



## Acetonitrile

34967-1L

Version 1.5

Revision Date 17.12.2022

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### REGULATION (EC) No 1272/2008

Flammable liquids Category 2  
H225 Highly flammable liquid and vapour.  
Acute toxicity Category 4 - Oral  
H302 Harmful if swallowed.  
Acute toxicity Category 4 - Dermal  
H312 Harmful in contact with skin.  
Eye irritation Category 2  
H319 Causes serious eye irritation.  
Acute toxicity Category 4 - Inhalation  
H332 Harmful if inhaled.

#### 2.2. Label elements

##### REGULATION (EC) No 1272/2008

Hazard pictograms



Signal word : Danger

Hazard statements : 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 statements : P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P284 In case of inadequate ventilation wear respiratory protection.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

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P308 + P313

for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF exposed or concerned: Get medical advice/ attention.

### 2.3. Other hazards

Vapours may form explosive mixtures with air.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
acetonitrile	75-05-8 608-001-00-3 200-835-2	Flam. Liq. 2; H225 Acute Tox. 4; H332; Inhalation Acute Tox. 4; H312; Dermal Acute Tox. 4; H302; Oral Eye Irrit. 2; H319	100 %	

### 3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.  
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:*

First aider needs to protect himself. Move out of dangerous area. Immediately take off contaminated clothing and rinse body with plenty of water. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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*Inhalation:*

Remove to fresh air. Keep patient warm and at rest. Call a physician immediately.

*Skin contact:*

After contact with skin, wash immediately with plenty of soap and water. Call a physician immediately.

*Eye contact:*

Protect unharmed eye. Irrigate eyes for at least 15 minutes with copious quantities of water, keeping eyelids apart and away from eyeballs during irrigation. Call a physician immediately.

*Ingestion:*

A person suspected to have swallowed the substance who is conscious should be given water to drink. Take to a doctor immediately together with this card

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

No data available

#### **4.3. Indication of any immediate medical attention and special treatment needed**

No data available

See Section 11 for more detailed information on health effects and symptoms.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Alcohol-resistant foam

*Extinguishing media which shall not be used for safety reasons:*

High volume water jet

#### 5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:

Hydrogen cyanide (hydrocyanic acid)  
Nitrogen oxides (NO<sub>x</sub>)  
Heating will cause pressure rise with risk of bursting and subsequent explosion  
Exposure to decomposition products may be a hazard to health.  
Cool closed containers exposed to fire with water spray.

#### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.  
No unprotected exposed skin areas.  
In the event of fire and/or explosion do not breathe fumes.

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### SECTION 6: Accidental release measures

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

Keep people away from and upwind of spill/leak. Wear personal protective equipment. Unprotected persons must be kept away. Pay attention to flashback.

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

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

Soak up with inert absorbent material.

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Pick for disposal in tightly closed containers  
Suppress (knock down) gases/vapours/mists with a water spray jet.

### 6.4. Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Exhaust ventilation at the object is necessary. Keep limited supplies at workplace. Perform filling operations only at stations with exhaust ventilation facilities. Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.

*Advice on protection against fire and explosion:*

The heavy vapours can overcome a considerable distance up to the source of ignition. Use only in explosion-proof areas. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

*Hygiene measures:*

Keep working clothes separately. Separate rooms are required for washing, showering and changing clothes. Wash hands and face before breaks and immediately after handling the product.

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

*Further information on storage conditions:*

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not leave vessels/containers open Containers should be protected against falling down. Avoid product residues in/on containers.

