Safety Data Sheet

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date: 04.09.2025	*Version: 6.2*	*Print date: 04.09.2025*

SECTION 1: Identification

Product identifier

Trade name/designation:	Acetonitrile HPLC
Product No.:	K981
Synonyms:	none
CAS No.:	75-05-8

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

Recommended use	For Further Manufacturing Use Only
Uses advised against	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Supplier

VWR International LLC

Street	100 Matsonford Road Radnor Corporate Center, Building One, Suite 200 P. O. Box 6660
Postal code/City	Radnor, PA 19087, United States
Telephone	+1-800-932-5000 toll-free within US/Canada +1-610-386-1700
Telefax	+1-610-728-2103

Emergency phone number

Telephone +1-800-424-9300 (Chemtrec, 24 hrs/day, 7 days/week, USA)

Preparation Information

VWR International - Product Information Compliance

E-mail SDS@avantorsciences.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 2	H225
Acute toxicity, category 4, oral, dermal and inhalation	H302+H312+H332
Eye irritation, category 2	H319

2.2 Label elements

Labelling in accordance with 29 CFR 1910.1200 (OSHA HCS)

Hazard pictograms

Signal word: Danger

Hazard statements	
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	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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/vapours/spray.
P264	Wash hands 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/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): 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 if you feel unwell.
P330	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 water spray, foam, dry powder or carbon dioxide to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an appropriate treatment or disposal facility in accordance with applicable laws and regulations.

Hazard(s) not otherwise classified (HNOC)
none

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name	Acetonitrile
Molecular formula	CH3CN
Molecular weight	41.05 g/mol
CAS No.	75-05-8

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. Change contaminated, saturated clothing. Do not leave affected person unattended.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact

Take off immediately all contaminated clothing. Wash off any skin contamination immediately.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist. Call a POISON CENTER or doctor/physician.

In case of ingestion

Rinse mouth thoroughly with water. Immediately call a POISON CENTER/doctor. Never give anything by mouth to an unconscious person or a person with cramps.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms/effects, acute and delayed

After eye contact: Irritation Conjunctival redness. Following skin contact: Erythema (Redness). Oedema. Following ingestion: Vomiting. Irritation. After inhalation: Cough. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

Upon absorption and metabolism acetonitrile immediately begins a slow release of cyanide, which can continue for several hours. The toxic effects and associated clinical signs of cyanide poisoning may therefore be delayed. Take a blood sample in all cases for blood cyanide using fluoride/oxalate tube and chill immediately and arrange urgent analysis. Blood cyanide levels will take some time to become available, and are generally only useful as a retrospective indicator of exposure. Treatment decisions must therefore be based on the clinical features of each individual case, without waiting for blood cyanide results. If the patient is conscious and breathing normally, administration of oxygen is the only treatment necessary. One ampoule of dicobalt edetate (300 mg) diluted in 20 ml glucose solution is given by slow intravenous injection, being careful to avoid extravasation. Constant pulse and blood pressure monitoring is required, along with facilities for resuscitation, as sudden severe fall in blood pressure can occur during injection. Treatment may be repeated if there is an inadequate response to the initial injection.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

ABC-powder
Carbon dioxide (CO2).
Dry sand
Nitrogen

Extinguishing media which must not be used for safety reasons

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use dry extinguishing powder to extinguish.

5.2 Specific hazards arising from the chemical

Flammable liquids.
Risk of ignition.
Vapor may form explosive mixtures with air.
Causes eye irritation.
Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.
Closed containers may burst when pressure and temperature rise.

In case of fire may be liberated:
Carbon monoxide
Carbon dioxide (CO2).
Nitrogen oxides (NOx)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Protective equipment and precautions for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.
Co-ordinate fire-fighting measures to the fire surroundings.
In case of fire: Evacuate area.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Avoid contact with eyes and skin. Avoid breathing dust/mist. Provide adequate ventilation. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Remove victim out of the danger area.

6.2 Environmental precautions

Cover drains. Do not allow to enter into surface water or drains. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Explosion risk.

6.3 Methods and material for containment and cleaning up

Clear spills immediately. Collect in closed and suitable containers for disposal. Small amounts of spillages: Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Large amounts of spillages: Take up mechanically.

6.4 Reference to other sections

Personal protection equipment (PPE): see section 8 Safe handling: see section 7 Disposal information: see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling
Vapors may form explosive mixtures with air.
Use personal protective equipment as required.
Use extractor hood (laboratory).
Use only in well-ventilated areas.
Avoid breathing vapours.
Avoid contact with eyes and skin.
Measures to prevent fire, aerosol and dust generation
Usual measures for fire prevention.
Have fire-extinguishers in readiness before opening containers.
Take precautionary measures against static discharges.
Use only in well-ventilated areas.
Measures required to protect the environment
Do not empty into drains.
Collect spillage.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: Store between 15 °C and 30 °C. (Storage conditions determined by quality aspects.) Keep container tightly closed and in a well-ventilated place. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Protect from sunlight. Take precautionary measures against static discharge. Suitable container/equipment material: Glass High density polyethylene (HDPE) Stainless steel Unsuitable container/equipment material: No information available.

