

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: 22/12/2015
 Revision date:
 :
 Version: 1.0

CLM-3913-S

SECTION 1: Identification	of the substance/mixture and of the company/undertaking
1.1. Product identifier	of the substance/mixture and of the company/undertaking
Product form	: Mixtures
Product name.	: 4-NITROTOLUENE (RING-13C6, 99%) 1 MG/ML IN ACETONITRILE
Product code	: CLM-3913-S
	s of the substance or mixture and uses advised against
1.2.1. Relevant identified use	S
Main use category	: Professional use
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, In	-
50 Frontage Road	lt.
Andover, MA 01810	
USA	
USA: 1-800-322-1174 Int: 1-978 cilsales@isotope.com www.isoto	
	•
Emergency telephone	number
Emergency numbers:	
Chemtrec: 1-800-424-9300 (24 ho International: 1-703-741-5970 (24	
·	•
SECTION 2: Hazards ident	
2.1. Classification of the su	
Classification according to Regu	
Flam. Liq. 2	H225
Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Inhalation:dust,mist)	
Eye Irrit. 2	H319
Full text of H-phrases: see section	16
Classification according to Direc	stive 67/548/EEC or 1999/45/EC
F; R11	
Xn; R20/21/22	
Xi; R36	
Full text of R-phrases: see section	16
Classification (CHS US)	
Classification (GHS-US)	
Flam. Liq. 2 Acute Tox. 4 (Oral)	H225 H302
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Inhalation:dust,mist)	
Eye Irrit. 2A	H319

Adverse physicochemical, human health and environmental effects

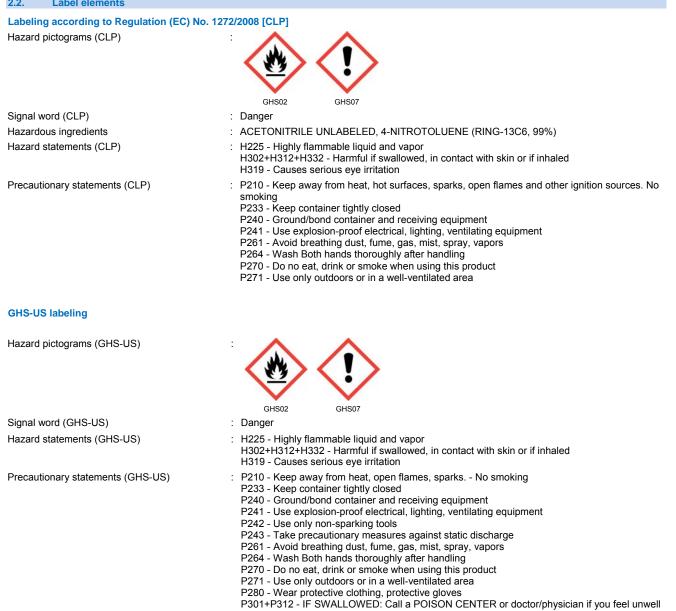
No additional information available

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2.2 Label elements



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

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

- P312 Call a POISON CENTER/doctor/physician if you feel unwell
- P321 Specific treatment (see Hazard pictograms (CLP) on this label)
- P330 If swallowed, rinse mouth
- P337+P313 If eye irritation persists: Get medical advice/attention

P362+P364 - Take off contaminated clothing and wash it 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.

Other hazards 2.3.

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures			
Name	Product identifier	%	Classification according to Directive 67/548/EEC
ACETONITRILE UNLABELED	(CAS No) 75-05-8 (EC no) 200-835-2 (EC index no) 608-001-00-3	99.87	F; R11 Xi; R36 Xn; R20/21/22
4-NITROTOLUENE (RING-13C6, 99%)	(CAS No) 202114-60-1 (EC no) 202-808-0 (Unlabeled) (EC index no) 609-006-00-3	0.13	T; R48/23/24/25 N; R51/53
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ACETONITRILE UNLABELED	(CAS No) 75-05-8 (EC no) 200-835-2 (EC index no) 608-001-00-3	99.87	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319
4-NITROTOLUENE (RING-13C6, 99%)	(CAS No) 202114-60-1 (EC no) 202-808-0 (Unlabeled) (EC index no) 609-006-00-3	0.13	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:dust,mist), H331 STOT RE 2, H373 Aquatic Chronic 2, H411
Name	Product identifier	%	Classification (GHS-US)
ACETONITRILE UNLABELED	(CAS No) 75-05-8	99.87	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319

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	: Move out of dangerous area. Consult a physician and show this safety data sheet.
First-aid measures after inhalation	: If inhaled, move casualty to fresh air. If not breathing, give artificial respiration and consult a physician.
First-aid measures after skin contact	: Wash with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mout with water. Consult a physician.

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

No additional information available

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	: Alcohol resistant foam. Carbon dioxide. Dry chemical. Water spray.	
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.	
5.3. Advice for firefighters		
Firefighting instructions	: Wear self contained breathing apparatus for fire fighting if necessary.	
Other information	: Use water spray to cool unopened containers.	
SECTION 6: Accidental release measures		
6.1. Personal precautions, protective equipment and emergency procedures		

ventilation. Evacuate personnel to safe area.

