



6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 17/03/2015

Revision date:

Version: 1.0

CLM-9598-S

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

1.1. Product identifier

Product form : Mixtures
Product name : 6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE
Product code : CLM-9598-S

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : For professional use only.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-202-483-7616 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225
Skin Irrit. 2 H315

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Xn; R22
Xi; R38

Full text of R-phrases: see section 16

Classification (GHS-US)

Flam. Liq. 2 H225
Skin Irrit. 2 H315

Adverse physicochemical, human health and environmental effects

Kidney, Central nervous system.

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapor

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Precautionary statements (CLP) : H315 - Causes skin irritation
: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P264 - Wash both hands thoroughly after handling
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of water/...
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

GHS-US labeling

Hazard pictograms (GHS-US) :  
GHS02 GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation

Precautionary statements (GHS-US) : P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P264 - Wash Both hands thoroughly after handling
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P370+P378 - In case of fire: Use Alcohol resistant foam., Carbon dioxide., Dry chemical., Water spray for extinction
P403+P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container to Comply with applicable regulations.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
METHYL TERT-BUTYL ETHER UNLABELED	(CAS No) 1634-04-4 (EC no) 216-653-1 (EC index no) 603-181-00-X	99.9865	Xn; R22 Xi; R38
6-CHLORONICOTINIC ACID (13C6, 99%)	(CAS No) 5326-23-8 (Unlabeled) (EC no) 226-201-5	0.0135	Xi; R36/37/38

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
METHYL TERT-BUTYL ETHER UNLABELED	(CAS No) 1634-04-4 (EC no) 216-653-1 (EC index no) 603-181-00-X	99.9865	Flam. Liq. 2, H225 Skin Irrit. 2, H315
6-CHLORONICOTINIC ACID (13C6, 99%)	(CAS No) 5326-23-8 (Unlabeled) (EC no) 226-201-5	0.0135	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

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Name	Product identifier	%	Classification (GHS-US)
METHYL TERT-BUTYL ETHER UNLABELED	(CAS No) 1634-04-4	99.9865	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Skin Irrit. 2, H315

Full text of R-, H- and EUH-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
- First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Flush eyes with water as a precaution.
- First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May be harmful if inhaled. Causes respiratory tract irritation.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.
- Symptoms/injuries after ingestion : May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture.
- Reactivity : Vapors may form explosive mixture with air.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray to cool unopened containers.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

- Emergency procedures : Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

- For containment : Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

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Precautions for safe handling : No naked lights. No smoking. Use only non-sparking tools.
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions : Store at room temperature away from light and moisture.
Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.0000000000 ppm Upper Respiratory Tract irritation, Kidney damage, Confirmed animal carcinogen
METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.0000000000 ppm Upper Respiratory Tract irritation, Kidney damage, Confirmed animal carcinogen

8.2. Exposure controls

Personal protective equipment : Safety glasses. Gloves. Respiratory protection of the dependent type. Protective clothing.



Hand protection : Wear suitable protective clothing and gloves.
Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid
Appearance : Liquid.
Molecular mass : 88.15
Color : No data available.
Odor : No data available.
Odor threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : 55 - 56 °C (131 - 133 °F) - lit
Flash point : -33.0 °C (- 27.4 °F) - closed cup
Self ignition temperature : 374 °C (705 °F)
Decomposition temperature : No data available
Flammability (solid, gas) : Highly flammable liquid and vapor
Vapor pressure : 1018.7 hPa (764.1 mmHg) at 55°C (131°F), 279.2 hPa (209.4 mmHg) at 55°C (131°F)
Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : 0.94 - 1.77
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available

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Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : 1.6 - 15.1 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air.

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Direct sunlight.

10.5. Incompatible materials

Oxidizing agents, Strong acids.

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE	
LD50 oral rat	4000 mg/kg
LC50 inhalation rat (ppm)	23576 ppm - 4h
ATE (oral)	4000.000 mg/kg body weight

METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)	
LD50 oral rat	4000 mg/kg
LC50 inhalation rat (ppm)	23576 ppm - 4h
ATE (oral)	4000.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Skin - rabbit - Skin irritation

Serious eye damage/irritation : Not classified
Eyes - rabbit - No eye irritation

Respiratory or skin sensitization : Will not occur.
No data available

Germ cell mutagenicity : Not available

Carcinogenicity : This product is or contains a component that is not classifiable as to its carcinogenicity on its IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity : Not available

Specific target organ toxicity (single exposure) : Not classified
No data available

Specific target organ toxicity (repeated exposure) : Not classified
No data available

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Nausea. Vomiting. Dizziness. Central nervous system depression. Pneumonitis. The chemical, physical, and toxicological properties have not been thoroughly investigated.

IARC group : 3

Symptoms/injuries after inhalation : May be harmful if inhaled. Causes respiratory tract irritation.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes eye irritation.

Symptoms/injuries after ingestion : May be harmful if swallowed.

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SECTION 12: Ecological information

12.1. Toxicity

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

LC50 fish 1 672 mg/l Pimephales promelas (fathead minnow) - 96h

METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

LC50 fish 1 672 mg/l Pimephales promelas (fathead minnow) - 96h

12.2. Persistence and degradability

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

Persistence and degradability Not available.

METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

Persistence and degradability Not available.

6-CHLORONICOTINIC ACID (13C6, 99%) (5326-23-8 (Unlabeled))

Persistence and degradability Not available.

12.3. Bioaccumulative potential

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

Log Pow 0.94 - 1.77

Bioaccumulative potential Not available.

METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

Log Pow 0.94 - 1.77

Bioaccumulative potential Not available.

6-CHLORONICOTINIC ACID (13C6, 99%) (5326-23-8 (Unlabeled))

Bioaccumulative potential Not available.

12.4. Mobility in soil

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

Ecology - soil Not available.

METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

Ecology - soil Not available.

6-CHLORONICOTINIC ACID (13C6, 99%) (5326-23-8 (Unlabeled))

Ecology - soil Not available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No.(DOT) : 2398

DOT NA no. UN2398

14.2. UN proper shipping name

DOT Proper Shipping Name : Methyl tert-butyl ether

Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

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Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II

Class (ADR) : 3 - Flammable liquid

Hazard identification number (Kemler No.) : 33

Classification code (ADR) : F1

Danger labels (ADR) : 3 - Flammable liquids



Orange plates : 

Tunnel restriction code : D/E

Limited quantities (ADR) : 1L

EAC : •3YE

Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

MFAG-No : 127

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

Civil Aeronautics Law : Flammable liquids

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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SECTION 15: Regulatory information

15.1. US Federal regulations

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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15.2. International regulations

CANADA

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE

Listed on the Canadian DSL (Domestic Substances List) inventory.

METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

15.2.1. National regulations

No additional information available

15.3. US State regulations

6-CHLORONICOTINIC ACID (13C6, 99%) 100 UG/ML IN MTBE()

State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
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METHYL TERT-BUTYL ETHER UNLABELED (1634-04-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases::

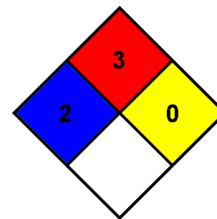
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
R22	Harmful if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin
R38	Irritating to skin
Xi	Irritant
Xn	Harmful

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- NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

CIL Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product