ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Boron Trifluoride - Butanol Reagent (10-20%) [for Esterification] (1ml*10)

Revision Date:2026-03-20 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name	: Boron Trifluoride - Butanol Reagent (10-20%) [for Esterification] (1ml*10)
CBnumber	: CB61570306
CAS	: 692-39-7
EINECS Number	: 231-569-5
Synonyms	: Boron Trifluoride-Butanol;Butoxytrifluoro-lambda4-borane

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)	No data available
Signal word	No data available

Precautionary statements

No data available

Hazard statements

No data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: Boron Trifluoride - Butanol Reagent (10-20%) [for Esterification] (1ml*10)
Synonyms	: Boron Trifluoride-Butanol;Butoxytrifluoro-lambda4-borane
CAS	: 692-39-7

EC number : 231-569-5

SECTION 4: First aid measures

If inhaled

Remove person to fresh air and keep comfortable for breathing. Get medical advice/ attention if you feel unwell.

In case of skin contact

Take off all contaminated clothing immediately. If on skin, rinse well with water. If skin irritation or rash occurs: Get medical advice/ attention.

In case of eye contact

Rinse with plenty of water. If easy to do, remove contact lens, if worn. If eye irritation persists: Get medical advice/ attention.

If swallowed

Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

None known.

SECTION 5: Firefighting measures

Suitable extinguishing media

Dry powder, Dry sand, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water

Specific hazards during fire fighting

No information available.

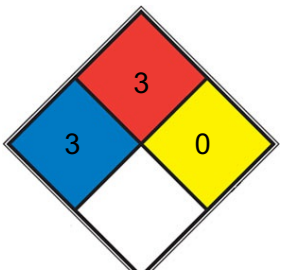
Specific extinguishing methods

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for fire-fighters

Use personal protective equipment.

NFPA 704



■	HEALTH	3	Short exposure could cause serious temporary or moderate residual injury (e.g. liquid hydrogen, sulfuric acid, calcium hypochlorite, hexafluorosilicic acid)
■	FIRE	3	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, acetone)
■	REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,N2)
□	SPEC. HAZ.		

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear suitable protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions

Prevent product from entering drains.

Methods and materials for containment and cleaning up

Collect as much of the spill as possible with a suitable absorbent material.

SECTION 7: Handling and storage

Handling

Technical measures

Prevent generation of vapor or mist. Take precautionary measures against static discharge. Use explosion-proof equipment.

Local/Total ventilation

Ensure adequate ventilation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use a local exhaust ventilation.

Advice on safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding, shock or friction. Wash hands and face thoroughly after handling. Open drum carefully as content may be under pressure. Keep only in original packaging.

Avoidance of contact

Oxidizing agents, Bases, water, Metals

Storage

Conditions for safe storage

Keep container tightly closed. Store in a freezer. Keep in a well-ventilated place. Use explosion-proof equipment. Protect from moisture. Keep under inert gas. Store locked up.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Components	CAS RN	Value type (Form of ex- posure)	Control parameters / Permissible con- centration	Basis
1-Butanol	71-36-3	PC-TWA	100 mg/m3	CN OEL
		TWA	20 ppm	ACGIH

Components CAS RN Value type Control parameters Basis (Form of ex- / Permissible conposure) centration 1-Butanol 71-36-3 PC-TWA 100 mg/m3 CN OEL

TWA 20 ppm ACGIH

Engineering measures

Install a closed system or local exhaust.

Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection

Gas mask

Self-contained breathing apparatus

Eye/face protection

Safety glasses

Safety goggles

Face-shield

Skin and body protection

Impervious protective clothing

Hand protection

Impervious gloves *Use personal protective equipment(PPE) approved under appropriate government standards and follow local and national regulations.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid

Color

colorless - yellow

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

No data available

Boiling point/boiling range

No data available

Flash point

No data available

Evaporation rate

No data available

Flammability

No data available

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

0.7 kPa (20 °C)

Relative vapor density

2.6

Relative density

0.90

Solubility(ies)

Water solubility

No data available

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water (log value)

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Physical state

clear liquid

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Decomposes in contact with water and liberates toxic gases.

Conditions to avoid

Heat. Electrical spark Open flame Electrostatic discharge Exposure to moisture.

Incompatible materials

Oxidizing agents, Bases, water, Metals

Hazardous decomposition products

No data available

SECTION 11: Toxicological information

Acute toxicity

Product

Acute oral toxicity

Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity

Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity

Assessment: The component/mixture is moderately toxic after single contact with skin.