: Use personal protective equipment. Avoid breathing vapors, mist, or gas. Ensure adequate

General measures

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6.1.1. For non-emergency	•		
No additional information available	ble		
6.1.2. For emergency resp	onders		
No additional information available	ole		
6.2. Environmental preca	utions		
Prevent further leakage or spilla	ge if safe to do so. Do not let product enter drains.		
6.3. Methods and materia	al for containment and cleaning up		
Methods for cleaning up		ect with an electrically protected vacuum cleaner or by wet- for disposal according to local regulations.	
6.4. Reference to other s	ections		
No additional information available	ole		
SECTION 7: Handling an	nd storage		
7.1. Precautions for safe	handling		
Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources o ignition - No smoking. Take measures to prevent build up of electrostatic charge.			
Precautions for safe handling	: Avoid contact with skin and eye	es. Avoid inhalation of vapour or mist.	
7.2. Conditions for safe s	storage, including any incompatibilities		
Storage conditions	Storage conditions : Store at room temperature away from light and moisture.		
7.3. Specific end use(s)			
No additional information available	ole		
SECTION 8: Exposure c	ontrols/personal protection		
8.1. Control parameters			
ACETONITRILE UNLABELEI) (75-05-8)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20.0000000000 ppm Lower Respiratory Tract irritation. Not classifiable as a human carcinogen.	
USA NIOSH	NIOSH REL (TWA) (mg/m3)	34 mg/m ³ Forms Cyanide in the body.	
USA NIOSH	NIOSH REL (TWA) (ppm)	20 ppm Forms Cyanide in the body.	
USA OSHA	OSHA PEL (TWA) (mg/m3)	70 mg/m ³ The value in mg/m3 is approximate.	
USA OSHA	OSHA PEL (TWA) (ppm)	40.0000000000 ppm The value in mg/m3 is approximate.	

4-NITROTOLUENE (RING-13C6, 99%) (202114-60-1)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	2.0000000000 ppm Methemoglobinemia. Danger of cutaneous absorption.
USA NIOSH	NIOSH REL (TWA) (mg/m3)	11 mg/m ³ Potential for dermal absorption.
USA NIOSH	NIOSH REL (TWA) (ppm)	2 ppm Potential for dermal absorption.
USA OSHA	OSHA PEL (TWA) (mg/m3)	30 mg/m ³ Skin designation. The value in mg/m3 is approximate.
USA OSHA	OSHA PEL (TWA) (ppm)	5.000000000 ppm Skin designation.

8.2. Exposure controls

Personal protective equipment

: Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Respiratory protection

: Wear approved mask.

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, clear. Molecular mass : 41.05 g/mol

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Color	: Colourless.
Odor	: ether-like.
Odor threshold	: No data available
pН	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -48 °C (-54°F)
Freezing point	: No data available
Boiling point	: 81 - 82 °C (178 - 180 °F)
Flash point	: 2.0 °C (35.6 °F) - closed cup
Self ignition temperature	: 523 °C (973 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: 73.18 hPa (54.89 mmHg) at 15°C (59 °F), 119.81 hPa (89.86 mmHg) at 25°C(77 °F)
Relative vapor density at 20 °C	: 1.42 - (Air = 1.0)
Relative density	: No data available
Density	: 0.786 g/ml
Solubility	: Water: 100 %
Log Pow	: -0.34
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: 4.4 - 16 vol %
9.2. Other information	
No additional information available	
SECTION 10: Stability and reactivit	У
10.1. Reactivity	
No additional information available	

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

Heat, flames and sparks.

10.5. Incompatible materials

Strong bases. Bases. Oxidizing agent. Alkali metals. Reducing agents, Acids.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

: Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

4-NITROTOLUENE (RING-13C6, 99%) 1 MG/ML IN ACETONITRILE		
ATE (oral)	500.000 mg/kg body weight	
ATE (dermal)	1100.000 mg/kg body weight	
ATE (dust, mist)	1.500 mg/l/4h	
ACETONITRILE UNLABELED (75-05-8)		
LD50 oral rat	2460 mg/kg	
LD50 dermal rabbit	2000 mg/kg	
LC50 inhalation rat (mg/l)	≥ 26.8 mg/l	
LC50 inhalation rat (ppm)	7551 ppm - 8h	
ATE (oral)	500.000 mg/kg body weight	
ATE (dermal)	2000.000 mg/kg body weight	

