

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

· **1.1 Product identifier**

· **Trade name:** acetonitrile

· **Article number:** 1881

· **CAS Number:**

75-05-8

· **EC number:**

200-835-2

· **Index number:**

608-001-00-3

· **Registration number** 01-2119471307-38-XXXX

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

· **Sector of Use**

SU2a Mining, (without offshore industries)

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

· **Product category**

PC19 Intermediate

PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents

PC21 Laboratory chemicals

PC29 Pharmaceuticals

PC35 Washing and cleaning products (including solvent based products)

PC40 Extraction agents

· **Process category**

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

· **Environmental release category**

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC6a Use of intermediate

ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)

ERC7 Use of functional fluid at industrial site

· **Technical function** Solvent

· **Application of the substance / the mixture** Laboratory chemical

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

PANREAC QUIMICA S.L.U.

C/Garraf 2

Polígono Pla de la Bruguera

Tel. (+34) 937 489 400

Fax. (+34) 937 489 401

e-mail: product.safety@panreac.com

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E-08211 Castellar del Vallès (Barcelona)

- **Further information obtainable from:** email: product.safety@panreac.com
- **1.4 Emergency telephone number:**
Single telephone number for emergency calls: 112 (EU)
Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS02 GHS07

- **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**

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

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description**

75-05-8 acetonitrile

- **Identification number(s)**

- **EC number:** 200-835-2

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SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Involve doctor immediately.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

· **After skin contact:**

Call a doctor immediately.

Immediately remove any clothing soiled by the product.

Immediately rinse with water.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Call a doctor immediately.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide and carbon dioxide

Forms explosive mixtures with air at ambient temperatures.

Vapours are heavier than air and may spread along floors.

Beware of backfiring.

· 5.3 Advice for firefighters

· **Protective equipment:**

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Contain escaping vapours with water.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

Avoid substance contact.

Do not inhale steams/aerosols.

· 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

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- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Clean up affected area.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:**
Away from sources of ignition and heat.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Open receptacle only under localised extractor facilities.
Store receptacle in a well ventilated area.
Store only outside or in explosion proof rooms.
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** Room Temperature
- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

75-05-8 acetonitrile

WEL	Short-term value: 102 mg/m ³ , 60 ppm Long-term value: 68 mg/m ³ , 40 ppm
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· DNELs

Oral	Acute - systemic effects, general population	0.6 mg/kg
Dermal	Long-term - systemic effects, worker	32.2 mg/kg
Inhalative	Acute - local effects, worker	68 mg/m ³
	Long-term - systemic effects, worker	68 mg/m ³
	Long-term - local effects, worker	68 mg/m ³
	Acute - systemic effects, general population	220 mg/m ³
	Acute - local effects, general population	22 mg/m ³
	Long-term - systemic effects, general population	4.8 mg/m ³

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	Long-term - local effects, general population	4.8 mg/m ³
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· **PNECs**

Aquatic compartment - freshwater	10 mg/L
Aquatic compartment - marine water	1 mg/L
Aquatic compartment - water, intermittent releases	10 mg/L
Aquatic compartment - sediment in freshwater	7.53 mg/kg
Terrestrial compartment - soil	2.41 mg/kg
Sewage treatment plant	32 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.

· **Respiratory protection:** Filter ABEK

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

- Butyl rubber, BR
- Recommended thickness of the material: ≥ 0.7 mm
- Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**

- Recommended thickness of the material: ≥ 0.65 mm
- Chloroprene rubber, CR
- Value for the permeation: Level ≥ 30 min min

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**

- Use protective suit.
- Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	Colourless
· Odour:	Aromatic
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/freezing point:	-46 °C
Initial boiling point and boiling range:	81 °C
· Flash point:	2 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	525 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	4.4 Vol %
Upper:	16 Vol %
· Vapour pressure at 20 °C:	97 hPa
· Density at 20 °C:	0.786 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not determined.
· Partition coefficient: n-octanol/water:	-0.34
· Viscosity:	
Dynamic at 20 °C:	0.316 mPas
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** heating
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Heating
- **10.5 Incompatible materials:** Various plastics
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

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SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed, in contact with skin or if inhaled.
- **LD/LC50 values relevant for classification:**

Components	Type	Value	Species
Oral	LD50	617 mg/kg	(mouse)
Dermal	LD50	>2,000 mg/kg	(rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

· Reproductive toxicity

NOAEL (Fertility) 6.022 mg/kg bw/day (mouse)

Based on available data, the classification criteria are not met.

- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**

Type of test	Effective concentration	Method	Assessment
EC50/72 h	9,696 mg/l	(Algae)	
EC50/48 h	7,943 mg/l	(Algae)	
LC50/48 h	>1,000 mg/l	(fish)	
	521 mg/l	(Aquatic Invertebrata)	
LC50/96 h	1,640 mg/l	(fish)	
NOEC (21 d)	>102 mg/l	(fish)	
	160 mg/l	(Aquatic Invertebrata)	

- **12.2 Persistence and degradability** The product is biodegradable.
- **12.3 Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- | | |
|--|---|
| · 14.1 UN-Number
· ADR, IMDG, IATA | UN1648 |
| · 14.2 UN proper shipping name
· ADR, IMDG, IATA | ACETONITRILE |
| · 14.3 Transport hazard class(es)
· ADR | |
|  | |
| · Class
· Label | 3 (F1) Flammable liquids.
3 |
| · IMDG, IATA | |
|  | |
| · Class
· Label | 3 Flammable liquids.
3 |
| · 14.4 Packing group
· ADR, IMDG, IATA | II |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user
· Hazard identification number (Kemler code):
· EMS Number:
· Stowage Category
· Stowage Code | Warning: Flammable liquids.
33
F-E,S-D
B
SW2 Clear of living quarters. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR
· Limited quantities (LQ)
· Excepted quantities (EQ) | 1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml |
| · Transport category | 2 |

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· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1648 ACETONITRILE, 3, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Directive 2012/18/EU
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category P5c** FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity - oral – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- *** Data compared to the previous version altered.**

Annex: Exposure scenario

- **Short title of the exposure scenario** Filling and transferring of substances and mixtures
- **Sector of Use**
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU2a Mining, (without offshore industries)
 - SU9 Manufacture of fine chemicals
 - SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
- **Product category**
 - PC19 Intermediate
 - PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
 - PC21 Laboratory chemicals
 - PC29 Pharmaceuticals
 - PC35 Washing and cleaning products (including solvent based products)
 - PC40 Extraction agents

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· **Process category**

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

· **Environmental release category**

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC6a Use of intermediate

ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)

ERC7 Use of functional fluid at industrial site

· **Technical function** Solvent

· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**

· **Duration and frequency** 8hrs (full working shift).

· **Physical parameters**

· **Physical state** Fluid

· **Concentration of the substance in the mixture** Raw material.

· **Used amount per time or activity** ≤ 1 tons per day

· **Other operational conditions**

· **Other operational conditions affecting environmental exposure** No special measures required.

· **Other operational conditions affecting worker exposure**

Avoid contact with eyes.

Avoid contact with the skin.

Do not breathe gas/vapour/aerosol.

Take precautionary measures against static discharge.

Keep away from sources of ignition - No smoking.

· **Other operational conditions affecting consumer exposure** No special measures required.

· **Other operational conditions affecting consumer exposure during the use of the product**

Not applicable.

· **Risk management measures**

· **Worker protection**

· **Organisational protective measures** No special measures required.

· **Technical protective measures**

Provide explosion-proof electrical equipment.

Ensure that suitable extractors are available on processing machines

· **Personal protective measures**

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Avoid contact with the eyes.

Tightly sealed goggles

Filter ABEK

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Measures for consumer protection** Ensure adequate labelling.

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Trade name: acetonitrile

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- **Environmental protection measures**
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Worker (oral)** The calculated value is smaller than the DNEL.
- **Worker (dermal)** The calculated value is smaller than the DNEL.
- **Worker (inhalation)** The calculated value is smaller than the DNEL.
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

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