

# SAFETY DATA SHEET

## Acetonitrile

This SDS is valid for all grades that start with catalog number  
300

### 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** High Purity Chemicals  
**Synonyms:** Methyl cyanide; cyanomethane; ethanenitrile  
**Other means of identification:** CAS No. 75-05-8  
EINECS No. 200-835-2

**Recommended use of the chemical and restrictions on use:**  
General purpose organic solvent

**Supplier Details:**

**Greenfield Global USA, Inc.**  
1101 Isaac Shelby Drive, Shelbyville,  
KY 40065, USA.  
Tel: 502.232.7600  
Fax: 502.633.6100  
CCN17213

**Greenfield Global USA, Inc.**  
58 Vale Road, Brookfield,  
CT 06804, USA.  
Tel: 203.740.3471  
Fax: 203.740.3481  
CCN17213

**Emergency Contact:** CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

### 2. HAZARDS IDENTIFICATION

**Emergency Overview:**

Flammable liquid. Moderate health hazard. Combustion by-products may include hydrogen cyanide and oxides of nitrogen.

**OSHA Hazards:**

Flammable liquid, Target Organ Effect, Irritant, Harmful by ingestion, Harmful by skin absorption

**Target Organs:**

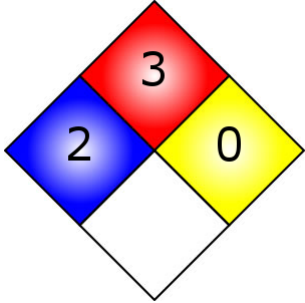
Blood, Central nervous system, Kidney, Liver, Lungs



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NFPA

+1.703.527.3887 (INT)



GHS label elements, including precautionary statements



**Signal Word:**

DANGER!

**Hazard statement(s)**

|      |                                    |
|------|------------------------------------|
| H225 | Highly flammable liquid and vapor. |
| H302 | Harmful if swallowed.              |
| H312 | Harmful in contact with skin       |
| H319 | Causes serious eye irritation.     |
| H332 | Harmful if inhaled.                |

**Precautionary statement(s)**

|                    |  |
|--------------------|--|
| P210               | Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  |
| P264               | Wash hands thoroughly after handling.  |
| P270               | Do not eat, drink or smoke when using this product.  |
| P271               | Use only outdoors or in a well-ventilated area.  |
| P280               | Wear protective gloves and eye and face protection.  |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. |
| P312               | Call a POISON CENTER or doctor/ physician if you feel unwell.  |
| P233               | Keep container tightly closed.   |
| P501               | Dispose of contents and container to an approved waste disposal plant.   |
| P240               | Ground/bond container and receiving equipment.   |



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|                    |  |
|--------------------|--|
| P241               | Use explosion-proof electrical, ventilating, and lighting equipment.   |
| P242               | Use only non-sparking tools.   |
| P243               | Take precautionary measures against static discharge.  |
| P261               | Avoid breathing dust/fumes/gas/mist/vapors.  |
| P301 + P330        | IF SWALLOWED: Rinse mouth.   |
| P303 + P361 + P352 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. |
| P304 + P340        | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                 |
| P322               | Specific measures (see first aid measures on this label)   |
| P337 + P313        | If eye irritation persists: Get medical attention.   |
| P363               | Wash contaminated clothing before reuse.   |
| P370 + P378        | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.                            |

**GHS Classification(s)**

- Acute Toxicity, Dermal (Category 4)
- Acute Toxicity, Inhalation (Category 4)
- Acute toxicity, Oral (Category 4)
- Eye irritation (Category 2A)
- Flammable Liquids (Category 2)

**Other hazards which do not result in classification:**

**Potential Health Effects:**

| Organ      | Description  |
|------------|--|
| Eyes       | Causes eye irritation.   |
| Ingestion  | May be harmful if swallowed.   |
| Inhalation | May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness. |
| Skin       | Harmful if absorbed through skin. Causes skin irritation.  |

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

|                               |  |
|-------------------------------|--|
| <b>Chemical identity:</b>     | Acetonitrile   |
| <b>Common name / Synonym:</b> | Methyl Cyanide; Cyanomethane; Ethanenitrile; Ethyl nitrile |
| <b>CAS number:</b>            | 75-05-8  |
| <b>EINECS number:</b>         | 200-835-2  |
| <b>ICSC number:</b>           | 0088   |
| <b>RTECS #:</b>               | AL7700000  |
| <b>UN #:</b>                  | UN1648   |
| <b>EC #:</b>                  | 608-001-00-3   |



