

**Acetonitrile****60004-5L**

Version 1.6

Issuing date 12/14/2016

Revision Date 05/06/2024

Print Date 05/08/2024

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****Product information**

Trade name : Acetonitrile

Number : 000000020248

Recommended use of the chemical and restrictions on use : Laboratory chemicals

Manufacturer or supplier's details : Honeywell Specialty Chemicals Seelze GmbH  
Wunstorfer Straße 40  
Seelze, 30926  
Germany

For further information, please contact: : 1-800-368-0050  
+1-231-726-3171  
(Monday-Friday, 9:00am-5:00pm)

**In case of emergency call : Medical: 1-800-498-5701 or +1-303-389-1414**  
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**  
**In Japan: 0800-300-5842**

**2. HAZARDS IDENTIFICATION****Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 2  
Acute toxicity, Category 4, Oral  
Acute toxicity, Category 4, Inhalation  
Eye irritation, Category 2A  
Specific target organ toxicity - single exposure, Category 1,  
Central nervous system

**GHS Label elements, including precautionary statements**

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Symbol(s)

:



Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapour.  
Harmful if swallowed.  
Causes serious eye irritation.  
Harmful if inhaled.  
Causes damage to organs.

Precautionary statements

: **Prevention:**  
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.**Response:**IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF exposed: Call a POISON CENTER or doctor/ physician.  
If eye irritation persists: Get medical advice/ attention.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.**Storage:**

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Store in a well-ventilated place. Keep cool.  
Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula : C<sub>2</sub>H<sub>3</sub>N

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Acetonitrile	75-05-8	100.00 %
Acetonitrile		

**4. FIRST AID MEASURES**

- Inhalation : Remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Use oxygen as required, provided a qualified operator is present.  
Call a physician.
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes.  
Take off contaminated clothing and shoes immediately.  
Wash contaminated clothing before re-use.  
Call a physician.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Call a physician.
- Ingestion : Call a physician.  
Do not induce vomiting without medical advice.  
Immediate medical attention is required.  
Never give anything by mouth to an unconscious person.

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Notes to physician : Treat as cyanide poisoning.  
Symptoms of poisoning may not appear for several hours.  
Keep under medical supervision for at least 48 hours.

**5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Alcohol-resistant foam  
Cool closed containers exposed to fire with water spray.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : Flammable.  
Vapours may form explosive mixtures with air.  
Vapours are heavier than air and may spread along floors.  
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.  
In case of fire hazardous decomposition products may be produced such as:  
Hydrogen cyanide (hydrocyanic acid)  
Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Prevent product from entering drains.

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Discharge into the environment must be avoided.  
Do not flush into surface water or sanitary sewer system.  
Do not allow run-off from fire fighting to enter drains or water courses.

Methods and materials for  
containment and cleaning up

: Ventilate the area.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

**7. HANDLING AND STORAGE****Handling**

Precautions for safe handling

: Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.

Advice on protection against  
fire and explosion

: Keep away from fire, sparks and heated surfaces.  
Take precautionary measures against static discharges.  
Ensure all equipment is electrically grounded before beginning transfer operations.  
Use explosion-proof equipment.  
Keep product and empty container away from heat and sources of ignition.  
No sparking tools should be used.  
No smoking.

**Storage**

Conditions for safe storage,  
including any  
incompatibilities

: Store in area designed for storage of flammable liquids.  
Protect from physical damage.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and

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kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store away from incompatible substances.  
Container hazardous when empty.  
Do not pressurize, cut, weld, braze, solder, drill, grind or  
expose containers to heat or sources of ignition.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Appropriate engineering controls**

Use with local exhaust ventilation.

Prevent vapour buildup by providing adequate ventilation during and after use.

**Individual protection measures, such as personal protective equipment (PPE)**

- |                          |   |
|--------------------------|---|
| Respiratory protection   | : In case of insufficient ventilation, wear suitable respiratory equipment.   |
| Hand protection          | : Solvent-resistant gloves<br>Gloves must be inspected prior to use.<br>Replace when worn.  |
| Eye protection           | : Do not wear contact lenses.<br>Wear as appropriate:<br>Safety glasses with side-shields<br>If splashes are likely to occur, wear:<br>Goggles or face shield, giving complete protection to eyes |
| Skin and body protection | : Wear as appropriate:<br>Solvent-resistant apron<br>Flame retardant antistatic protective clothing.<br>If splashes are likely to occur, wear:<br>Protective suit                                 |
| Hygiene measures         | : When using do not eat, drink or smoke.<br>Wash hands before breaks and immediately after handling the product.  |

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Protective measures : Keep working clothes separately.  
Remove and wash contaminated clothing before re-use.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.

: Ensure that eyewash stations and safety showers are close to the workstation location.  
Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : liquid

Colour : colourless

Odour : characteristic

Odour Threshold : Note: No data available

pH : Note: Not applicable

Melting point/range : -46 °C

Boiling point/boiling range : 82 °C at 1,013 hPa

Flash point : 55.0 °F (12.8 °C)  
Method: closed cup

Evaporation rate : Note: No data available

Lower explosion limit : 3 %(V)

Upper explosion limit : 16 %(V)

Vapour pressure : 97 hPa  
at 20 °C(68 °F)

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147 hPa  
at 30 °C(86 °F)

Vapour density : 1.42  
Note: (Air = 1.0)

Density : 0.7857 g/cm<sup>3</sup> at 20 °C

Water solubility : Note: completely miscible

Partition coefficient: n-octanol/water : log Pow: -0.34

Ignition temperature : 524 °C

Viscosity, kinematic : Note: No data available

Molecular weight : 41.05 g/mol

**10. STABILITY AND REACTIVITY**

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Heat, flames and sparks.  
Keep away from direct sunlight.