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

Ingredient (Designation)	Source	Country	parameter	Limit value
Acetonitrile	NIOSH	US	LTV	34 mg/m³ - 20 ppm
Acetonitrile	OSHA	US	LTV	70 mg/m³ - 40 ppm

8.2 Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

<u>By short-term hand contact</u>

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,425 mm
Breakthrough time	14 min

<u>By long-term hand contact</u>

Suitable material:	Butyl caoutchouc (butyl rubber)
Thickness of the glove material:	0,30 mm
Breakthrough time	> 480 min

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls
no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Color:	colorless
Odor:	ether-like

Safety relevant basic data

pH:	no data available
Melting point/freezing point:	-45.7 °C
Initial boiling point and boiling range:	81.6 °C (1013 hPa)
Flash point:	2 °C (closed cup)
Flammability:	Highly flammable liquid and vapor.
Lower and upper explosion limit	
Lower explosion limit:	3 % (v/v)
Upper explosion limit:	17 % (v/v)
Vapor pressure:	97 hPa (20 °C)
Relative vapour density:	1.42 (20 °C)
Density and/or relative density	
Density:	0.782 g/cm³ (20 °C)
Solubility(ies)	
Water solubility:	soluble (20 °C)
Partition coefficient: n-octanol/water:	-0.34 (20 °C; IUCLID)
Auto-ignition temperature:	524 °C
Decomposition temperature:	Not applicable
Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	0.316 mPa*s (25 °C)
Particle characteristics:	does not apply to liquids

9.2 Other information

Evaporation rate:	no data available
Explosive properties:	no data available
Oxidising properties:	Not applicable
Bulk density:	no data available
Refraction index:	1.34604 (589 nm; 20 °C)
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapor may form explosive mixtures with air.
Risk of ignition.

In case of warming:
Risk of ignition.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reaction with:
Oxidising agent.
Reducing agent.
Acid
Alkali metals
Peroxides

10.4 Conditions to avoid

This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).
Avoid high temperatures or direct sunlight.

10.5 Incompatible materials:

Rubber articles
Plastic articles

10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute effects
Acute oral toxicity:
Harmful if swallowed.

TDLo: > 64 mg/kg - Human

LD50: 617 mg/kg - Mouse - (IUCLID)

LD50: 617 mg/kg - Mouse - (OECD 401)

Acute dermal toxicity:
Harmful in contact with skin.

LD50: > 2000 mg/kg - Rabbit - (IUCLID)

LD50: > 2000 mg/kg - Rabbit - (OECD 402)

Acute inhalation toxicity:
Harmful if inhaled.

LC50: 6022 mg/m³ - Mouse - (IUCLID)

LC50: 6022 mg/m³ (4 h) - Mouse - (OECD 403)

Irritant and corrosive effects:
Primary irritation to the skin:
Not applicable

Irritation to eyes:
Causes serious eye irritation.

Irritation to respiratory tract:
Not applicable

Respiratory or skin sensitisation
In case of skin contact: not sensitizing
In case of inhalation: not sensitizing

STOT-single exposure
Not applicable

STOT-repeated exposure
Not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Carcinogenicity
No indication of human carcinogenicity.

IARC Monographs on the Identification of Carcinogenic Hazards to Humans:

Not listed

Occupational Safety and Health Administration (OSHA, 29 CFR Part 1910.1003):

Not listed

National Toxicology Program (NTP) Report:

Not listed

Germ cell mutagenicity
No indications of human germ cell mutagenicity exist.

Reproductive toxicity
No indications of human reproductive toxicity exist.

Aspiration hazard
Not applicable

Other adverse effects
no data available

Additional information
no data available

SECTION 12: Ecological information

12.1 Toxicity

Fish toxicity:
LC50: 1640 mg/l (96 h) - 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

Daphnia toxicity:
LC50: 3600 mg/l (48 h) - 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

Algae toxicity:
no data available

Bacteria toxicity:
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
Partition coefficient: n-octanol/water: -0.34 (20 °C; IUCLID)

12.4 Mobility in soil:
no data available

12.5 Results of PBT/vPvB assessment
This substance does not meet the PBT criteria.

This substance does not meet the vPvB criteria.

12.6 Endocrine disrupting properties
This substance does not have endocrine disrupting properties with respect to the environment.

12.7 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

none

No further relevant information available.

SECTION 14: Transport information

Land transport (DOT)

UN number or ID number:	UN1648
UN proper shipping name:	ACETONITRILE
Transport hazard class(es):	3
Hazard label(s):	3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN number or ID number:	1648
UN proper shipping name:	ACETONITRILE
Transport hazard class(es):	3
Hazard label(s):	3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	-
EmS-No.	F-E S-D

Maritime transport in bulk according to IMO instruments

not relevant

Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:	1648
UN proper shipping name:	ACETONITRILE
Transport hazard class(es):	3
Classification code:	
Hazard label(s):	3
Packing group:	II
Special precautions for user:	

SECTION 15: Regulatory information

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

National regulations

Toxic Substances Control Act (TSCA)
Listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

SARA 313 Components
Listed

US State Regulations

Massachusetts Right To Know Components
Listed

Pennsylvania Right To Know Components
Listed

New Jersey Right To Know Components
Listed

California Prop. 65 Components

⚠ **WARNING:**
This product can expose you to chemicals including Acetonitrile which is known to the State of California to cause cancer.
For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygiensts
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

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Additional information

Indication of changes	general update If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safty precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.