

N-Methylimidazole in Acetonitrile

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Issue date: 2/9/2021 Revision date: 7/12/2023

Supersedes version of: 9/29/2022 Version: 3.1

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

1.1. Product identifier

Product form	: Mixture
Trade name	: N-Methylimidazole in Acetonitrile
Product code	: NC-0705
Type of product	: Synthesis Reagent
Product group	: End product

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

1.2.1. Relevant identified uses

Main use category	: Laboratory chemical, Industrial use
Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Laboratory chemicals Substance manufacture
Function or use category	: Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

emp Biotech GmbH
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13125 Berlin - Deutschland
T +49 (0)30 94 89 22 01 (Monday-Friday, 9:00 am-5:00 pm) - F +49 (0)30 94 89 32 01
info@empbiotech.com - www.empbiotech.com

1.4. Emergency telephone number

Emergency number	: Giftnotruf Berlin +49 30 30686700 (Beratung in Deutsch), 24 Stunden, 7 Tage/Woche; International: INFOTRAC +1-352-323-3500 (Phone) or in the US 800-535-5053 (toll-free), 24 hours/day, 7 days/week
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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
Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Inhalation)	H332
Skin Corr. 1B	H314

Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP)



GHS02

GHS05

GHS07

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.

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P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 - Immediately call a doctor, a POISON CENTER.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

2.3. Other hazards

Other hazards which do not result in classification : This substance / mixture does not contain any components of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acetonitrile (anhydrous) substance with national workplace exposure limit(s) (DE); substance with a Community workplace exposure limit	(CAS-No.) 75-05-8 (EC-No.) 200-835-2 (EC Index-No.) 608-001-00-3 (REACH-no) 01-2119471307-38-XXXX	70 – 90	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
1-Methylimidazole	(CAS-No.) 616-47-7 (EC-No.) 210-484-7 (EC Index-No.) 613-035-00-7	10 – 30	Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Consult a doctor. Show this safety data sheet to the doctor in attendance.
First-aid measures after inhalation : Move person to fresh air and ensure comfortable breathing. Call a doctor.
First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Immediately call a POISON CENTER/doctor. Remove contact lenses, if possible. Continue rinsing.
First-aid measures after ingestion : Drink water immediately (max. 2 cups). Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. No attempts at neutralization.

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

Symptoms/effects : The most important known symptoms and effects are described on the label (see 2.2) and / or in section 11.

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 : Foam. Dry powder. Carbon dioxide. Water spray.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible.

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Explosion hazard	: Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
Hazardous decomposition products in case of fire	: Fire may cause evolution of: Nitrogen oxides Hydrogen cyanide (hydrocyanic acid) Carbon oxides Pay attention to flashback.

5.3. Advice for firefighters

Firefighting instructions	: Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Protection during firefighting	: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: For personal protection see section 8.
Emergency procedures	: Do not breathe vapours, mist, gas, spray. Avoid substance contact. Ensure adequate ventilation, observe emergency procedures, consult an expert. Keep away from heat and sources of ignition. . Evacuate area.

6.1.2. For emergency responders

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Do not allow to enter drains or water courses. Be careful of explosion risk.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.
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6.4. Reference to other sections

Information on exposure controls/personal protective equipment and on Instructions for disposal can be found in sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Use under laboratory hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Hygiene measures	: Take off immediately all contaminated clothing and wash it before reuse. Apply preventive skin protection. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed in a dry, well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.
Storage temperature	: 5 – 20 °C
Storage area	: Storage class (TRGS 510): See section 15.1.2.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetonitrile (anhydrous) (75-05-8)		
EU	Local name	Acetonitrile
EU	IOEL TWA	70 mg/m ³

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Acetonitrile (anhydrous) (75-05-8)		
EU	IOEL TWA [ppm]	40 ppm Indicative: Indicates the possibility of significant absorption of the substance through the skin.
Germany	Local name	Acetonitril
Germany	AGW (OEL TWA) [1]	17 mg/m ³
Germany	AGW (OEL TWA) [2]	10 ppm Remark: Skin resorptive: There is no reason to fear a risk of damage to the developing embryo or foetus when AGW and BGW are adhered to. Source: DFG, EU
1-Methylimidazole (616-47-7)		
Germany	Contains no substances with occupational exposure limits	

8.2. Exposure controls

Appropriate engineering controls:

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

Hand protection:

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
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: butyl-rubber

Minimum layer thickness: 0,7 mm

Break through time: 480 min. Splash contact-material: Chloroprene

Minimum layer thickness: 0,65 mm

Break through time: 120 min

Eye protection:

Wear closed safety glasses. EN 166

Skin and body protection:

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Flame retardant antistatic protective clothing

Respiratory protection:

Recommended filter type: Filter A



Environmental exposure controls:

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Light yellow.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 2 °C - c.c. (Main component)
Auto-ignition temperature	: No data available

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Decomposition temperature	: No data available
Flammability	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors can form an explosive mixture with air.

10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions

Violent reactions possible with:

Strong bases

Strong reducing agents

Risk of explosion with:

Nitrates

Perchlorates

Perchloric acid

Conc. sulfuric acid with heat

Risk of ignition or formation of inflammable gases or vapours with:

Oxidizing agents

Nitric acid

Nitrogen dioxide with catalyst

Generates dangerous gases or fumes in contact with:

Acids.

10.4. Conditions to avoid

Direct sunlight. Heat.

10.5. Incompatible materials

Rubber. Several plastics.

10.6. Hazardous decomposition products

In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed or in contact with skin. Harmful in contact with skin or if inhaled. Harmful if inhaled.