Components

1-Butanol

Acute oral toxicity

LDLo (Humans): 428 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.

LD50 (Rat)

790 mg/kg

Acute inhalation toxicity

LC50 (Rat): 24,000 mg/m3 Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity

LD50 (Rabbit): 3,400 mg/kg Assessment: The component/mixture is minimally toxic after single contact with skin.

Boron Trifluoride - Butanol Complex

Acute oral toxicity

Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity

Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity

Assessment: The component/mixture is moderately toxic after single contact with skin.

Skin corrosion/irritation

Product

Result

Causes burns.

Components

1-Butanol

Result

Skin irritation

Boron Trifluoride - Butanol Complex

Result

Causes burns.

Serious eye damage/eye irritation

Product

Result

Irreversible effects on the eye

Components

1-Butanol

Result

Irreversible effects on the eye

Boron Trifluoride - Butanol Complex

Result

Irreversible effects on the eye

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Reproductive toxicity

No information available.

STOT-single exposure

Product

Assessment

May cause respiratory irritation. May cause drowsiness or dizziness.

Target Organs

Respiratory system, Cardio-vascular system

Assessment

May cause damage to organs.

Components

1-Butanol

Assessment

May cause respiratory irritation. May cause drowsiness or dizziness.

Boron Trifluoride - Butanol Complex

Target Organs

Respiratory system, Cardio-vascular system

Assessment

May cause damage to organs.

STOT-repeated exposure

Product

Target Organs

Respiratory system, Kidney, Central nervous system, Auditory system

Assessment

Causes damage to organs through prolonged or repeated exposure.

Target Organs

Bone, Teeth

Assessment

May cause damage to organs through prolonged or repeated exposure.

Components

1-Butanol

Target Organs

Central nervous system, Auditory system

Assessment

Causes damage to organs through prolonged or repeated exposure.

Boron Trifluoride - Butanol Complex

Target Organs

Respiratory system, Kidney

Assessment

Causes damage to organs through prolonged or repeated exposure.

Target Organs

Bone, Teeth

Assessment

May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

No information available.

Aspiration toxicity

Product

Components

1-Butanol

RTECS No.

EO1400000 (1-Butanol)

SECTION 12: Ecological information

Ecotoxicity

Components:

1-Butanol:

Toxicity to fish

LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h

Toxicity to algae/aquatic plants

EC50 (Selenastrum capricornutum (green algae)): > 1,000 mg/l Exposure time: 72 h

Persistence and degradability

No data available

Bioaccumulative potential

Components:

1-Butanol:

octanol/water (log value)

Partition coefficient: noctanol/water (log value)

0.88

Mobility in soil

Components:

1-Butanol:

tal compartments

Distribution among environmental compartments

Koc: 72

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Disposal in accordance with local and national regulations. Take precautions against ignition or explode. Entrust disposal to a licensed waste disposal company.

Contaminated packaging

Disposal in accordance with local and national regulations. Before disposal of used container, remove contents completely.

SECTION 14: Transport information

International Regulations

IATA-DGR

UN/ID No.

UN 2920

Proper shipping name

Corrosive liquid, flammable, n.o.s.

Class

8

Subsidiary risk

3

Packing group

II

IMDG-Code

UN number

UN 2920

Proper shipping name

CORROSIVE LIQUID, FLAMMABLE, N.O.S.

Class

8

Subsidiary risk

3

Packing group

II

EmS Code

F-E, S-C

Domestic regulation

GB 6944/12268

UN number

UN 2920

Proper shipping name

CORROSIVE LIQUID, FLAMMABLE, N.O.S.

Class

8

Subsidiary risk

3

Packing group

II

SECTION 15: Regulatory information

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Listed

Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number

B1A232216195

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

The ingredients of this product are reported in the following inventories

CH BAGREG

Not in compliance with the inventory

TSCA

Product contains substance(s) not listed on TSCA inventory.

AIIC

Not in compliance with the inventory

DSL

This product contains the following components that are not on the

Canadian DSL nor NDSL.

Boron Trifluoride - Butanol Complex

ENCS

On the inventory, or in compliance with the inventory

ISHL

On the inventory, or in compliance with the inventory

KECI

Not in compliance with the inventory

PICCS

Not in compliance with the inventory

IECSC

Not in compliance with the inventory

NZIoC

Not in compliance with the inventory

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration