

MATERIAL SAFETY DATA SHEET

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

1.1 Product identifiers

Product name: Acetonitrile

CAS-No.: 75-05-8

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: MHX (Changzhou) Biotech Limited

Telephone: +86 519 88721112

Fax: +86 519 88721515

E-mail address: supporting@mhxbio.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008



Pictogram

Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H319 Causes serious eye irritation.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P280 Wear protective gloves/ protective clothing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370 + P378 In case of fire: Use dry powder or dry sand to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

Supplemental Hazard Statements none

2.3 Other hazards

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.



SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Methyl cyanide

ACN

Formula : C₂H₃N

Molecular weight : 41.05 g/mol

CAS-No. : 75-05-8

EC-No. : 200-835-2

Index-No. : 608-001-00-3

Registration number : 01-2119471307-38-XXXX

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Acetonitrile		
CAS-No.75-05-8 EC-No.200-835-2 Index-No.608-001-00-3 Registration number01-2119471307-38-XXXX	Flam. Liq. 2; Acute Tox. 4; Eye Irrit. 2; H225, H302, H332, H312, H319	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data 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

Carbon oxides, Nitrogen oxides (NO_x)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information



Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, 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. For personal protection see section 8.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

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 (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and store under inert gas. Storage class (TRGS 510): Flammable liquids

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

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Acute local effects, Acute systemic effects	68 mg/m ³
Workers	Skin contact	Long-term systemic effects	32.2mg/kg BW/d
Workers	Inhalation	Long-term local effects, Long-term systemic effects	68 mg/m ³
Consumers	Inhalation	Acute local effects	220 mg/m ³
Consumers	Inhalation	Acute systemic effects	22 mg/m ³
Consumers	Inhalation	Long-term systemic effects	4.8 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Water	10 mg/l
Soil	2.41 mg/kg
Marine water	1 mg/l
Fresh water	10 mg/l



Fresh water sediment	7.53 mg/kg
Onsite sewage treatment plant	32 mg/l

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.

Personal protective equipment

Eye/face 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 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

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

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN14387) respirator cartridges as a backup to engine 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).

Control of environmental exposure

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: clear, liquid Colour: colourless

b) Odour ether-like

c) Odour Threshold No data available



- d) pH No data available
e) Melting point/freezing point Melting point/range: -48 °C
f) Initial boiling point and boiling range 81 - 82 °C
g) Flash point 2.0 °C - closed cup
h) Evaporation rate 5.8
i) Flammability (solid, gas) No data available
j) Upper/lower flammability or explosive limits
Upper explosion limit: 16 %(V)
Lower explosion limit: 3 %(V)
k) Vapour pressure 73.18 hPa at 15 °C
121.44 hPa at 25 °C
413.23 hPa at 55 °C
98.64 hPa at 20 °C
l) Vapour density 1.42 - (Air = 1.0)
m) Relative density 0.786 g/mL at 25 °C
n) Water solubility completely soluble
o) Partition coefficient: octanol/water log Pow: -0.54 at 25 °C
p) Auto-ignition temperature 524.0 °C
q) Decomposition temperature No data available
r) Viscosity No data available
s) Explosive properties Not explosive
t) Oxidizing properties The substance or mixture is not classified as oxidizing.

9.2 Other safety information

Surface tension 29.0 mN/m at 20.0 °C

Relative vapour density 1.42 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

acids, Bases, Oxidizing agents, Reducing agents, Alkali metals

10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x)

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD₅₀ Oral - Rat - male - 1,320 - 6,690 mg/kg (Acetonitrile)

LC₅₀ Inhalation - Mouse - 4 h - 3587 ppm (Acetonitrile)

(OECD Test Guideline 403)



LC50 Inhalation - Rat - 4 h - 26.8 mg/l(Acetonitrile)

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg(Acetonitrile)

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit(Acetonitrile)

Result: No skin irritation

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit(Acetonitrile)

Result: Irritating to eyes.

(OECD Test Guideline 405)

Respiratory or skin sensitisation

Buehler Test - Guinea pig(Acetonitrile)

Did not cause sensitisation on laboratory animals.

(OECD Test Guideline 406)

Germ cell mutagenicity

Hamster(Acetonitrile) ovary

Result: negative

Mutation in mammalian somatic cells.

Ames test(Acetonitrile)

S. typhimurium

Result: Not mutagenic in Ames Test

Hamster(Acetonitrile) ovary

Result: Equivocal evidence.

Sister chromatid exchange

Mutagenicity (micronucleus test)(Acetonitrile)

Mouse

Result: Positive results were obtained in some in vivo tests.

Carcinogenicity

No evidence of carcinogenicity in animal studies.(Acetonitrile)

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

Animal testing did not show any effects on fertility.(Acetonitrile)

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.(Acetonitrile)

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification(Acetonitrile)

Additional Information

RTECS: AL7700000

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, Diarrhoea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death(Acetonitrile)



SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Pimephalespromelas (fathead minnow) - 1,640.00 mg/l - 96 h(Acetonitrile)

NOEC - Oryziaslatipes - 102 mg/l - 21 d(Acetonitrile)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 3,600 mg/l - 48 h(Acetonitrile)
(OECD Test Guideline 202)

NOEC - Daphnia magna (Water flea) - 160 mg/l - 21 d(Acetonitrile)

12.2 Persistence and degradability

Biodegradability Result: 84 % - Readily biodegradable.

(OECD Test Guideline 301C)

12.3 Bioaccumulative potential

No bioaccumulation is to be expected ($\log Pow \leq 4$).

12.4 Mobility in soil

Not expected to adsorb on soil.(Acetonitrile)

12.5 Results of PBT and vPvB 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

Avoid release to the environment.

Stability in water (Acetonitrile)

Remarks: Hydrolyses slowly.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1648 IMDG: 1648 IATA: 1648

14.2 UN proper shipping name

ADR/RID: ACETONITRILE

IMDG: ACETONITRILE

IATA: Acetonitrile

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information



美合信生物科技(常州)有限公司

MHX (Changzhou) Biotech Limited

Tel: +86-519-8872 1112, Fax: +86-519-8872 1515

E-mail: supporting@mhxbio.com, Website: www.mhxbio.com

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.