



Product: TBTU  
SDS No: 311035  
Revision: 1.0

## Safety Data Sheet

### Section 1 - Product and Company Information

Product Name: TBTU  
Product Code: 311035  
Company: CSBio(Shanghai) Ltd  
EMERGENCY CONTACTS: Dr. Simon Zhu 0086-21-50781655

### Section 2 - Hazards Identification

#### 2.1 Classification of the substance or mixture

Flammable solids (Category 1), H228

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H228 Flammable solid.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

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

P264 Wash skin thoroughly after handling.

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

P280 Wear protective gloves/ eye protection/ face protection.

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

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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

P332 + P313 If skin irritation occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get

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medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## Section 3 - Composition/Information on Ingredients

|                |                        |
|----------------|------------------------|
| Substance Name | TBTU                   |
| CAS No.        | 125700-67-6            |
| Formula        | $C_{11}H_{16}BF_4N_5O$ |

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

#### General advice

Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure. Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

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

#### In case of skin contact

First treatment with calcium gluconate paste. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 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

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

No data available

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## Section 5 - Fire Fighting 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 (NO<sub>x</sub>), Hydrogen fluoride, Borane/boron oxides
- 5.3 Advice for firefighters  
Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information  
No data available

## Section 6 - Accidental Release Measures

- 6.1 Personal precautions, protective equipment and emergency procedures  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.
- 6.2 Environmental precautions  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- 6.3 Methods and materials for containment and cleaning up  
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
- 6.4 Reference to other sections  
For disposal see section 13.

## Section 7 - Handling and Storage

- 7.1 Precautions for safe handling  
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.  
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities  
Keep container tightly closed in a dry and well-ventilated place.  
Storage class (TRGS 510): Non Combustible Solids  
Light sensitive. Store under inert gas. Moisture sensitive.  
Keep in a Cool dry place ( $\leq 8^{\circ}\text{C}$ )
- 7.3 Specific end use(s)  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## Section 8 - Exposure Controls / PPE

### 8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

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.

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

No special environmental precautions required.

## Section 9 - Physical/Chemical Properties

|                       |                                       |
|-----------------------|---------------------------------------|
| Appearance:           | White to off white crystalline powder |
| Molecular Weight:     | 321.1                                 |
| pH:                   | N/A                                   |
| BP/BP Range:          | N/A                                   |
| MP/MP Range:          | $\geq 200.0^{\circ}\text{C}$          |
| Freezing Point:       | N/A                                   |
| Vapor Pressure:       | N/A                                   |
| Vapor Density:        | N/A                                   |
| Saturated Vapor Conc. | N/A                                   |
| SG/Density:           | N/A                                   |
| Bulk Density:         | N/A                                   |

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|                        |     |
|------------------------|-----|
| Odor Threshold:        | N/A |
| Volatile%:             | N/A |
| VOC Content:           | N/A |
| Water Content:         | N/A |
| Solvent Content:       | N/A |
| Evaporation Rate:      | N/A |
| Viscosity:             | N/A |
| Surface Tension:       | N/A |
| Partition Coefficient: | N/A |
| Decomposition Temp.:   | N/A |
| Flash Point:           | N/A |
| Explosion Limits:      | N/A |
| Flammability:          | N/A |
| Autoignition Temp:     | N/A |
| Refractive Index:      | N/A |
| Optical Rotation:      | N/A |
| Miscellaneous Data:    | N/A |
| Solubility:            | N/A |

## 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
  - Heat, flames and sparks.
- 10.5 Incompatible materials
  - Oxidizing agents
- 10.6 Hazardous decomposition products
  - Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)
  - Other decomposition products - No data available
  - In the event of fire: see section 5

## Section 11 - Toxicological Information

- 11.1 Information on toxicological effects
  - Acute toxicity

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No data available

Inhalation: No data available

Dermal: No data available

No data available

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

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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: Not available

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

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- 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

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

#### Contaminated packaging

Dispose of as unused product.

## Section 14 - Transport Information

### DOT (US)

UN number: 1325 Class: 4.1 Packing group: II Proper shipping name: Flammable solids, organic, n.o.s. (O-(Benzotriazol-1-yl)-N,N,N',N'- tetramethyluronium tetrafluoroborate) Reportable Quantity (RQ): Poison Inhalation Hazard: No

### IMDG

UN number: 1325 Class: 4.1 Packing group: II EMS-No: F-A, S-G Proper shipping name: FLAMMABLE SOLID, ORGANIC, N.O.S. (O-(Benzotriazol-1-yl)- N,N,N',N'-tetramethyluronium tetrafluoroborate)

### IATA

UN number: 1325 Class: 4.1 Packing group: II Proper shipping name: Flammable solid, organic, n.o.s. (O-(Benzotriazol-1-yl)-N,N,N',N'- tetramethyluronium tetrafluoroborate)

## Section 15 - Regulatory Information

### SARA 302 Components

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

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

No SARA Hazards

### Massachusetts Right To Know Components

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

### Pennsylvania Right To Know Components

TBTU

CAS-No. 125700-67-6

Revision Date

New Jersey Right To Know Components

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TBTU                      CAS-No. 125700-67-6                      Revision Date

California Prop. 65 Components

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

## Section 16 - Other Information

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### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. CSBio (Shanghai) Ltd., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.



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