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Additional information	: Acetonitrile: LD50 Oral - Mouse - male and female: 617 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Mouse - male and female - 4 h: 6,022 mg/l (OECD Test Guideline 403) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) 1-Methylimidazole: LD50 Oral - Rat - male and female: 1.144 mg/kg Remarks: (OECD Test Guideline 401) LD50 Dermal - Rabbit - male and female: 400 - 600 mg/kg Remarks: (OECD Test Guideline 402)
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Acetonitrile (anhydrous) (75-05-8)	
LD50 oral rat	2460 mg/kg - Union Carbide Data Sheet. Vol. 3/18/1965.
LD50 dermal rabbit	> 2000 mg/kg - International Journal of Toxicology. Vol. 19, Pg. 363, 2000.

1-Methylimidazole (616-47-7)	
LD50 oral rat	1144 mg/kg male and female (OECD Test Guideline 401)
LD50 dermal rabbit	400 – 640 mg/kg male and female (OECD Test Guideline 402)

Skin corrosion/irritation	: Causes severe skin burns.
Additional information	: 1-Methylimidazole: Skin - Rabbit Result: Corrosive Remarks: (OECD Test Guideline 404)
Serious eye damage/irritation	: Assumed to cause serious eye damage
Additional information	: Acetonitrile: Eyes - Rabbit Result: Causes serious eye irritation. (OECD Test Guideline 405) Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) 1-Methylimidazole: Eyes - Rabbit Result: Corrosive Remarks: (OECD Test Guideline 405)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified Acetonitrile: Test system: Saccharomyces cerevisiae Result: positive Remarks: Cytogenetic analysis (ECHA)
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

1-Methylimidazole (616-47-7)	
LOAEL (oral, rat, 90 days)	90 mg/kg bodyweight/day

Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice. Treat as cyanide poisoning. Always have on hand a cyanide first-aid kit, together with proper instructions. The onset of symptoms is generally delayed pending conversion to cyanide. Nausea, Vomiting, Diarrhea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death .
Other information	: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1. Toxicity

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Acetonitrile (anhydrous) (75-05-8)	
LC50 - Fish [1]	1640 mg/l - Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott 1984. Acute Toxicities of Organic Chemicals to Fathead Minnows(Pimephales promelas), Vol. 1. Center for Lake Superior Environmental Stud., Univ.of Wisconsin-Superior, Superior, WI :414
EC50 - Crustacea [1]	3600 mg/l - Tong, Z., Z. Huailan, and J. Hongjun 1996. Chronic Toxicityof Acrylonitrile and Acetonitrile to Daphnia magna in 14-d and 21-d Toxicity Tests. Bull.Environ.Contam.Toxicol. 57(4):655-659

1-Methylimidazole (616-47-7)	
LC50 - Fish [1]	100 – 215 mg/l static test LC50 - Leuciscus idus (Golden orfe) - 96 h
EC50 - Crustacea [1]	267.94 mg/l EC50 - Daphnia magna (Water flea) - 48 h
EC50 72h - Algae [1]	180.7 mg/l static test EC50 - Desmodesmus subspicatus (green algae) - 72 h (OECD Test Guideline 201)

12.2. Persistence and degradability

Acetonitrile (anhydrous) (75-05-8)	
Biodegradation	70 % - Result: Readily biodegradable. (OECD Test Guideline 310)
1-Methylimidazole (616-47-7)	
Biodegradation	0 – 10 % Aerobic - Exposure time 28 d Result: Not readily biodegradable. (OECD Test Guideline 301F)

12.3. Bioaccumulative potential

Acetonitrile (anhydrous) (75-05-8)	
Partition coefficient n-octanol/water (Log Pow)	-0.34
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).
1-Methylimidazole (616-47-7)	
Partition coefficient n-octanol/water (Log Kow)	-0.06

12.4. Mobility in soil

Acetonitrile (anhydrous) (75-05-8)	
Mobility in soil	Not expected to adsorb on soil.

12.5. Results of PBT and vPvB assessment

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Results of PBT assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other adverse effects

Other adverse effects	: Discharge into the environment must be avoided.
Acetonitrile	: Toxicity to fish: Flow-through test LC50 - Pimephales promelas (fathead minnow): 1.640 mg/l - 96 h Remarks: (ECHA) Toxicity to algae: Static test NOEC - Phaeodactylum tricornutum: 400 mg/l - 72 h Remarks: (ISO 10253) Static test ErC50 - Phaeodactylum tricornutum: 9.696 mg/l - 72 h Remarks: (ISO 10253)
1-Methylimidazole	: Toxicity to fish: Static test LC50 - Leuciscus idus (Golden orfe): > 100 - 215 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea): 267,94 mg/l - 48 h Toxicity to algae: Static test EC50 - Desmodesmus subspicatus (green algae): 180,7 mg/l - 72 h Remarks: (OECD Test Guideline 201)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Product residues are to be disposed of in compliance with national and regional regulations dispose. Keep chemicals in original containers. Not with other waste mix. Uncleaned containers are to be treated according to the product. Pay attention to the waste policy 2008/98/EG.
Product/Packaging disposal recommendations	: Contaminated packaging to be disposed as unused product.

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Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number		
2924	2924	2924
14.2. UN proper shipping name		
FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Solution of N-Methylimidazole in Acetonitrile)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Solution of N-Methylimidazole in Acetonitrile)	Flammable liquid, corrosive, n.o.s. (Solution of N-Methylimidazole in Acetonitrile)
14.3. Transport hazard class(es)		
3 (8)	3 (8)	3 (8)
 	 	 
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- Overland transport

Tunnel restriction code (ADR) : D/E

- Transport by sea

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-C

- Air transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Seveso Information : Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

15.1.2. National regulations

Germany

Regulatory reference : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

Storage class (LGK, TRGS 510) : LGK 3 - Flammable liquids

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)

Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

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Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B

MSDS (Reach Anhang II) EMP

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.