



SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2019

Date Updated: July 09, 2019

SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION-----

Product Name Tetradecyl trimethyl ammonium bromide (TTAB)
Product Code(s) TDB0509
Recommended Use For Laboratory Research Use Only
Not for Human or Animal Drug Use

Supplier Bio Basic Inc.
Address 20 Konrad Crescent, Markham, Ontario,
Canada, L3R 8T4

Telephone (905) 474 4493
Fax (905) 474 5794
For Chemical Emergency Phone# (416) 995 9730

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS Classification

Acute toxicity, Oral (Category 4)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 1)
Specific target organ toxicity - single exposure (Category 3), Respiratory system
Specific target organ toxicity - repeated exposure, Oral (Category 2), Gastrointestinal tract
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H373 May cause damage to organs (Gastrointestinal tract) through prolonged or Repeated exposure if swallowed.
H400 Very toxic to aquatic life.

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of 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 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call

P314 a POISON CENTER/doctor.
 Get medical advice/ attention if you feel unwell.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P391 Collect spillage.
 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.

HMIS Classification

Health hazard: 2
Flammability: 0
Physical hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Ingestion Toxic if swallowed.

SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	CAS-No	Weight %
Tetradecyl trimethyl ammonium bromide (TTAB)	214-291-9	1119-97-7	<100

SECTION 4. ----- FIRST-AID MEASURES -----

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

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

In case of skin contact

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

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Explosion data - sensitivity to mechanical impact

no data available

Explosion data - sensitivity to static discharge

no data available

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES -----

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7. ----- HANDLING AND STORAGE-----

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance

Form	crystalline
Colour	colourless

Safety data

pH	No data available
Melting point/freezing point	Melting point/range: 245 - 250 °C (473 - 482 °F) - lit.
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	3.3 %(V)
Upper explosion limit	24.5 %(V)
Vapour pressure	No data available
Density	No data available
Water solubility	200 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	log Pow: 2.20
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

SECTION 10. ----- STABILITY AND REACTIVITY -----

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

hygroscopic

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Hydrogen bromide gas
Other decomposition products - No data available

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute toxicity

Oral LD50

LD50 Oral - Rat - male and female - 390 mg/kg

Inhalation LC50

No data available

Dermal LD50

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation**Serious eye damage/eye irritation****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.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

Oral - May cause damage to organs through prolonged or repeated exposure. - Gastrointestinal tract

Aspiration hazard

No data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

Cough, Shortness of breath, Headache, Nausea, Vomiting

Synergistic effects

No data available

Additional Information

RTECS: BS5776000

SECTION 12. ----- ECOLOGICAL INFORMATION -----**Toxicity**

Toxicity to fish	semi-static test LC50 - Danio rerio (zebra fish) - > 1.81 mg/l - 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic	semi-static test EC50 - Daphnia magna (Water flea) - 0.022 mg/l - 48 h Method: OECD Test Guideline 202

invertebrates

Toxicity to algae EC50 - Pseudokirchneriella subcapitata - 0.00538 mg/l - 72 h
Method: OECD Test Guideline 201

Persistence and degradability

Biodegradability aerobic
Result: 100 % - Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.

No data available

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Product

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14. ----- TRANSPORT INFORMATION -----

DOT (US)

Not dangerous goods

IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Tetradonium bromide) Marine pollutant: Marine pollutant

IATA

UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Tetradonium bromide)

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 15. ----- REGULATORY INFORMATION -----

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

SECTION 16. ----- OTHER INFORMATION -----

Further information: no limited for paper copy, just for internal uses.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

Issuing Date: 09-Jul-2019

End of SDS