SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

Product Identifier

Product Description:	**Borane-dimethylamine complex**
Cat No. :	**89149**
Synonyms	DMAB; Dimethylamineborane
CAS No	74-94-2
Molecular Formula	C2 H10 B N

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Details of the supplier of the safety data sheet

Importer
Fisher Scientific Korea
D5,D6, Incheon Airport Logistics Complex
150, Gonghangdong-Ro 296 Beon-Gil
Jung-Gu, Incheon
Tel: +82-1661-9555
Fax: +82-2-2023-0603

Supplier
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099

E-mail address Chem.KR@thermofisher.com

Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards
Flammable solids — Category 2

Health hazards
Based on available data, the classification criteria are not met

Environmental hazards
Based on available data, the classification criteria are not met

Label Elements

Signal Word **Warning**

Hazard Statements
H228 - Flammable solid
Precautionary Statements
Prevention
P241 - Use explosion-proof electrical/ ventilating/ lighting equipment
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P240 - Ground and bond container and receiving equipment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
Response
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

Other Hazards
This product does not contain any known or suspected endocrine disruptors

NFPA

Health	Flammability	Instability	Physical hazards
3	2	0	N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	Common Name	CAS No	Index No	Weight %
Boron, trihydro(N-methylmethanamine)-, (T-4)-	DMAB; Dimethylamineborane	74-94-2	KE-05-0520	99 - 100

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Immediate medical attention is required.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Dry chemical. Water spray. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Do not use halon type extinguisher.

Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated.

Hazardous Combustion Products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO_2), Hydrogen, Oxides of boron, Amines.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Remove all sources of ignition.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for Safe Storage, Including any Incompatibilities

Keep refrigerated. Keep under nitrogen. Keep container tightly closed. Keep away from heat, sparks and flame.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not listed	Not listed	Not listed

Component	CAS No	European Union	The United Kingdom	Germany
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not listed	Not listed	Not listed

ACGIH - Biological Exposure Indices

Component	CAS No	ACGIH - Biological Exposure Indices
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not listed

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection	Goggles
Hand Protection	Protective gloves
Skin and body protection	Long sleeved clothing

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.

Personal protective equipment	Use only those certified by the Korea Occupational Safety and Health Administration.
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Recommended Filter type:	Particulates filter conforming to EN 143 To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (Physical State, Color, etc.)	Light yellow Solid	
Odor	Rotten-egg like	
Odor Threshold	No data available	
pH	8-9	10 g/L aq.sol
Melting Point/Range	33 - 37 °C / 91.4 - 98.6 °F	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flash Point	65 °C / 149 °F	**Method -** No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	5.3 mbar @ 70 °C	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	0.73 @ 20°C	
Bulk Density	No data available	
Water Solubility	125 g/L (20°C)	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	No data available

Autoignition Temperature	175 °C / 347 °F	
Decomposition Temperature	> 50°C	
Viscosity	Not applicable	Solid
Explosive Properties		explosive air/vapour mixtures possible
Oxidizing Properties	No information available	
Molecular Formula	C2 H10 B N	
Molecular Weight	58.92	

SECTION 10: STABILITY AND REACTIVITY

Reactivity None known, based on information available

Chemical Stability

heat sensitive. Moisture sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions None under normal processing.

Conditions to Avoid

Temperatures above 50 °C / 122 °F. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.

Incompatible Materials

Acids. Strong oxidizing agents. oxygen. Metals.

Hazardous Decomposition Products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen. Oxides of boron. Amines.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

Information on expected route of exposure

Inhalation Not an expected route of exposure.
Ingestion May be harmful if swallowed.
Eyes Avoid contact with eyes.
Skin Avoid contact with skin.

Information on Health Hazards .

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Based on available data, the classification criteria are not met

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	LD50 = 59 mg/kg (Rat)	LD50 = 210 mg/kg (Rabbit)	No data available

(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

Component	CAS No	Test method	Test species	Study result
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	No data available	No data available	No data available

Not mutagenic in AMES Test

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	No data available	No data available	No data available

(h) STOT-single exposure; No data available
Results / Target organs Respiratory system.

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects
No information available.

Component	CAS No	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects Do not empty into drains. .

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	No data available	No data available	No data available	No data available

Persistence and degradability
Persistence Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulative potential Bioaccumulation is unlikely

Mobility in soil The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not listed

Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose in accordance with the Wastes Control Act (폐기물관리법).

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport

UN-No	UN2926
Proper Shipping Name	Flammable solid, toxic, organic, n.o.s.
Technical Shipping Name	Borane-dimethylamine complex
Hazard Class	4.1
Subsidiary Hazard Class	6.1
Packing Group	II

IATA

UN-No	UN2926
Proper Shipping Name	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.*
Technical Shipping Name	Borane-dimethylamine complex
Hazard Class	4.1
Subsidiary Hazard Class	6.1
Packing Group	II

IMDG/IMO

UN-No	UN2926
Proper Shipping Name	Flammable solid, toxic, organic, n.o.s.
Technical Shipping Name	Borane-dimethylamine complex
Hazard Class	4.1
Subsidiary Hazard Class	6.1
Packing Group	II
Marine Pollutant	No hazards identified

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

Legend: X - Listed '-' - Not Listed

International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	KE-05-0520	X	200-823-7	X	X	-	X	X	X	X

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Annex 1 - KE-05-0520	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Acute Hazard to Human Health	Chemical Control Act - Chronic Hazard to Human Health	Chemical Control Act - Ecological Hazard
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	97-1-41 (>=25%)	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals	Chemical Control Act - Authorised Chemicals
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	> 25% (CCA)

CCA = Chemical Control Act

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

NFA Dangerous Substances Classification Class 2.8 (Containing 1-7) - 100 kg

Control Parameters

Component	CAS No	Korea	ACGIH - Biological Exposure Indices
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not listed	Not listed

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable

CERCLA Not applicable

Component	CAS No	CERCLA Extremely Hazardous Substances RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Boron, trihydro(N-methylmethanamine)-, (T-4)-	74-94-2	Not applicable	Not applicable	Not applicable

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Danger.

H228 - Flammable solid. H301 + H311 - Toxic if swallowed or in contact with skin. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H332 - Harmful if inhaled. H335 - May cause respiratory irritation.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician.

SECTION 16: OTHER INFORMATION

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/NDSL - 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

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

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

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

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

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

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

Training Advice

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

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Prepared By	Health, Safety and Environmental Department
Creation Date	22-Aug-2009
Revision Date	08-Aug-2025
Revision Number	7
Revision Summary	SDS sections updated.

MOEL's Public Notice No. 2023-9 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. 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 of Safety Data Sheet