditions may decompose and emit toxic fumes.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Remove undamaged containers from fire area if safe to do so.

## 6. Accidental Release Measures

### Personal precautions, protective equipment, and emergency procedures

Use full personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist, or gas. Ensure adequate ventilation. Keep personnel away from spill/leak. Refer to protective measures listed in Section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains, waterways, or sewer systems. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

#### **Methods for Containment**

Remove all sources of ignition.

Prevent further leakage or spillage if safe to do so.

#### **Methods for Cleaning Up**

sand, silica gel, vermiculite) before transferring into an airtight container. Dispose of appropriately according to local regulations.

Absorb spilled material with an inert absorbent (e.g.

## 7. Handling and Storage

### Precautions for safe handling

Avoid inhalation and contact with eyes and skin. Avoid dust and aerosol formation. Use only in areas with appropriate exhaust ventilation. Wear personal protective equipment.

### Conditions for safe storage, including any incompatibilities

Keep container tightly sealed in a cool, well-ventilated area. Keep away from direct sunlight and sources of ignition.

**Recommended storage temperature (powder):** -20 °C – 3 years; 4 °C – 2 years

**Recommended storage temperature (in solvent):** -80 °C – 2 years; -20 °C – 1 year

**Shipping:** Room temperature if less than 2 weeks.

## 8. Exposure Controls/Personal Protection

### Control parameters

#### **Exposure Guidelines**

occupational exposure limit (OEL) values.

This product contains no substances with established

#### **Appropriate engineering controls**

Use only under a chemical fume hood ensuring adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation.

#### **Individual protection measures, such as personal protective equipment**

##### **Eye/face protection**

Safety goggles with side-shields.

##### **Hand protection**

Protective (impervious) gloves.

##### **Skin and body protection**

Impervious clothing.

##### **Respiratory protection**

be generated.

Suitable respirator where dust, aerosol or fume may

##### **General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before and after use. Do not eat, drink or smoke when using this product.

Handle in accordance with good industrial hygiene and

##### **Environmental exposure controls**

away from drains, water courses, and soil. Clean spillages safely as soon as possible.

Avoid discharge into the environment. Keep product

## 9. Physical and Chemical Properties

**Appearance:** Solid

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting point/freezing point:** 214 °C

**Boiling point/boiling range:** No data available

**Flash Point:** No data available

**Evaporation Rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:** No data available

**Vapor Pressure:** No data available

**Vapor Density:** No data available

**Relative Density:** No data available

**Solubility:** No data available

**Partition Coefficient (n-octanol/water):** No data available

**Autoignition temperature:** No data available

**Decomposition temperature:** No data available

**Viscosity:** No data available

**Explosive properties:** No data available

**Oxidizing properties:** No data available

**Molecular Weight:** 384.39 g/mol

**Physical State at 20 °C:** Solid

## 10. Stability and Reactivity

### Reactivity

No data available.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal storage conditions.

### Conditions to avoid

No data available.

### Incompatible Materials

Strong acids/alkalis, strong oxidising/reducing agents.

### Hazardous Decomposition Products

Under fire conditions, may decompose and emit toxic fumes.

## 11. Toxicological Information

### Information on toxicological effects

<b>Acute toxicity (oral)</b>	Classified as Category 4 (H302); see Section 2.
<b>Skin corrosion/irritation</b>	Classified as Category 2 (H315); see Section 2.
<b>Serious eye damage/irritation</b>	Classified as Category 2A (H319); see Section 2.
<b>Respiratory or skin sensitization</b>	Classified based on available data; see Section 2.
<b>Germ cell mutagenicity</b>	Classified based on available data; see Section 2.
<b>Reproductive Toxicity</b>	Classified based on available data; see Section 2.
<b>STOT – single exposure</b> (H335); see Section 2.	Classified as Category 3, respiratory tract irritation
<b>STOT – repeated exposure</b>	Classified based on available data; see Section 2.
<b>Aspiration hazard</b>	Classified based on available data; see Section 2.
<b>Target Organ Effects</b>	Respiratory tract; skin; eyes.

### Carcinogenicity

IARC, ACGIH, NTP, and OSHA: No component of this product present at a level equal to or greater than 0.1% is identified as a probable, possible, or confirmed human carcinogen by these bodies.

### Additional information

RTECS No.: Not available. This information is based on current knowledge; the chemical, physical, and toxicological properties have not been completely investigated.

## 12. Ecological Information

### Ecotoxicity

No data available.

### Persistence and degradability

No data available.

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Results of PBT and vPvB assessment**

PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

**Other adverse effects**

No data available.

### **13. Disposal Considerations**

**Waste treatment methods**

Ensure product is disposed of by licensed waste carriers in accordance with prevailing country, federal, state, and local regulations.

**Contaminated packaging**

Ensure inner packaging is disposed of by licensed waste carriers. Some outer packaging may be recyclable if not contaminated.

### **14. Transport Information**

**DOT:** Not regulated (Not dangerous goods).

**TDG:** Not determined

**MEX:** Not determined

**ICAO:** Not determined

**IATA:** Not regulated (Not dangerous goods).

**IMDG:** Not regulated (Not dangerous goods).

**ADR/RID:** Not determined

**ADN:** Not determined

### **15. Regulatory Information**

**U.S. Federal Regulations**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: This material does not contain any chemical components above De Minimis reporting levels under SARA Title III, Section 313.

SARA 311/312 Hazards - Health Hazards: Acute toxicity (oral); Skin corrosion/irritation; Serious eye damage/eye irritation; Specific target organ toxicity (single exposure). Physical Hazards: None known.

**US State Regulations**

California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Massachusetts Right to Know: No components subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know: No components subject to the Pennsylvania Right to Know Act.

New Jersey Right to Know: No components subject to the New Jersey Right to Know Act.

## 16. Other Information

<b>Prepared By</b>	Trailhead Biosystems
<b>Preparation Date</b>	2026-06-10
<b>Revision Date</b>	2026-06-10
<b>Revision Note</b>	No information available

**Disclaimer:** The information provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. This product is For Research Use Only and must be handled only by suitably qualified, experienced personnel in appropriately equipped facilities. The burden of safe use of this material rests with the user. The 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, unless specified in the text.

**END**