

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

### 1.1 Product identifier

Trade name **Acetonitrile**

Stock number: A19862

CAS Number:

75-05-8

EC number:

200-835-2

Index number:

608-001-00-3

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

Identified use: SU24 Scientific research and development

### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Thermo Fisher (Kandel) GmbH

Zeppelinstr. 7b

76185 Karlsruhe / Germany

Tel: +49 (0) 721 84007 280

Fax: +49 (0) 721 84007 300

Email: tech@alfa.com

www.alfa.com

Informing department: Product safety Tel + +049 (0) 7275 988687-0

### 1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

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



GHS07

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.

Other hazards that do not result in classification No information known.

### 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 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H319 Causes serious eye irritation.

#### Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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 Substances

CAS# Designation:

75-05-8 Acetonitrile

Identification number(s):

EC number: 200-835-2

Index number: 608-001-00-3

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### After inhalation

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

Seek immediate medical advice.

#### After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Seek medical treatment.

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.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing agents** CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

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

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Hydrogen cyanide (HCN)

Nitrogen oxides (NO<sub>x</sub>)

#### 5.3 Advice for firefighters

##### Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

### SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

**6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.

#### 6.3 Methods and material for containment and cleaning up:

Keep away from ignition sources.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

**Prevention of secondary hazards:** Keep away from ignition sources.

#### 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 information on disposal.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

#### Information about protection against explosions and fires:

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

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

##### Storage

**Requirements to be met by storerooms and containers:** Store in cool location.

#### Information about storage in one common storage facility:

Do not store together with acids.

Store away from strong bases.

Store away from oxidising agents.

Store away from reducing agents.

Store away from alkali metals.

#### Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

#### 8.1 Control parameters

##### Components with critical values that require monitoring at the workplace:

###### 75-05-8 Acetonitrile (100,0%)

AGW (Germany) Long-term value: 34 mg/m<sup>3</sup>, 20 ppm  
2(II);DFG, EU, H, Y

PEL (USA) Long-term value: 70 mg/m<sup>3</sup>, 40 ppm

REL (USA) Long-term value: 34 mg/m<sup>3</sup>, 20 ppm

TLV (USA) Long-term value: 34 mg/m<sup>3</sup>, 20 ppm

Skin

**Additional information:** No data

#### 8.2 Exposure controls

##### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use breathing protection with high concentrations.

##### Recommended filter device for short term use:

Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or GEN (EU).

##### Protection of hands:

Check protective gloves prior to each use for their proper condition.

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.

**Material of gloves** Butyl rubber, BR

**Penetration time of glove material (in minutes)** Not determined

##### Eye protection:

Safety glasses

Face protection

**Body protection:** Protective work clothing.

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### SECTION 9: Physical and chemical properties

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

##### General Information

##### Appearance:

**Form:** Liquid  
**Smell:** Pungent  
**Odour threshold:** Not determined.

**pH-value:** Not determined.

##### Change in condition

**Melting point/Melting range:** -48 to -45 °C  
**Boiling point/Boiling range:** 80-82 °C  
**Sublimation temperature / start:** Not determined

**Flash point:** 5 °C  
**Inflammability (solid, gaseous):** Not applicable.  
**Ignition temperature:** 525 °C  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Not determined.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/steam mixtures is possible.

##### Critical values for explosion:

**Lower:** 4,4 Vol %  
**Upper:** 16 Vol %

**Steam pressure at 20 °C:** 97 hPa

**Density at 20 °C:** 0,786 g/cm<sup>3</sup>

**Relative density:** Not determined.

**Vapour density:** Not determined.

**Evaporation rate:** Not determined.

##### Solubility in / Miscibility with

**Water:** Fully miscible

**Partition coefficient (n-octanol/water):** Not determined.

##### Viscosity:

**dynamic at 20 °C:** 0,39 mPas

**kinematic:** Not determined.

**9.2 Other information:** No further relevant information available.

### SECTION 10: Stability and reactivity

**10.1 Reactivity:** No information known.

**10.2 Chemical stability:** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions:** Reacts with strong oxidising agents

**10.4 Conditions to avoid:** No further relevant information available.

##### 10.5 Incompatible materials:

Acids

Oxidising agents

Bases

Reducing agents

Alkali metals

##### 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Hydrogen cyanide (prussic acid)

Nitrogen oxides (NO<sub>x</sub>)

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity:

Harmful if inhaled.

