Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015 Reviewed on 11/24/2014

1 Identification

· **Product identifier**

· **Trade name: Terbium powder**

· **Article number:** 145700
· **CAS Number:**
7440-27-9
· **EC number:**
231-137-6
· **Application of the substance / the mixture** Laboratory chemicals for research and development

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
BeanTown Chemical
9 Sagamore Park Road
Hudson, NH 03051
USA

Phone: (603) 402-2234
Fax: (603) 402-9713
Email: technical@beantownchem.com
www.beantownchem.com

· **Information department:** Technical Support Department
· **Emergency telephone number:**
During normal operating hours, please call (603) 402-2234
After hours, please call Chemtrec at (800) 424-9300

2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.
Water-react. 1 H260 In contact with water releases flammable gases which may ignite spontaneously.

· **Label elements**
· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**



GHS02

· **Signal word** Danger
· **Hazard statements**
Flammable solid.
In contact with water releases flammable gases which may ignite spontaneously.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015 Reviewed on 11/24/2014

Trade name: Terbium powder

(Contd. of page 1)

Handle under inert gas. Protect from moisture.
Use explosion-proof electrical/ventilating/lighting/equipment.
Wear protective gloves / eye protection / face protection.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
7440-27-9 terbium
· **Identification number(s)**
· **EC number:** 231-137-6

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Trade name: Terbium powder

(Contd. of page 2)

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling** No special precautions are necessary if used correctly.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:** Not required.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
· **Breathing equipment:** Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Tightly sealed goggles

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015 Reviewed on 11/24/2014

Trade name: Terbium powder

(Contd. of page 3)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Powder
Color:	Not determined.
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	1356 °C (2473 °F)
Boiling point/Boiling range:	3230 °C (5846 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Highly flammable. Contact with water liberates extremely flammable gases.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Spontaneously flammable in air.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not applicable.
· **Density at 20 °C (68 °F):**	8.234 g/cm³ (68.713 lbs/gal)
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Insoluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Organic solvents:	0.0 %
Solids content:	100.0 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** Contact with water releases flammable gases.
· **Conditions to avoid** No further relevant information available.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Trade name: Terbium powder

(Contd. of page 4)

· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
Substance is not listed.

· **NTP (National Toxicology Program)**
Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
Substance is not listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Not known to be hazardous to water.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015 Reviewed on 11/24/2014

Trade name: Terbium powder

(Contd. of page 5)

14 Transport information

· **UN-Number**	
· **DOT, IMDG, IATA**	UN3089
· **UN proper shipping name**	
· **DOT**	Metal powders, flammable, n.o.s.
· **IMDG, IATA**	METAL POWDER, FLAMMABLE, N.O.S.
· **Transport hazard class(es)**	
· **DOT, IMDG, IATA**	
· **Class**	4.1 Flammable solids, self-reactive substances and solid desensitised explosives
· **Label**	4.1
· **Packing group**	
· **DOT, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable solids, self-reactive substances and solid desensitised explosives
· **Segregation groups**	Heavy metals and their salts (including their organometallic compounds), powdered metals
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 15 kg On cargo aircraft only: 50 kg
· **IMDG**	
· **Limited quantities (LQ)**	1 kg
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· **UN "Model Regulation":**	UN3089, Metal powders, flammable, n.o.s., 4.1, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is not listed.

· **TSCA (Toxic Substances Control Act):**
Substance is listed.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015 Reviewed on 11/24/2014

Trade name: Terbium powder

(Contd. of page 6)

· **Proposition 65**

· **Chemicals known to cause cancer:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**
Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

· **RTECS**
Substance is not listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **NFPA ratings (scale 0-4)**
Health = 0
Fire = 4
Reactivity = 2
The substance demonstrates unusual reactivity with water.

· **HMIS ratings (scale 0-4)**
Health = 0
Fire = 4
Reactivity = 2

· **Department issuing SDS:** Technical Support Department
· **Contact:** Technical Support Department
· **Date of preparation / last revision** 03/04/2015 / -
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
Flam. Sol. 1: Flammable solids, Hazard Category 1
Water-react. 1: Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 1