

## SAFETY DATA SHEET

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

#### 1.1 Product identifiers:

Product Name            Acetonitrile  
CAS Number             75-05-8

**1.2 Identified uses:**            Laboratory chemicals, synthesis of substances & food, drug, pesticide or biocidal product

#### 1.3 Details of the supplier of the safety data sheet:

Company:                    UFC Biotechnology Inc.  
                                  435 Creekside Drive, Suite 5  
                                  Amherst NY 14228  
                                  UNITED STATES  
Telephone:                 +1-716-777-3776  
Fax:                            +1-716-240-2713

#### 1.4 Details of the supplier of the safety data sheet:

Emergency Phone # :    +1-800-535-5053 INFOTRAC (USA) – 24h, 7 Days/week  
                                  +1-352-323-3500 INFOTRAC (International) – 24h, 7 Days/week

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### SECTION 2: Hazards Identification

#### 2.1 Classification of the substance or mixture

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

##### Health Hazards

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 2A), H319

#### 2.2 GHS label elements, including precautionary statements

##### Hazard Symbol:



**Signal Word:**                    **Danger**

**Hazard Statement(s):** H225 Highly flammable liquid and vapor.  
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.  
H319 Causes serious eye irritation.

##### Precautionary Statements:

**Prevention:** P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ eye protection/ face protection.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.  
 Rinse mouth.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
 Rinse skin with water/ shower.  
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P363 Wash contaminated clothing before reuse.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
 P403 + P235 Store in a well-ventilated place. Keep cool.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards which do not result in classification

None

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## Section 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration (% weight)
Acetonitrile	Methyl cyanide, ACN	75-05-8	200-835-2	99-100%

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## Section 4: First-aid measures

### 4.1 Description of necessary first-aid measures

<i>If inhaled</i>	After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.
<i>In case of skin contact</i>	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
<i>In case of eye contact</i>	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
<i>If swallowed</i>	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
<i>Most important symptoms and effects</i>	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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## Section 5: Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media* Water, foam CO<sub>2</sub>, dry chemical.

### 5.2 Specific hazards arising from the chemical

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

Combustible.

Fire may cause evolution of: nitrogen oxides, Hydrogen cyanide (hydrocyanic acid)

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of a fire.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Special protective actions for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## 5.4 Further information

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 groundwater system.

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## Section 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### 6.2 Environmental precautions

Do not let the product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

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

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## Section 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Filled under nitrogen.

**Advice on safe handling** Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

**Advice on protection against fire and explosion** Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

**Hygiene measures** Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions** Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Storage class

**Storage class** (TRGS 510): 3: Flammable liquids.

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## Section 8: Exposure controls/personal protection

### 8.1 Control parameters

*Occupational Exposure limit values*

Chemical Name	OSHA – PEL	NIOSH – IDLH	ACGIH – TLV	Mexico – OEL (TWA)
Acetonitrile	(Vacated) TWA: 40 ppm (Vacated) TWA: 70 mg/m <sup>3</sup> (Vacated) TWA: 5 mg/m <sup>3</sup> (Vacated) STEL: 60 ppm (Vacated) STEL: 105 mg/m <sup>3</sup> TWA: 40 ppm TWA: 70 mg/m <sup>3</sup>	IDLH: 137 ppm IDLH: 25 mg/m <sup>3</sup> TWA: 20 ppm TWA: 34 mg/m <sup>3</sup>	TWA: 20 ppm Skin	TWA: 20 ppm

### 8.2 Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

*Eye/face protection* Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

*Skin & body protection* Wear appropriate protective gloves and clothing to prevent skin exposure.

*Respiratory protection* Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..