Harmful if swallowed.

Danger by skin resorption.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

##### LD/LC50 values that are relevant for classification:

Oral	LD50	2460 mg/kg (rat)
Dermal	LD50	980 mg/kg (rabbit)
Inhalative	LC50/8H	7551 ppm/8H (rat)

**Skin irritation or corrosion:** May cause irritation.

**Eye irritation or corrosion:** Causes serious eye irritation.

**Sensitization:** No sensitizing effect known.

**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

##### Carcinogenicity:

EPA-D: Not classifiable as to human carcinogenicity; inadequate human and animal evidence of carcinogenicity or no data are available.

EPA-CBD: Carcinogenic potential cannot be determined.

ACGIH A4: Not classifiable as a human carcinogen; Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

**Reproductive toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

### SECTION 12: Ecological information

#### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability:** No further relevant information available.

**12.3 Bioaccumulative potential:** No further relevant information available.

**12.4 Mobility in soil:** No further relevant information available.

##### Additional ecological information:

##### General notes:

Do not allow product to reach ground water, water bodies or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

Water hazard class 2 (Assessment by list): hazardous for water.

Danger to drinking water if even small quantities leak into soil.

Avoid transfer into the environment.

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

**PBT:** Not applicable.

**vPvB:** Not applicable.

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12.6 Other adverse effects No further relevant information available.

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**



**Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.  
**Recommended cleaning agent:** Water, if necessary with cleaning agent.

**SECTION 14: Transport information**

<b>UN-Number</b> <b>ADR, IMDG, IATA</b>	UN1648
<b>14.2 UN proper shipping name</b> <b>ADR</b> <b>IMDG, IATA</b>	1648 ACETONITRILE ACETONITRILE
<b>14.3 Transport hazard class(es)</b> <b>ADR</b>	
	
<b>Class</b> <b>Label</b> <b>IMDG, IATA</b>	3 (F1) Flammable liquids. 3
	
<b>Class</b> <b>Label</b>	3 Flammable liquids. 3
<b>Packing group</b> <b>ADR, IMDG, IATA</b>	II
<b>14.5 Environmental hazards:</b>	Not applicable.
<b>14.6 Special precautions for user</b> <b>Kemler Number:</b> <b>EMS Number:</b>	Warning: Flammable liquids. 33 F-E,S-D
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b> <b>Excepted quantities (EQ):</b> <b>Limited quantities (LQ)</b> <b>Transport category</b> <b>Tunnel restriction code</b>	E2 1L 2 D/E
<b>UN "Model Regulation":</b>	UN1648, ACETONITRILE, 3, II

**SECTION 15: Regulatory information**

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

**Australian Inventory of Chemical Substances** Substance is listed.  
**Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.

**National regulations**

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.  
For use only by technically qualified individuals.

**Classification according to VbF:** B

**Water hazard class:** Water hazard class 2 (Assessment by list): hazardous for water.

**Other regulations, limitations and prohibitive regulations**

**ELINCS (European List of Notified Chemical Substances)** Substance is not listed.

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**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 Organization  
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 Harmonized 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)  
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
vPvB: very Persistent and very Bioaccumulative  
ACGIH: American Conference of Governmental Industrial Hygienists (USA)  
OSHA: Occupational Safety and Health Administration (USA)  
NTP: National Toxicology Program (USA)  
IARC: International Agency for Research on Cancer  
EPA: Environmental Protection Agency (USA)  
Flam. Liq. 2: Flammable liquids, Hazard Category 2  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2