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|                 |                 |                              |
|-----------------|-----------------|------------------------------|
| <b>% Weight</b> | <b>Material</b> | <b>+1.703.527.3887 (INT)</b> |
| 100             | Acetonitrile    | 75-05-8                      |

## 4. FIRST AID MEASURES

### General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

### Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

### Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

## 5. FIRE FIGHTING MEASURES

### Suitable (and unsuitable) extinguishing media:

SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam. Cool all affected containers with flooding quantities of water.

### Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides and nitrogen oxides expected to be the primary hazardous combustion products.

### Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

### Unusual Fire and Explosion Hazards:

- Vapors may travel to source of ignition and flash back.
- Vapors may settle in low or confined spaces.

### Flammable Properties

#### Classification

OSHA/NFPA Class IB Flammable Liquid.

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**Flash point**

12.8°C (55°F) - closed cup

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**Autoignition temperature**

524°C (975°F)

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental precautions:**

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

**Methods and materials for containment and cleaning up:**

Highly flammable liquid. Eliminate all sources of ignition. All equipment used when handling this product must be grounded. A vapor suppressing foam may be used to reduce vapors. Do not touch or walk through spilled material. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations. Use clean non-sparking tools to collect absorbed material.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:**

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded.

**Conditions for safe storage, including any incompatibilities:**

Inside storage should be in a standard flammable liquids storage warehouse, room, or cabinet. Separate from oxidizing materials. Outside or detached storage is preferred.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters, e.g., occupational exposure limit values or biological limit values:**

**Occupational Exposure Limits**

| Component    | Source     | Type | Value  | Note |
|--------------|------------|------|--------|------|
| Acetonitrile | US (OSHA)  | STEL | 60 ppm |      |
| Acetonitrile | US (ACGIH) | TWA  | 20 ppm |      |
| Acetonitrile | US (OSHA)  | TWA  | 40 ppm |      |

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**Appropriate engineering controls:** **+1.703.527.3887 (INT)**

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

**Individual protection measures, such as personal protective equipment:**

**Respiratory protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection:**

Handle with gloves. Gloves must be inspected prior to use. 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.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and body protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Hygiene measures:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |   |
|---|---|
| <b>Appearance (physical state, color, etc.)</b>       | Liquid. Colorless liquid / invisible vapor.         |
| <b>Odor</b>   | Ethereal  |
| <b>Odor threshold</b>                                 | No Data Available.                                  |
| <b>pH</b>   | No Data Available.                                  |
| <b>Freezing point</b>                                 | -46°C (-50 °F)                                      |
| <b>Initial boiling point and boiling range</b>        | 82 °C (179 °F)                                      |
| <b>Flash point</b>                                    | 12.8°C (55°F) - closed cup                          |
| <b>Evaporation rate</b>                               | Specific data not available - expected to be rapid. |
| <b>Flammability (solid, gas)</b>                      | Flammable   |
| <b>Upper / Lower flammability or explosive limits</b> | 4.4 %(V) / 16 %(V)                                  |
| <b>Vapor pressure</b>                                 | 119.81 hPa (89.86 mmHg) at 25 °C (77 °F)            |
| <b>Relative Density</b>                               | 0.786 g/mL at 25 °C (77 °F)                         |
| <b>Solubility(ies)</b>                                | soluble   |



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|  |                                 |                              |
|--|---------------------------------|------------------------------|
| Partition coefficient n-octanol/water(ies) | No Data Available.              | <b>+1.703.527.3887 (INT)</b> |
| Auto-ignition temperature                  | 524 °C (975°F)                  |                              |
| Decomposition temperature                  | Not pertinent                   |                              |
| Formula (ACETONITRILE)                     | C <sub>2</sub> H <sub>3</sub> N |                              |
| Molecular Weight (ACETONITRILE)            | 41.05 g/mol                     |                              |

## 10. STABILITY AND REACTIVITY

|  |   |
|--|---|
| Possibility of hazardous reactions                               | Vapors may form explosive mixture with air.   |
| Conditions to avoid (e.g., static discharge, shock or vibration) | Heat, flames, and sparks. Extreme temperatures and direct sunlight.                             |
| Incompatible materials   | Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals                                  |
| Hazardous decomposition products                                 | Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides |

## 11. TOXICOLOGICAL INFORMATION

- Acetonitrile 75-05-8

### Product Summary:

No data available for the mutagenic, teratogenic, or reproductive effects of the product.

