SECTION 1: Identification

1.1. Identification

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub stance name</td>
<td>Acetonitrile</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>75-05-8</td>
</tr>
<tr>
<td>Product code</td>
<td>LC10460</td>
</tr>
<tr>
<td>Formula</td>
<td>C2H3N</td>
</tr>
<tr>
<td>Synonyms</td>
<td>ACE / acetic acid nitrile / cyanomethane / ethane nitrile / ethyl nitrile / methane carbonitrile / methyl cyanide</td>
</tr>
</tbody>
</table>

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemical
Solvent
Chemical raw material
Pesticide: intermediate product
Stabilizer
Catalyst

1.3. Supplier

LabChem, Inc.
1010 Jackson’s Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Flammable liquids Category 2 H225 Highly flammable liquid and vapor
Acute toxicity (dermal) Category 3 H311 Toxic in contact with skin
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H225 - Highly flammable liquid and vapor
H311 - Toxic in contact with skin
Precautionary statements (GHS US) :
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Wear protective gloves, protective clothing, eye protection, face protection.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P361 - Remove/Take off immediately all contaminated clothing
P363 - Wash contaminated clothing before reuse.
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2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification: None.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name | Product identifier | % | GHS US classification
--- | --- | --- | ---
Acetonitrile (Main constituent) | (CAS-No.) 75-05-8 | 100 | Flamm. Liq. 2, H225, Acute Tox. 3 (Dermal), H311

Full text of hazard classes and 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 after inhalation: Remove the victim into fresh air. Do not apply mouth-to-mouth resuscitation. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms: Odour threshold is well above the exposure limit. Odour tolerance may develop. Harmful if swallowed. Not irritant to skin. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation.


Symptoms/effects after skin contact: FOLLOWING SYMPTOMS MAY APPEAR LATER: Symptoms similar to those listed under inhalation.

Symptoms/effects after eye contact: Irritation of the eye tissue.

Symptoms/effects after ingestion: FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of aspiration pneumonia. Symptoms similar to those listed under inhalation.

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4.3. Immediate medical attention and special treatment, if necessary
No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD. Highly flammable liquid and vapour. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapor spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire: On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Cool tanks/drumns with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

Protection during firefighting: Heat/fire exposure: compressed air apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up: Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:
- Use spark-explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Avoid contact of substance with water. Keep container tightly closed.

Hygiene measures:
- Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible products: Oxidizing agent. silver nitrate.


Storage temperature: -20 °C

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.


Special rules on packaging: SPECIAL REQUIREMENTS: hermetical. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials: SUITABLE MATERIAL: stainless steel. aluminium. iron. polyethylene. glass. MATERIAL TO AVOID: copper. plastics.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USA - ACGIH - Occupational Exposure Limits</strong></td>
</tr>
<tr>
<td>Local name</td>
</tr>
<tr>
<td>ACGIH TWA (mg/m³)</td>
</tr>
<tr>
<td>ACGIH TWA (ppm)</td>
</tr>
<tr>
<td>Remark (ACGIH)</td>
</tr>
<tr>
<td>Regulatory reference</td>
</tr>
</tbody>
</table>

| **USA - OSHA - Occupational Exposure Limits** |
| Local name             | Acetonitrile |
| OSHA PEL (TWA) (mg/m³) | 70 mg/m³     |
| OSHA PEL (TWA) (ppm)   | 40 ppm       |
| Regulatory reference (US-OSHA) | OSHA Annotated Table Z-1 |

| **USA - IDLH - Occupational Exposure Limits** |
| US IDLH (ppm)          | 500 ppm      |

| **USA - NIOSH - Occupational Exposure Limits** |
| NIOSH REL (TWA) (mg/m³) | 34 mg/m³     |
| NIOSH REL (TWA) [ppm]   | 20 ppm       |

8.2. Appropriate engineering controls

Appropriate engineering controls:
- Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
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Materials for protective clothing:
GIVE GOOD RESISTANCE: butyl rubber. chlorinated polyethylene. tetrafluoroethylene. neoprene/butyl rubber. neoprene/natural rubber. polyethylene/ethylenevinylalcohol. GIVE LESS RESISTANCE: PVA. GIVE POOR RESISTANCE: nitrile rubber. polyethylene. natural rubber. neoprene. PVC. viton

Hand protection:
Protective gloves against chemicals (EN 374)

Eye protection:
Protective goggles (EN 166)

Skin and body protection:
Protective clothing (EN 14605 or EN 13034). Head/neck protection

