

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

1.1. Product identifier

Product form	: Substance
Trade name	: CH-05XX-LX-X, Standard in Acetonitrile
EC Index-No.	: 608-001-00-3
EC-No.	: 200-835-2
CAS-No.	: 75-05-8
REACH registration No	: 01-2119471307-38-XXXX
Type of product	: Solvents
Formula	: C2H3N
Synonyms	: Methyl cyanide, Cyanomethane, ACN
Product group	: End product

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

1.2.1. Relevant identified uses

Main use category	: Industrial use, Laboratory chemical
Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Laboratory chemicals Solvents
Function or use category	: Laboratory chemicals, Solvents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

aokin AG
Robert-Rössle-Str. 10
13125 Berlin - Deutschland
T +49 (0)30 94 89 21 60 (Monday-Friday, 8:00 am-4:00 pm) - F +49 (0)30 94 89 21 61
info@aokin.com - www.aokin.com

1.4. Emergency telephone number

Emergency number	: Giftnotruf Berlin +49 30 30686700 (Beratung in Deutsch), 24 Stunden, 7 Tage/Woche; International: aokin AG +49-30-9489-2160 (Phone, Monday-Friday, 8:00 am-4:00 pm)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2	H225
Acute Tox. 4 (Inhalation)	H332
Acute Tox. 4 (Dermal)	H312
Acute Tox. 4 (Oral)	H302
Eye Irrit. 2	H319

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Hazard statements (CLP)	: 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.
Precautionary statements (CLP)	: P210 - Keep away from heat, sparks, open flames and hot surfaces . – No smoking. P280 - Wear protective gloves, protective clothing, eye protection and face protection. P301+P312 - IF SWALLOWED: Call POISON CENTER or doctor if you feel unwell. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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 for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Other hazards which do not result in classification	: This substance / mixture does not contain any components of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).
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SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Multi-constituent
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Name	Product identifier	%
Acetonitrile	(CAS-No.) 75-05-8 (EC-No.) 200-835-2 (EC Index-No.) 608-001-00-3 (REACH-no) 01-2119471307-38-XXXX	≥ 50

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. Consult a doctor. Show this safety data sheet to the doctor in attendance.
First-aid measures after inhalation	: Move person to fresh air and ensure comfortable breathing. Give oxygen or artificial respiration if necessary. Call a physician immediately.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if possible. Continue rinsing.
First-aid measures after ingestion	: Drink water immediately (max. 2 cups). Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects	: The most important known symptoms and effects are described on the label (see 2.2) and / or in section 11.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid.
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Explosion hazard	: Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures. Risk of explosion in contact with: Cyanopropyl nitrate metal perchlorates Perchloric acid Sulfuric acid/heat Nitrogen-fluorine-compounds
	The substance can react dangerously with: Oxidizing agents Acids Nitrating agent Perfluoro urea Nitrogen dioxide/catalyst Water (with acetonitrile vapour) -> release of toxic HCN.
Hazardous decomposition products in case of fire	: Fire may cause evolution of: Nitrogen oxides Hydrogen cyanide (hydrocyanic acid) Carbon oxides Pay attention to flashback.

5.3. Advice for firefighters

Firefighting instructions	: 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 ground water system.
Protection during firefighting	: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Use special care to avoid static electric charges.
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6.1.1. For non-emergency personnel

Protective equipment	: For personal protection see section 8.
Emergency procedures	: Avoid breathing vapors/aerosols. Avoid substance contact. Ensure adequate ventilation, observe emergency procedures, consult an expert. No flames, no sparks. Eliminate all sources of ignition. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Be careful of explosion risk.

6.3. Methods and material for containment and cleaning up

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

Information on exposure controls/personal protective equipment and on Instructions for disposal can be found in sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling	: Use under laboratory hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Apply preventive skin protection. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions	: Keep container tightly closed in a dry, well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

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Storage temperature : 5 – 25 °C
Storage area : Storage class (TRGS 510): See section 15.1.2.

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

Standard in Acetonitrile (75-05-8)		
EU	Local name	Acetonitrile
EU	IOEL TWA	70 mg/m ³
EU	IOEL TWA [ppm]	40 ppm Indicative: Indicates the possibility of significant absorption of the substance through the skin.
Germany	Local name	Acetonitril
Germany	AGW (OEL TWA) [1]	17 mg/m ³
Germany	AGW (OEL TWA) [2]	10 ppm Remark: Skin resorptive: There is no reason to fear a risk of damage to the developing embryo or foetus when AGW and BGW are adhered to. Source: DFG, EU

Standard in Acetonitrile (75-05-8)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	68 mg/m ³
Acute - local effects, inhalation	68 mg/m ³
Long-term - systemic effects, dermal	32.2 mg/kg bodyweight/day
Long-term - local effects, inhalation	68 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	22 mg/m ³
Acute - local effects, inhalation	220 mg/m ³
Long-term - systemic effects, inhalation	4.8 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	4.32 mg/l
PNEC aqua (marine water)	0.432 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	23.3 mg/kg dwt
PNEC sediment (marine water)	2.33 mg/kg dwt
PNEC (Soil)	
PNEC soil	2.13 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	4.6 mg/l

8.2. Exposure controls

Hand protection:

Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

. Full contact-Material: butyl-rubber
Minimum layer thickness: 0,7 mm
Break through time: 480 min

Eye protection:

Wear closed safety glasses. EN 166

Skin and body protection:

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Flame retardant antistatic protective clothing

Respiratory protection:

Wear appropriate mask. Recommended filter type: Filter A

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Environmental exposure controls:

Do not let product enter drains. Risk of explosion.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 41.05 g/mol
Colour	: Colourless.
Odour	: Faint ethereal odour.
Odour threshold	: 39.8 ppm
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -45 °C
Freezing point	: No data available
Boiling point	: 81 – 82 °C
Flash point	: 2 °C Closed cup
Auto-ignition temperature	: 525 °C Temperature class: T1
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 93.6 hPa at 20 °C.
Vapour pressure at 50 °C	: 344 hPa
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: 1.04 Ratio of the density to dry air at 20 °C and standard pressure.
Density	: 0.78 g/cm ³ at 20 °C.
Relative gas density	: 1.42 Ratio of the density to dry air at the same temperature and pressure.
Solubility	: Miscible with water. Water: 1000 g/l at 25 °C completely soluble
Partition coefficient n-octanol/water (Log Pow)	: -0.34
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.316 mPa.s at 25 °C.
Explosive properties	: Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentrations higher than the occupational exposure limits.
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 3 vol % Explosion group: IIA
Upper explosive limit (UEL)	: 17 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors can form an explosive mixture with air. Highly flammable liquid.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Violent reactions possible with:
Strong bases

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Strong reducing agents

Risk of explosion with:

Nitrates
Perchlorates
Perchloric acid
Conc. sulfuric acid with heat

Risk of ignition or formation of inflammable gases or vapours with:

Oxidizing agents
Nitric acid
Nitrogen dioxide with catalyst

Generates dangerous gases or fumes in contact with:

Acids.

10.4. Conditions to avoid

Direct sunlight. Open flame. Heat.

10.5. Incompatible materials

Strong acids. Strong bases. Rubber. Several plastics.

10.6. Hazardous decomposition products

Fire may cause evolution of:

Nitrogen oxides
Hydrogen cyanide (hydrocyanic acid)
Carbon oxides

Pay attention to flashback. Fume. May release flammable gases. In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed.

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LD50 oral rat	2460 mg/kg - Union Carbide Data Sheet. Vol. 3/18/1965.
LD50 dermal rabbit	> 2000 mg/kg - International Journal of Toxicology. Vol. 19, Pg. 363, 2000.

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : 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 system: Saccharomyces cerevisiae
Metabolic activation: Without metabolic activation
Result: Positive
Remarks: Cytogenetic analysis (ECHA)

Carcinogenicity : Not classified

Reproductive toxicity : Animal testing did not show any effects on fertility.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

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Viscosity, kinematic	0.405 mm ² /s
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Potential adverse human health effects and symptoms : 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, death

Other information : 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

Standard in Acetonitrile (75-05-8)

LC50 - Fish [1]	1640 mg/l - Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott 1984. Acute Toxicities of Organic Chemicals to Fathead Minnows (<i>Pimephales promelas</i>), Vol. 1. Center for Lake Superior Environmental Stud., Univ. of Wisconsin-Superior, Superior, WI :414
EC50 - Crustacea [1]	3600 mg/l - Tong, Z., Z. Huailan, and J. Hongjun 1996. Chronic Toxicity of Acrylonitrile and Acetonitrile to <i>Daphnia magna</i> in 14-d and 21-d Toxicity Tests. Bull. Environ. Contam. Toxicol. 57(4):655-659

12.2. Persistence and degradability

Standard in Acetonitrile (75-05-8)

Biodegradation	70 % - Result: Readily biodegradable. (OECD Test Guideline 310)
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12.3. Bioaccumulative potential

Standard in Acetonitrile (75-05-8)

Partition coefficient n-octanol/water (Log Pow)	-0.34
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).

12.4. Mobility in soil

Standard in Acetonitrile (75-05-8)

Mobility in soil	Not expected to adsorb on soil.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects	: Biological effects: Hazard for drinking water supplies. Discharge into the environment must be avoided. 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. Waste treatment methods

Waste treatment methods	: Product residues are to be disposed of in compliance with national and regional regulations dispose. Keep chemicals in original containers. Not with other waste mix. Uncleaned containers are to be treated according to the product. Pay attention to the waste policy 2008/98/EG.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Avoid release to the environment.

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number		
1648	1648	1648
14.2. UN proper shipping name		
ACETONITRILE	ACETONITRILE	Acetonitrile
14.3. Transport hazard class(es)		
3	3	3
		
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- Overland transport

Tunnel restriction code (ADR) : D/E

- Transport by sea

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-D

- Air transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Standard in Acetonitrile is not on the REACH Candidate List

Standard in Acetonitrile is not on the REACH Annex XIV List

Organic solvent

Seveso Information : Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

15.1.2. National regulations

Germany

Regulatory reference : WGK 2, Significantly hazardous to water (Classification according to AwSV)

Storage class (LGK, TRGS 510) : LGK 3 - Flammable liquids

Employment restrictions : Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
Take note of Dir 94/33/EC on the protection of young people at work.

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

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Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.