### Acute Toxicity:

|                   |        |             |         |
|-------------------|--------|-------------|---------|
| LC50 (Inhalation) | Rat    | 7,551 ppm   | 8 hours |
| LD50 (Dermal)     | Rabbit | 2,000 mg/kg |         |
| LD50 (Oral)       | Rat    | 2,640 mg/kg |         |

### Irritation:

#### Eyes

Rabbit - irritating to eyes

#### Skin

Rabbit- mild skin irritation

### Signs and Symptoms of Exposure (ACETONITRILE)

The onset of symptoms is generally delayed pending conversion to cyanide. Symptoms include nausea, vomiting, diarrhea, headache, dizziness, rash, cyanosis, excitement, depression, drowsiness, impaired judgment, lack of coordination, stupor, and death.

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen



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or potential carcinogen by ACGIH.

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NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Other Hazards

| Organ      | Description   |
|------------|---|
| Eyes       | Irritating to the eyes.   |
| Ingestion  | Harmful if ingested.  |
| Inhalation | May be harmful if inhaled. Irritating to the respiratory tract. |
| Skin       | Harmful if absorbed through skin. Irritating to skin.           |
| Chronic    | test5   |

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## 12. ECOLOGICAL INFORMATION

- Acetonitrile 75-05-8

**Ecotoxicity (aquatic and terrestrial, where available):**

**Acute Fish Toxicity (ACETONITRILE)**

LC50 / 96 hours Fathead Minnow - 1,640 mg/L

**Persistence and degradability:**

No data available

**Bioaccumulative potential:**

No data available

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## 13. DISPOSAL CONSIDERATIONS

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.





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**14. TRANSPORT INFORMATION**

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Description of waste residues and information on their safe handling and methods of disposal:

|                                      |              |
|--------------------------------------|--------------|
| <b>UN number</b>                     | UN1648       |
| <b>UN proper shipping name</b>       | Acetonitrile |
| <b>Transport hazard class(es)</b>    | 3            |
| <b>Packing group (if applicable)</b> | II           |

**Reportable Quantity**

5,000 lbs.

**IMDG**

UN-Number: UN1648 Class: 3 Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: ACETONITRILE

Marine pollutant: No

**IATA**

UN-Number: UN1648 Class: 3 Packing Group: II

Proper shipping name: Acetonitrile

**15. REGULATORY INFORMATION**

Safety, health and environmental regulations specific for the product in question:

**OSHA Hazards**

Flammable liquid, Target Organ Effect, Irritant, Harmful by ingestion, Harmful by skin absorption

All ingredients are on the following inventories or are exempted from listing

| <b>Country</b>           | <b>Notification</b> |
|--------------------------|---------------------|
| Australia                | AICS                |
| Canada                   | DSL                 |
| China                    | IECS                |
| European Union           | EINECS              |
| Japan                    | ENCS/ISHL           |
| Korea                    | ECL                 |
| New Zealand              | NZIoC               |
| Philippines              | PICCS               |
| United States of America | TSCA                |

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA title III, Section 313:

ACETONITRILE CAS-No. 75-05-8 Revision Date 2007-07-01



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by Greenfield Global

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**SARA 311/312 Hazards**

**+1.703.527.3887 (INT)**

Acute Health Hazard

Chronic Health Hazard

Fire Hazard

**CERCLA**

Acetonitrile CAS-No. 75-05-8

**Massachusetts Right To Know Components**

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**Pennsylvania Right To Know Components**

Acetonitrile CAS-No. 75-05-8 Revision Date 2007-07-01

**New Jersey Right To Know Components**

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**California Prop 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION:**

**INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

**Disclaimer**

Greenfield Global USA, Inc. believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, Greenfield Global USA, Inc. does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable. Information is correct to the best of our knowledge at the date of the SDS publication.