Respiratory protection:
Full face mask with filter type A at conc. in air > exposure limit

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet odour Aromatic odour Ether-like odour</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>-46 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>82 °C (1013 hPa)</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>275 °C</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>48320 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>6 °C (Open cup)</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>5.8</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>94.61 hPa (20 °C)</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>1.42</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.79 (20 °C)</td>
</tr>
<tr>
<td>Relative density of saturated gas/air mixture</td>
<td>1.04</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>787 kg/m³</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>41.05 g/mol</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-0.54 (Weight of evidence approach, Equivalent or similar to OECD 107, 25 °C)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>524 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 120 °C</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>3.8 mm²/s</td>
</tr>
</tbody>
</table>
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Viscosity, dynamic: 3 mPa·s (40 °C)

Explosion limits:
- 3 – 16 vol %
- 50 – 274 g/m³

Lower explosive limit (LEL): 3 vol %
Upper explosive limit (UEL): 16 vol %

Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information
Specific conductivity: 60000 pS/m
Saturation concentration: 163 g/m³
VOC content: 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (strong) reducers.

10.2. Chemical stability
Unstable on exposure to moisture.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
High temperature. Open flame. Sparks.

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Toxic in contact with skin.
Acute toxicity (inhalation): Not classified

Acetonitrile (75-05-8)
LD50 dermal rabbit: >2000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
ATE US (dermal): 980 mg/kg body weight
ATE US (dust, mist): 27 mg/l/4h

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: 3.8 mm²/s

Likely routes of exposure: Inhalation. Skin and eye contact.
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Potential Adverse human health effects and symptoms

Odour threshold is well above the exposure limit. Odour tolerance may develop. Harmful if swallowed. Not irritant to skin. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation.

Symptoms/effects after inhalation


Symptoms/effects after skin contact

FOLLOWING SYMPTOMS MAY APPEAR LATER: Symptoms similar to those listed under inhalation.

Symptoms/effects after eye contact

Irritation of the eye tissue.

Symptoms/effects after ingestion

FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of aspiration pneumonia. Symptoms similar to those listed under inhalation.

Chronic symptoms


SECTION 12: Ecological information

12.1. Toxicity

Ecology - general
Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air
Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>1640 mg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Soft water)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)</td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>9696 mg/l (ISO 10253, 72 h, Phaeodactylum, Static system, Salt water, Experimental value, GLP)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable in water.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>0.17 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>3.12 g O₂/g substance</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>-0.54 (Weight of evidence approach, Equivalent or similar to OECD 107, 25 °C)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>0.029 N/m (20 °C)</td>
</tr>
<tr>
<td>Log Koc</td>
<td>0.65 (log Koc, Calculated value)</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>Highly mobile in soil.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects
No additional information available
SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations: Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.


SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description: UN1648 Acetonitrile, 3, II
UN-No.(DOT): UN1648
Proper Shipping Name (DOT): Acetonitrile
Transport hazard class(es) (DOT): 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT): II - Medium Danger
Hazard labels (DOT): 3 - Flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx): 202
DOT Packaging Bulk (49 CFR 173.xxx): 242
DOT Special Provisions (49 CFR 172.102): IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal............. 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx): 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 60 L
DOT Vessel Stowage Location: B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other: 40 - Stow “clear of living quarters”
Other information: No supplementary information available.
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## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>5000 lb</td>
</tr>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
<td>Physical hazard - Flammable (gases, aerosols, liquids, or solids)</td>
</tr>
<tr>
<td></td>
<td>Health hazard - Acute toxicity (any route of exposure)</td>
</tr>
</tbody>
</table>

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

### 15.2. International regulations

**CANADA**

<table>
<thead>
<tr>
<th>Acetonitrile (75-05-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
<td></td>
</tr>
</tbody>
</table>

**EU-Regulations**

No additional information available

**National regulations**

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

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Revision date : 10/13/2020

Full text of H-phrases: see section 16:

| H225 | Highly flammable liquid and vapor |
| H311 | Toxic in contact with skin |

**NFPA health hazard**

: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

**NFPA fire hazard**

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

**NFPA reactivity**

: 0 - Material that in themselves are normally stable, even under fire conditions.

**Hazard Rating**

**Health**

: 2 Moderate Hazard - Temporary or minor injury may occur

**Flammability**

: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

**Physical**

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

**Personal protection**

: H

- Splash goggles, Gloves, Synthetic apron, Vapor respirator

SDS US LabChem

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