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**Section 9: Physical and chemical properties**

Physical State	Liquid
Appearance	Clear Colorless
Odor	Aromatic
Odor Threshold	170 ppm
pH	No information available
Melting Point/Range	-46 °C / -50.8 °F
Boiling Point/Range	81 - 82 °C / 177.8 - 179.6 °F @760 mmHg
Flash Point	12.8 °C / 55 °F
Evaporation Rate	5.79
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	16 vol %
Lower	3 vol %
Vapor Pressure	97 mbar @ 20 °C
Vapor Density	1.42
Specific Gravity	0.781
Solubility	miscible
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	525 °C / 977 °F
Decomposition Temperature	No information available
Viscosity	0.36 cP at 20 °C
Molecular Formula	C2 H3 N
Molecular Weight	41.05

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**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**

Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.  
Exposure to moisture.

**10.5 Incompatible materials**

Strong oxidizing agents, Strong acids, Reducing Agent, Bases.

**10.6 Hazardous decomposition products**

Hydrogen cyanide (hydrocyanic acid), Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide(CO), Carbon dioxide (CO<sub>2</sub>).

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**Section 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

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 - vapor (OECD Test Guideline 403)

Acute toxicity estimate Dermal - 1,500 mg/kg (Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) No data available

**Skin corrosion/irritation**

Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404).

**Serious eye damage/irritation**

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)

**Respiratory or skin sensitization**

Buehler Test - Guinea pig Result: negative (OECD Test Guideline 406)

**Germ cell mutagenicity**

Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Result: negative Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: US-EPA Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: Positive results were obtained in some in vitro tests. Remarks: (National Toxicology Program)

Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: Metabolic activation Result: negative Remarks: Sister chromatid exchange Test system: Saccharomyces cerevisiae Metabolic activation: without metabolic activation Result: positive Remarks: Cytogenetic analysis (ECHA)

Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative

Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal Method: OECD Test Guideline 474 Result: negative

### **Carcinogenicity**

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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity Reproductive toxicity**

Animal testing did not show any effects on fertility

### **STOT-single exposure**

No data available

### **STOT-repeated exposure**

No data available

### **Aspiration hazard**

No data available

## **11.2 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, Diarrhea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, and death

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## **Section 12: Ecological information**

### **12.1 Toxicity**

- 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 (ISO 10253)  
static test ErC50 - Phaeodactylum tricornutum - 9,696 mg/l - 72 h (ISO 10253)
- Toxicity to bacteria: no data available

### **12.2 Persistence and degradability**

Biodegradability Result: 70 % - Readily biodegradable. (OECD Test Guideline 310)

### **12.3 Bioaccumulative potential**

No bioaccumulation is to be expected (log Pow <= 4)

### **12.4 Mobility in soil**

Not expected to adsorb on soil

### **12.5 Results of PBT and vPvB assessments**

No data available

### **12.6 Endocrine disrupting properties**

No data available

### **12.7 Other adverse effects**

Avoid release to the environment

Stability in water DT50 - > 9,999 d pH 7 at 25 °C Remarks: (calculated)Hydrolyzes slowly

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## Section 13: Disposal considerations

### 13.1 Disposal methods

*Product*

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

*Contaminated packaging*

Dispose of as unused product.

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## Section 14: Transport information

### DOT (US)

UN Number: UN1648    Hazard Class: 3    Packing group: II  
Shipping name: Acetonitrile  
Reportable Quantity: 5000 lbs

### IMDG

UN Number: UN1648    Hazard Class: 3    Packing group: II  
Shipping name: Acetonitrile

### IATA

UN Number: UN1648    Hazard Class: 3    Packing group: II  
Shipping name: Acetonitrile

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## Section 15: Regulatory information

**TSCA Components.** The following components are subject to reporting levels established by the Toxic Substances Control Act (40 CFR Part 710)

Acetonitrile                      CAS-No. 75-05-8                      TSCA Listed – Listed                      TSCA Inventory notification – Active

**SARA 302 Components.** This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components.** The following components are subject to reporting levels established by SARA Title III, Section 313:

Acetonitrile                      CAS-No. 75-05-8                      Revision Date 2007-07-01

**SARA 311/312 Hazards.** Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components.** No components are subject to the Massachusetts Right to Know Act.

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## Section 16: Other information

References: Not available.

Other Special Considerations: Not available.

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