

ALFAA41054

Boron nitride sputtering target

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: Product Description:	氮化硼溅射靶 Boron nitride sputtering target
Cat No. :	41054
CAS No	10043-11-5
Molecular Formula	B N
Supplier	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
Emergency Telephone Number	For information US call: 001-800-227-6701 / Europe call: +32 14 57 52 11 Emergency Number US :001-201-796-7100 / Europe : +32 14 57 52 99 CHEMTREC Tel. No. US :001-800-424-9300 / Europe :001-703-527-3887
E-mail address	begel.sdsdesk@thermofisher.com
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State Solid	Appearance No information available	Odor Odorless
Emergency Overview Hygroscopic.		

Classification of the substance or mixture

Based on available data, the classification criteria are not met

Label Elements

None required

Physical and Chemical Hazards

Hygroscopic.

Health Hazards

The product contains no substances which at their given concentration are considered to be hazardous to health.

Environmental hazards

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Other Hazards

This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Boron nitride (BN)	10043-11-5	>95

SECTION 4. FIRST AID MEASURES**General Advice**

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects

None reasonably foreseeable.

Self-Protection of the First Aider

No special precautions required.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

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

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

Specific Use(s)

Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control Parameters****Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls**Engineering Measures**

None under normal use conditions.

Personal protective equipment**Eye Protection**

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Long sleeved clothing

Respiratory Protection

No protective equipment is needed under normal use conditions.

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

SAFETY DATA SHEET**Boron nitride sputtering target****Recommended Filter type:** Particle filter**Small scale/Laboratory use**

Maintain adequate ventilation

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance****Physical State**

Solid

Odor

Odorless

Odor Threshold

No data available

pH

No information available

Melting Point/Range

2700 - 3000 °C / 4892 - 5432 °F

Softening Point

No data available

Boiling Point/Range

No information available

Flash Point

No information available

Method - No information available**Evaporation Rate**

Not applicable

Solid

Flammability (solid,gas)

No information available

Explosion Limits

No data available

Vapor Pressure

No data available

Vapor Density

Not applicable

Solid

Specific Gravity / Density

No data available

Bulk Density

No data available

Water Solubility

No information available

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)**Autoignition Temperature**

No data available

Decomposition Temperature

No data available

Viscosity

Not applicable

Solid

Explosive Properties

No information available

Oxidizing Properties

No information available

Molecular Formula

B N

Molecular Weight

24.82

SECTION 10. STABILITY AND REACTIVITY**Stability**

Hygroscopic.

Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Incompatible products. Excess heat. Avoid dust formation. Exposure to moist air or water.

Materials to avoid

Strong oxidizing agents.

Hazardous Decomposition Products Oxides of boron. Nitrogen oxides (NOx).**SECTION 11. TOXICOLOGICAL INFORMATION****Product Information**

See actual entry in RTECS for complete information.

SAFETY DATA SHEET**Boron nitride sputtering target****(a) acute toxicity;**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boron nitride (BN)		LD50 > 2000 mg/kg (Rat)	

(b) skin corrosion/irritation; No data available**(c) serious eye damage/irritation;** No data available**(d) respiratory or skin sensitization;**

Respiratory	No data available
Skin	No data available

(e) germ cell mutagenicity; No data available**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available**(h) STOT-single exposure;** No data available**(i) STOT-repeated exposure;** No data available

Target Organs	No information available.
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(j) aspiration hazard; Not applicable
Solid**Other Adverse Effects** The toxicological properties have not been fully investigated.**Symptoms / effects, both acute and delayed** No information available**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity effects** Do not empty into drains. .

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Boron nitride (BN)	LC50: > 100 mg/L, 96h static (Oncorhynchus mykiss)			

Persistence and Degradability No information available
Degradability Not relevant for inorganic substances.**Bioaccumulative Potential** No information available**Mobility in soil** No information available

Boron nitride sputtering target

Endocrine Disruptor Information
Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors
This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS**Waste from Residues/Unused Products**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated Packaging

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORT INFORMATION**Road and Rail Transport**

Not Regulated

IMDG/IMO

Not regulated

IATA

Not regulated

Special Precautions for User

No special precautions required

SECTION 15. REGULATORY INFORMATION**International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Boron nitride (BN)	-	-	X	X	233-136-6	X	X	X	X	X	X	KE-03535

National Regulations**SECTION 16. OTHER INFORMATION****Prepared By**

Health, Safety and Environmental Department

Creation Date

11-Apr-2011

Revision Date

22-Apr-2024

Revision Summary

New emergency telephone response service provider.

Training Advice

Boron nitride sputtering target

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer

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End of Safety Data Sheet