

Safety Data Sheet acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

1 Identification

- **Product identifier**
- **Formule moléculaire** C₂ H₃ N
- **Trade name:** Acetonitrile
- **Article number:** CH0080
- **CAS Number:**
75-05-8
- **EC number:**
200-835-2
- **Index number:**
608-001-00-3
- **Application of the substance / the mixture** Chemicals products for laboratory
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20
- **Information department:**
Q.A / Normative
email: MSDS_CER-SDS@cer.dgroup.it
- **Emergency telephone number:**
US 911
CHEMTREC 1-800-424-9300 (Staffed 24/7)
American Association of Poison Control Centers 1-800-222-1222 (Staffed 24/7)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Highly flammable liquid and vapor.



GHS07

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

Causes serious eye irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 1)

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** *Danger*

· **Hazard statements**

*Highly flammable liquid and vapor.
Harmful if swallowed, in contact with skin or if inhaled.
Causes serious eye irritation.*

· **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.*

· **Classification system:**

· **NFPA ratings (scale 0-4)**



Health = 2
Fire = 3
Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

CAS: 75-05-8 Acetonitrile

· **Identification number(s)**

· **EC number:** 200-835-2

· **Index number:** 608-001-00-3

4 First-aid measures

· **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.

· **After inhalation:**

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

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 2)

- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Seek immediate medical advice.
- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Alcohol resistant foam
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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
In the absence of oxygen: Ammonia (NH₃).
- **Advice for firefighters**
- **Protective equipment:**
Mount respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Keep away from ignition sources
Wear protective equipment. Keep unprotected persons away.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Ensure adequate ventilation
- **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Dilute with plenty of water.
Prevent seepage into sewage system, workpits and cellars.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Dispose contaminated material as waste according to section 13.
- **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.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 13 ppm
- **PAC-2:** 50 ppm

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

· **PAC-3: 150 ppm**

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Only handle and refill product in closed systems.
Pneumatic conveyance only with nitrogen.
- **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

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

CAS: 75-05-8 Acetonitrile

PEL	Long-term value: 70 mg/m ³ , 40 ppm
REL	Long-term value: 34 mg/m ³ , 20 ppm
TLV	Long-term value: 20 ppm
	Skin, A4

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Avoid contact with the eyes and skin.
Clean skin thoroughly immediately after handling the product.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 4)

· **Breathing equipment:**

Use suitable respiratory protective device only when aerosol or mist is formed.



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Suitable respiratory protective device recommended.

Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**

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



Protective gloves

Rubber gloves

· **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:**

The penetration time has to be at least 240 minutes

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 mm

· **Eye protection:**



Tightly sealed goggles

· **Limitation and supervision of exposure into the environment**

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· General Information	41.05 g
· Appearance:	
· Form:	Fluid
· Color:	Colorless
· Odor:	Light
· Odor threshold:	Not determined.

· pH-value:	Not determined.
--------------------	-----------------

· **Change in condition**

· Melting point/Melting range:	-46 °C (-50.8 °F)
· Boiling point/Boiling range:	81 °C (177.8 °F)
· Flash point:	12.8 °C (55 °F) (c.c.)
· Flammability (solid, gaseous):	Highly flammable.
· Auto igniting:	525 °C (977 °F)

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 5)

- **Decomposition temperature:** Not determined.
- **Ignition temperature:** Not determined.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Explosion limits:**
 - Lower:** 4.4 Vol %
 - Upper:** 16 Vol %
- **Vapor pressure at 20 °C (68 °F):** 97 hPa (72.8 mm Hg)
- **Vapor pressure (2) at 50 °C (122 °F):** 330 hPa (247.5 mm Hg)
- **Vapor pressure at 50 °C (122 °F):** 330 hPa (247.5 mm Hg)
- **Density at 20 °C (68 °F):** 0.7822 g/cm³ (6.52746 lbs/gal)
- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**
 - Water at 25 °C (77 °F):** 1000 g/l
 - organic solvents:** Miscible with many organic solvents.
- **Partition coefficient (n-octanol/water):** -0.54061
- **Viscosity:**
 - Dynamic at 20 °C (68 °F):** 0.39 mPas
 - Kinematic:** Not determined.
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** See 10.3
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **Incompatible materials:** Strong oxidizing agents, Strong acids, Strong bases.
- **Hazardous decomposition products:**
Danger of toxic pyrolysis products.
Carbon monoxide
Nitrogen oxides (NOx)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	617 mg/kg (mouse)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	6.022 mg/L (mouse)
		26.8 mg/L (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.

(Contd. on page 7)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 6)

- **on the eye:**
Strong irritant with the danger of severe eye injury.
Causes serious eye irritation.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):** No further relevant information available.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

ECr50	9,696 mg/L (algae) (72h, <i>Phaeodactylum tricornutum</i>)
NOEC	>960 mg/L (<i>Daphnia</i>) (21 days, <i>Daphnia magna</i>) >102 mg/L (fishes) (21days, <i>Oryzias latipes</i>)
EC50/48h	7,943 mg/l (algae) (<i>Raphidocelis subcapitata</i>)
LC50/96h	1,640 mg/l (fishes) (<i>Pimephales promelas</i>)
LC50	521 mg/l (48h, <i>Artemia salina</i> larva) >1,000 mg/l (fishes) (48h, <i>Oryzias latipes</i>)

- **Persistence and degradability** No further relevant information available.
- **Other information:**
The product is biodegradable.
B.O.D. 5: 0,029 (- 1%)
- **Behavior in environmental systems:**
- **Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.
Wash with solvents to be incinerated.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 7)

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
 · **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**
 · **DOT, IMDG, IATA** UN1648

· **UN proper shipping name**
 · **DOT, IATA** Acetonitrile
 · **IMDG** ACETONITRILE

· **Transport hazard class(es)**

· **DOT**



· **Class** 3 Flammable liquids
 · **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**
 · **DOT, IMDG, IATA** II

· **Environmental hazards:**
 · **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids
 · **Hazard identification number (Kemler code):** 33
 · **EMS Number:** F-E,S-D
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **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

US

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/18/2023

Reviewed on 08/18/2023

Trade name: Acetonitrile

(Contd. of page 8)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA Section 355 (extremely hazardous substances)** Substance is not listed.
- **SARA Section 313 (specific toxic chemical listings)** Substance is listed.
- **TSCA (Toxic Substances Control Act)** ACTIVE
- **Hazardous Air Pollutants** Substance is listed.
- **Prop 65 - Chemicals known to cause cancer** Substance is not listed.

- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** CBD, D
- **TLV (Threshold Limit Value)** A4
- **MAK (German Maximum Workplace Concentration)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **National regulations:**

- **Technical instructions (air):**

Class	Share in %
NK	100.000

- **Water hazard class:** Water hazard class 2 (Assessment by list): hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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.

- **Department issuing SDS:** Q.A / Normative
- **Date of preparation / last revision** 08/18/2023
- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

IMO: International Maritime Organization

Flammable Liquids 2: Flammable liquids – Category 2

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

- **Sources**

Globally Harmonized System, GHS

ADR/RID, IMDG, IATA

PubChem: an open chemistry database at the National Institutes of Health (NIH)

ECHA: European Chemicals Agency

- *** Data compared to the previous version altered. .**