### 7.3. Specific end use(s)

no additional data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### *Occupational exposure limits:*

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
acetonitrile	EH40 WEL TWA	68 mg/m3 40 ppm		
acetonitrile	EH40 WEL			Listed
acetonitrile	EU ELV SKIN_DES			Can be absorbed through the skin.
acetonitrile	EU ELV TWA	70 mg/m3 40 ppm		Indicative
acetonitrile	EH40 WEL STEL	102 mg/m3 60 ppm	15 minutes	

TWA - Time weighted average  
SKIN\_DES - Skin designation:  
STEL - Short term exposure limit

#### DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
acetonitrile	Workers / Acute local effects		102 mg/m3	Inhalation	
acetonitrile	Workers / Acute systemic effects		102 mg/m3	Inhalation	
acetonitrile	Workers / Long-term systemic effects		20,0mg/kg bw/d	Skin contact	
acetonitrile	Workers / Long-term systemic effects		70 mg/m3	Inhalation	

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acetonitrile	Workers / Long-term local effects		70 mg/m3	Inhalation	
acetonitrile	Consumers / Acute systemic effects		22 mg/m3	Inhalation	
acetonitrile	Consumers / Acute systemic effects		0,6mg/kg bw/d	Ingestion	
acetonitrile	Consumers / Acute local effects		22 mg/m3	Inhalation	
acetonitrile	Consumers / Long-term local effects		4,8 mg/m3	Inhalation	
acetonitrile	Consumers / Long-term systemic effects		2,4 mg/m3	Inhalation	
acetonitrile	Consumers / Long-term systemic effects		0,4mg/kg bw/d	Ingestion	
acetonitrile	Consumers / Long-term systemic effects		1,2mg/kg bw/d	Skin contact	

Component	Environmental compartment / Value	Remarks
acetonitrile	Fresh water: 10 mg/l	Assessment factor: 10
acetonitrile	Marine water: 1 mg/l	Assessment factor: 100
acetonitrile	Sewage treatment plant: 32 mg/l	Assessment factor: 10
acetonitrile	Fresh water sediment: 40,5 mg/kg dw	



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acetonitrile	Marine sediment: 4,05 mg/kg dw	
acetonitrile	Soil: 2,23 mg/kg dw	

### 8.2. Exposure controls

#### Occupational exposure controls

Take off all contaminated clothing immediately.

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Recommended preventive skin protection

#### Personal protective equipment

##### *Respiratory protection:*

In the case of dust or aerosol formation use respirator with an approved filter.

In case of insufficient ventilation wear suitable respiratory equipment.

##### *Hand protection:*

Glove material: butyl-rubber

Break through time: > 480 min

Glove thickness: 0,7 mm

Butoject® 898

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

##### *Eye protection:*

Safety goggles

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### *Skin and body protection:*

Flame retardant antistatic protective clothing.

Working clothes must not consist of textiles, which show a dangerous melting behaviour in case of fire.

### **Environmental exposure controls**

Handle in accordance with local environmental regulations and good industrial practices.

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

Physical state	: liquid
Colour	: colourless
Odour	: characteristic
molecular weight	: 41,05 g/mol
Melting point/range	: -45,7 °C
Boiling point/boiling range	: 81,6 °C
Upper explosion limit	: 16 %(V)
Lower explosion limit	: 3 %(V)
Flash point	: 12,8 °C Method: closed cup
Auto-ignition temperature	: 524 °C
Decomposition temperature	: At normal pressure may be distilled without decomposition. Fire or intense heat may cause violent rupture of packages.
pH	: Not applicable
Viscosity, kinematic	: No data available
Water solubility	: 1.000 g/l at 25 °C

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Partition coefficient: n-  
octanol/water : log Pow -0,54  
at: 25 °C

Vapour pressure : 98 hPa  
at 20 °C

Vapour pressure : 121 hPa  
at 25 °C

Density : 0,79 g/cm<sup>3</sup>  
at 20 °C

### 9.2 Other Information

Evaporation rate : No data available

Viscosity, dynamic : 0,35 mPa.s  
at 20 °C

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

At normal pressure may be distilled without decomposition.  
Fire or intense heat may cause violent rupture of packages.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Heat, flames and sparks.

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Keep away from direct sunlight.

### 10.5. Incompatible materials

Plastic materials can be attacked.  
Evolution of inflammable gases/vapours easily.  
Formation of explosive gas/air mixtures.  
Uncleaned empty vessels may contain product gases which can form explosive mixtures with air.  
Incompatible with strong acids and oxidizing agents.

### 10.6. Hazardous decomposition products

Hydrogen cyanide (hydrocyanic acid)  
Possible in traces  
Nitrous gases

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Acute oral toxicity:*

LD50

Species: Rat

Value: 617 mg/kg

Method: OECD Test Guideline 401

*Acute dermal toxicity:*

Classification based on Annex VI of regulation 1272/2008/EC.

*Acute inhalation toxicity:*

LC50

Species: Mouse

Value: 6,02 mg/l

Exposure time: 4 h

Method: OECD Test Guideline 403

*Skin irritation:*

Species: Rabbit

Result: No skin irritation

Method: OECD Test Guideline 404

*Eye irritation:*

Species: Rabbit

Result: irritating

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Method: OECD Test Guideline 405

*Respiratory or skin sensitisation:*

Buehler Test

Species: Guinea pig

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

*Germ cell mutagenicity:*

Note: Not classified due to data which are conclusive although insufficient for classification.

*Reproductive toxicity:*

Remarks: Not classified due to data which are conclusive although insufficient for classification.

Remarks: Not classified due to data which are conclusive although insufficient for classification.

*Aspiration hazard:*

No data available

### 11.2. Information on other hazards

Endocrine disrupting properties

No data available

*Other information:*

Poisoning affects the central nervous system.

## SECTION 12: Ecological information

### 12.1. Toxicity

*Toxicity to fish:*

LC50

flow-through test

Species: Pimephales promelas (fathead minnow)

Value: 1.640 mg/l

Exposure time: 96 h

NOEC

flow-through test

Species: Orycias Latipes

Value: 102 mg/l

Exposure time: 21 d

Method: OECD 204

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### *Toxicity to aquatic plants:*

ErC50

Growth rate

Species: *Phaeodactylum tricornutum*

Value: 9.696 mg/l

Exposure time: 72 h

Method: ISO 10253

### *Toxicity to Microorganisms:*

NOEC

static test

Species: activated sludge

Value: 320 mg/l

Exposure time: 30 min

Method: OECD 209

### *Toxicity to aquatic invertebrates:*

Not classified due to data which are conclusive although insufficient for classification.

## **12.2. Persistence and degradability**

### *Biodegradability:*

CO<sub>2</sub> formation in % of theoretical value

Biodegradation: 70 %

Exposure time: 21 d

Result: rapidly biodegradable

Method: OECD Test Guideline 310

## **12.3. Bioaccumulative potential**

No data available

## **12.4. Mobility in soil**

No data available

## **12.5. Results of PBT and vPvB assessment**

No data available

## **12.6. Endocrine disrupting properties**

No data available

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### 12.7. Other adverse effects

Do not flush into surface water or sanitary sewer system.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Product:*

Dispose according to legal requirements.

*Packaging:*

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

## 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

Marine pollutant: no

### 14.6 Special precautions for user

No data available

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**14.7 Maritime transport in bulk according to IMO instruments**

No data available

**SECTION 15: Regulatory information**

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

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : P5c: FLAMMABLE LIQUIDS Number in Regulation: 1.2.5.3	<b>Quantity:</b> 5.000.000 kg <b>Quantity:</b> 50.000.000 kg	
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftninformation);+46104566786



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Ireland	+353(1)8092166	Switzerland	145
Italy	0382 24444	United Kingdom	(+44) 844 892 0111
Germany	Berlin : 030/19240		
	Bonn : 0228/19240		
	Erfurt : 0361/730730		
	Freiburg : 0761/19240		
	Göttingen : 0551/19240		
	Homburg : 06841/19240		
	Mainz : 06131/19240		
Munich : 089/19240			
Latvia	+37167042473		

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

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Taiwan Chemical Substance Inventory (TCSI)  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

### Text of H-statements referred to under heading 3

acetonitrile : H225 Highly flammable liquid and vapour.  
H332 Harmful if inhaled.  
H312 Harmful in contact with skin.  
H302 Harmful if swallowed.  
H319 Causes serious eye irritation.

### Further information

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

#### Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative and toxic substance

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. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

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