Acute toxicity

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ACETONITRILE UNLABELED (75-05-8)		
ATE (gases)	4500.000 ppmV/4h	
ATE (vapors)	11.000 mg/l/4h	
ATE (dust, mist)	1.500 mg/l/4h	
4-NITROTOLUENE (RING-13C6, 99%) (202114	-60-1)	
LD50 oral rat	> 2250 mg/kg	
LD50 dermal rat	> 16000 mg/kg	
LC50 inhalation rat (mg/l)	975 mg/m³	
LC50 inhalation rat (ppm)	1 ppm/4h	
ATE (oral)	100.000 mg/kg body weight	
ATE (dermal)	300.000 mg/kg body weight	
ATE (gases)	1.000 ppmV/4h	
ATE (vapors)	0.975 mg/l/4h	
ATE (dust, mist)	0.975 mg/l/4h	
Skin corrosion/irritation	: Not classified	
Serious eye damage/irritation	: Causes serious eye irritation.	
Respiratory or skin sensitization	: Not classified	
Germ cell mutagenicity	: Not classified	
Carcinogenicity	: Not classified	
Reproductive toxicity	: Not classified	
Specific target organ toxicity (single exposure)	: Not classified	
Specific target organ toxicity (repeated exposure)	: Not classified	
Aspiration hazard	: Not classified	

SECTION 12: Ecological information

12.1. Toxicity

IARC group

ACETONITRILE UNLABELED (75-05-8)		
LC50 fish 1	1640.00 mg/l Pimephales promelas (fathead minnow) - 96h	
EC50 Daphnia 1	3600 mg/l Daphnia magna (Water flea) - 48h	
NOEC (chronic)	640 mg/l Daphnia magna (Water flea) - 14d	
4-NITROTOLUENE (RING-13C6, 99%) (202114-60-1)		
LC50 fish 1	49.7 mg/l Pimephales promelas (fathead minnow) - 96 h	
EC50 Daphnia 1	4.2 mg/l Daphnia magna (Water flea) - 48 h	
ErC50 (algae)	22 mg/l Chlorella pyrenoidosa - 96 h	

: 3

12.2. Persistence and degradability

ACETONITRILE UNLABELED (75-05-8)		
Persistence and degradability	Biodegradability Result: - Readily biodegradable.	
4-NITROTOLUENE (RING-13C6, 99%) (202114-	60-1)	
Persistence and degradability	Biodegradability.	
12.3. Bioaccumulative potential		
4-NITROTOLUENE (RING-13C6, 99%) 1 MG/MI	IN ACETONITRILE	
Log Pow	-0.34	
ACETONITRILE UNLABELED (75-05-8)		
Log Pow	-0.34	
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).	
4-NITROTOLUENE (RING-13C6, 99%) (202114-60-1)		
Log Pow	2.37 at 25 °C (77 °F)	
Bioaccumulative potential	Not available.	
12.4. Mobility in soil		

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ACETONITRILE UNLABELED (75-05-8)	
Ecology - soil	Not expected to absorb on soil.
4-NITROTOLUENE (RING-13C6, 99%) (2021	14-60-1)
Ecology - soil	Not available.
12.5. Results of PBT and vPvB assessme	
No additional information available	2110
12.6. Other adverse effects	
No additional information available	
SECTION 13: Disposal consideratio	ns
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.
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)	: 1648
DOT NA no.	UN1648
14.2. UN proper shipping name	
DOT Proper Shipping Name	: ACETONITRILE
Department of Transportation (DOT) Hazard Classes	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
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
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
Marine pollutant	: No
14.3. Additional information	
Other information	: No supplementary information available.
Overland transport	
Overland transport Packing group (ADR)	: 11
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 33
Classification code (ADR)	: F1

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Danger labels (ADR)	: 3 - Flammable liquids
Orange plates	33 1648
Tunnel restriction code	: D/E
Limited quantities (ADR)	1L
EAC	: •2YE
Excepted quantities (ADR)	: E2
Transport by sea	
DOT Vessel Stowage Location	: B - (i) 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; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
MFAG-No	: 127
Air transport	
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
Civil Aeronautics Law	: Flammable liquids
14.4. Environmental hazards	

Other ir	formation	: No supplementary information available.
14.5.	Special precautions for user	
14.6	Transport in bulk according to An	ex II of MARROL 73/79 and the IRC Code

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

Not applicable

SECTION 15: Regulatory information		
15.1. US Federal regulations		
4-NITROTOLUENE (RING-13C6, 99%) 1 MG/ML IN ACETONITRILE		
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	
ACETONITRILE UNLABELED (75-05-8)		
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	

15.2. International regulations		
CANADA		
4-NITROTOLUENE (RING-13C6, 99%) 1 MG/ML IN ACETONITRILE		
Listed on the Canadian DSL (Domestic Substances List) inventory.		
ACETONITRILE UNLABELED (75-05-8)		
Listed on the Canadian DSL (Domestic Substances List) inventory.		

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15.2.1. **National regulations**

No additional information available

4-NITROTOLUENE (RING-13C6, 99%) 1 MG/ML IN ACETONITRILE()		
State or local regulations	U.S Massachusetts - Right To Know List U.S Pennsylvania - RTK (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.	

: 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

ACETONITRILE UNLABELED (75-05-8)

U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information

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.

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3	Acute toxicity (inhalation:dust,mist) Category 3
(Inhalation:dust,mist)	
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects
R11	Highly flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R36	Irritating to eyes
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skir and if swallowed
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
F	Highly flammable
Ν	Dangerous for the environment
Т	Toxic
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