

## SAFETY DATA SHEET

Creation Date 16-Jun-2009

Revision Date 24-Dec-2021

Revision Number 7

### 1. Identification

<b>Product Name</b>	Acetonitrile
<b>Cat No. :</b>	A21-1; A21-4; A21-20; A21-200; A21-200LC; A21FB-19; A21FB-50; A21FB-115; A21FB-200; A21RB-115; A21RS-19; A21RS-28; A21RS-50; A21RS-115; A21RS-200; A21RS-1350; A21FB-445; A993-1; A993RS-19; A996-1; A996-4; A996-4LC; A996N2-19; A996RS-28; A996RS-50; A996RS-115; A996RS-200; A996SK-4; A996SS-19; A996SS-28; A996SS-50; A996SS-115; A996SS-200; A997-1; A997-4; A997-212; A997SK1; A997SK4; A998-1; A998-4; A998-4LC; A998-18; A998-212; A998N1-19; A998N2-19; A998POP-50; A998RS-19; A998RS-28; A998RS-50; A998RS-115; A998RS-200; A998SK-1; A998SK-4; A998SS-28; A998SS-50; A998SS-115; A998SS-200; A999-4; BP1165-50; BP2405-1; BP2405SK-1; BP2405SK-4; BP2600-100; LCMSKIT; OPTIMAKIT; XXA21ETNP200LI; NC1225777; NC0511676; XXACHPLCTF18LI; NC0650799; NC9736285; NC0320219; A998SS1350; NC1501026; XXA21ETNP4LI; NC1310377
<b>CAS No</b>	75-05-8
<b>Synonyms</b>	Methyl cyanide; Ethanenitrile (Anhydrous/Certified ACS/HPLC/Pesticide/Septum-Sealed/DNA Synthesis/OPTIMA LC/MS)
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	Food, drug, pesticide or biocidal product use.

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

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number** CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

#### Classification

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

Flammable liquids	Category 2
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Serious Eye Damage/Eye Irritation	Category 2

### **Label Elements**

#### **Signal Word**

Danger

#### **Hazard Statements**

Highly flammable liquid and vapor

Causes serious eye irritation

Harmful if swallowed, in contact with skin or if inhaled



#### **Precautionary Statements**

##### **Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

Use only non-sparking tools

Take precautionary measures against static discharge

##### **Response**

Get medical attention/advice if you feel unwell

##### **Inhalation**

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

Call a POISON CENTER or doctor/physician if you feel unwell

##### **Skin**

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

##### **Eyes**

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

If eye irritation persists: Get medical advice/attention

##### **Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

##### **Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

##### **Storage**

Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Acetonitrile	75-05-8	>95

### 4. First-aid measures

<b>General Advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray. CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	Water may be ineffective, Do not use a solid water stream as it may scatter and spread fire
<b>Flash Point</b>	12.8 °C / 55 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	525 °C / 977 °F
<b>Explosion Limits</b>	
<b>Upper</b>	16 vol %
<b>Lower</b>	3 vol %
<b>Oxidizing Properties</b>	Not oxidising
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**

Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

**Hazardous Combustion Products**

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

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA**

**Health**  
2

**Flammability**  
3

**Instability**  
0

**Physical hazards**  
N/A

**6. Accidental release measures****Personal Precautions**

Remove all sources of ignition. Take precautionary measures against static discharges. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Remove all sources of ignition. Take precautionary measures against static discharges. Provide adequate ventilation. Use spark-proof tools and explosion-proof equipment. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Prevent product from entering drains.

**7. Handling and storage****Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

**Storage.**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing agents. Strong acids. Reducing Agent. Bases.

**8. Exposure controls / personal protection****Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetonitrile	TWA: 20 ppm Skin	(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

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

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.

