Material Safety Data Sheet
Version 4.2

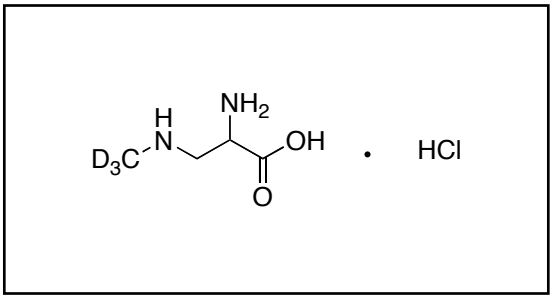
Preparation / Revision Date 7/6/2012

Expiry Date 7/5/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name α-Amino-β-methylaminopropionic Acid-d3 Hydrochloride

Catalogue # A612002



Company Toronto Research Chemicals
2 Brisbane Road
Toronto, ON M3J 2J8
CANADA

Telephone +14166659696
FAX +14166654439
Emergency# +14166659696
Email orders@trc-canada.com

2. HAZARDS IDENTIFICATION

WHMIS Classification

D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2A		Neurotoxic

HMIS Classification

Health hazard: 2
Chronic Heath Hazard: *
Flammability: 0
Physical hazards: 0

Target Organs: Brain

Exposure to this material may cause Parkinsons Disease-like symptoms.

Potential Health Effects

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

GHS Classification

Acute toxicity, Oral (Category 4)
Specific target organ toxicity; single exposure (Category 1)
Specific target organ toxicity; repeated exposure (Category 1)

GHS Label elements, including precautionary statements

Signal word Danger

Hazard statement

H302 Harmful if swallowed.
H370 May cause damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust.
P264 Wash hands thoroughly after handling.
P307/P311 If exposed: Call a POISON CENTER or doctor/physician.
P301/P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P501 Dispose of contents/ container to an approved waste disposal plant.

GHS Label Pictogram

3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Formula: $C_4H_8D_3ClN_2O_2$

Molecular Weight: 157.61

CAS Registry #:

EC#: 3-(Methyl-d3-amino)-DL-alanine Monohydrochloride; 2-Amino-3-(methyl-d3-amino)-propionic Acid Hydrochloride;

Synonyms:

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.

5. FIRE FIGHTING MEASURES

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

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust or aerosol formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust or aerosols. Provide appropriate exhaust ventilation at places where dust/aerosol is formed. Normal measures for preventative fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Store at 2-8°C under inert atmosphere.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. 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.

Eye protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Impervious clothing. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
White solid

Safety data

pH	N/A	Melting point	174-176°C (dec.)
Boiling point	N/A	Flash point	N/A
Ignition temperature	N/A	Lower explosion limit	N/A
Upper explosion limit	N/A	Vapour pressure	N/A
Density	N/A	Water solubility	N/A

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides, hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
no data available

Irritation and corrosion
no data available

Sensitization
no data available

Reproductive toxicity/Teratogenicity
no data available

Additional Information
RTECS: not listed

Carcinogenicity
IARC: Not classified as a known, possible or probable carcinogen by IARC.

Potential health effects
Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Harmful if swallowed.

Signs and Symptoms of Exposure
Nausea, vomiting, diarrhea, Parkinsonian-type symptoms. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Toxicological information is based on the NTP evaluation of L-BMAA.

http://ntp.niehs.nih.gov/ntp/htdocs/Chem_Background/ExSumPdf/LbetaMethylaminoalanine_508.pdf

12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)/IMDG/IATA
not dangerous goods

15. REGULATORY INFORMATION

DSL Status
Product is not on the Canadian DSL or NDSL list.

WHMIS Classification

D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2A		Neurotoxic

16. OTHER INFORMATION

Toxicity Profile developed from the NTP evaluation of L-BMAA.
http://ntp.niehs.nih.gov/ntp/htdocs/Chem_Background/ExSumPdf/LbetaMethylaminoalanine_508.pdf

Further information

 The above information is believed to be correct to the best of our knowledge, but is not to be deemed as all-inclusive and is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.