### **Personal Protective Equipment**

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	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.
<b>Hygiene Measures</b>	When using do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	aromatic
<b>Odor Threshold</b>	170 ppm
<b>pH</b>	No information available
<b>Melting Point/Range</b>	-46 °C / -50.8 °F
<b>Boiling Point/Range</b>	81 - 82 °C / 177.8 - 179.6 °F @ 760 mmHg
<b>Flash Point</b>	12.8 °C / 55 °F
<b>Evaporation Rate</b>	5.79
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
Upper	16 vol %
Lower	3 vol %
<b>Vapor Pressure</b>	97 mbar @ 20 °C
<b>Vapor Density</b>	1.42
<b>Specific Gravity</b>	0.781
<b>Solubility</b>	miscible
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	525 °C / 977 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	0.36 cP at 20 °C
<b>Molecular Formula</b>	C <sub>2</sub> H <sub>3</sub> N
<b>Molecular Weight</b>	41.05

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Incompatible products. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moisture.
<b>Incompatible Materials</b>	Strong oxidizing agents, Strong acids, Reducing Agent, Bases
<b>Hazardous Decomposition Products</b>	Hydrogen cyanide (hydrocyanic acid), Nitrogen oxides (NO <sub>x</sub> ), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetonitrile	450-787 mg/kg (Rat) 2460 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	LC50 = 3587 ppm (6.022 mg/l) (Mouse) 4h LC50 = 16,000 ppm (26.8 mg/l) (Rat) 4h

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Irritating to eyes

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Acetonitrile	75-05-8	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetonitrile	Not listed	LC50: = 1850 mg/L, 96h static (Lepomis macrochirus) LC50: = 1000 mg/L, 96h static (Pimephales promelas) LC50: 1600 - 1690 mg/L, 96h flow-through (Pimephales promelas) LC50: = 1650 mg/L, 96h static (Poecilia reticulata)	EC50 = 28000 mg/L 48 h EC50 = 73 mg/L 24 h EC50 = 7500 mg/L 15 h	Not listed

<b>Persistence and Degradability</b>	Persistence is unlikely based on information available.
<b>Bioaccumulation/ Accumulation</b>	No information available.
<b>Mobility</b>	Will likely be mobile in the environment due to its volatility.

Component	log Pow
Acetonitrile	-0.34

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Acetonitrile - 75-05-8	U003	-

### 14. Transport information

#### DOT

UN-No	UN1648
Proper Shipping Name	ACETONITRILE
Hazard Class	3
Packing Group	II

#### TDG

UN-No	UN1648
Proper Shipping Name	ACETONITRILE
Hazard Class	3
Packing Group	II

#### IATA

UN-No	UN1648
Proper Shipping Name	ACETONITRILE
Hazard Class	3
Packing Group	II

#### IMDG/IMO

UN-No	UN1648
Proper Shipping Name	ACETONITRILE
Hazard Class	3
Packing Group	II

### 15. Regulatory information

#### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Acetonitrile	75-05-8	X	ACTIVE	-

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

#### International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
-----------	--------	-----	-----	--------	-------	------	------	------	-------	------

Acetonitrile	75-05-8	X	-	200-835-2	X	X	X	X	X	KE-00067
--------------	---------	---	---	-----------	---	---	---	---	---	----------

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Acetonitrile	75-05-8	>95	1.0

SARA 311/312 Hazard Categories See section 2 for more information

#### CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Acetonitrile	-	-	X	X

#### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acetonitrile	X		-

OSHA - Occupational Safety and Health Administration

Not applicable

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Acetonitrile	5000 lb	-

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetonitrile	X	X	X	X	X

#### U.S. Department of Transportation

Reportable Quantity (RQ): Y  
DOT Marine Pollutant Y  
DOT Severe Marine Pollutant N

#### U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

### Other International Regulations

#### Mexico - Grade

Serious risk, Grade 3

#### Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Acetonitrile	-	Use restricted. See item 75. (see link for restriction details)	-



<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Acetonitrile	75-05-8	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Acetonitrile	75-05-8	Not applicable	Not applicable	Not applicable	Not applicable

**16. Other information**

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date** 16-Jun-2009

**Revision Date** 24-Dec-2021

**Print Date** 24-Dec-2021

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**