Incompatible materials to avoid : Acids  
Bases  
Oxidizing agents  
Reducing agents  
Sulfites  
Perchlorates  
May attack many plastics, rubbers and coatings.

Hazardous decomposition : In case of fire hazardous decomposition products may be



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products

produced such as:  
Hydrogen cyanide (hydrocyanic acid)  
Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of  
nitrogen (NO<sub>x</sub>), dense black smoke.

**11. TOXICOLOGICAL INFORMATION**

- Information on likely routes of exposure : Inhalation, Eye contact, Skin contact, Ingestion
- Acute oral toxicity : LD50: 617 mg/kg  
Species: Rat  
Method: OECD Test Guideline 401
- Acute inhalation toxicity : Note: Classification based on Annex VI of regulation 1272/2008/EC.  
: Acute toxicity estimate: 11 mg/l  
Method: Calculation method
- Acute dermal toxicity : Note: Classification based on Annex VI of regulation 1272/2008/EC.  
: Acute toxicity estimate: 2,500 mg/kg  
Method: Calculation method
- Skin corrosion/irritation  
Acetonitrile : Species: Rabbit  
Result: No skin irritation  
Method: OECD Test Guideline 404  
Exposure time: 4 h
- Serious eye damage/eye irritation : Species: Rabbit  
Result: Irritating to eyes.
- Skin sensitisation  
Acetonitrile : Buehler Test  
Species: Guinea pig  
Result: Did not cause sensitisation on laboratory animals.  
Method: OECD

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Respiratory sensitisation Acetonitrile	: Note: No data available
Germ cell mutagenicity	: Note: Not classified due to data which are conclusive although insufficient for classification.
Carcinogenicity	: Note: No data available
Reproductive toxicity	: Note: No data available
Specific target organ toxicity - single exposure	: Assessment :The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.
Specific target organ toxicity - repeated exposure	: Note :No data available
Aspiration toxicity	: No data available
Further information Acetonitrile	: STOT - single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 1. May cause convulsions. May cause neurotoxic effects. Based on Human Evidence.

**12. ECOLOGICAL INFORMATION****Aquatic and ecotoxicity**

Toxicity to fish	: flow-through test LC50: 1,640 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates	: Note: Not classified due to data which are conclusive although insufficient for classification.

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**Toxicity to algae****Acetonitrile**

: static test  
NOEC: 400 mg/l  
Exposure time: 72 h  
Species: *Phaeodactylum tricornutum*

static test  
ErC50: 9,696 mg/l  
Exposure time: 72 h  
Species: *Phaeodactylum tricornutum*

**Toxicity to bacteria**

: static test  
NOEC: 320 mg/l  
Exposure time: 30 min  
Species: activated sludge  
Method: OECD 209

**Persistence and degradability**

Biodegradability : Note: No data available

**Bioaccumulative potential**

Bioaccumulation : Note: No data available

**Mobility in soil**

Mobility : Note: No data available

**13. DISPOSAL CONSIDERATIONS**

WDPCL Waste Disposal and Public Cleansing Law : Specially Controlled Industrial Waste

Disposal methods : In accordance with local and national regulations.

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**14. TRANSPORT INFORMATION****ADR**

UN/ID No. : UN 1648  
Description of the goods : ACETONITRILE

Class : 3  
Packing group : II  
Classification Code : F1  
Hazard Identification Number : 33  
Labels : 3

**IATA**

UN/ID No. : UN 1648  
Description of the goods : Acetonitrile  
Class : 3  
Packing group : II  
Labels : 3  
Packing instruction (cargo aircraft) : 364  
Packing instruction (passenger aircraft) : 353  
Packing instruction (passenger aircraft) : Y341

**IMDG**

UN/ID No. : UN 1648  
Description of the goods : ACETONITRILE  
Class : 3  
Packing group : II  
Labels : 3  
EmS Number 1 : F-E  
EmS Number 2 : S-D

Marine pollutant : no

**15. REGULATORY INFORMATION****National regulatory information**

Chemical Substance : Listed

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Control Law  
DES (JP)Type II Monitoring Chemical Substance.  
Reference: (2)-1508Substances Subject to be  
Notified Names  
JP MSDSD:  
Threshold Concentration: 1 % wt 15Vessel Safety Law  
JP VSL: Flammable liquids (Article 2 and 3 of rules on shipping and  
storage of dangerous goods and its Attached Table 1)Aviation Law  
JP AVL: Flammable liquid (Article 194 of The Enforcement Rules of  
Aviation Law and its Attached Table 1)

Fire Service Law

: Group 4 Flammable liquids  
Type 1 petroleums  
Hazardous rank II  
Water soluble  
Keep away from firePoisonous and Deleterious  
Substances Control Law: Deleterious substance not for pharmaceutical use  
32.3  
Acetonitrile 75-05-8**Other international regulations****Notification status**USA. List of Active  
Substances on the Toxic  
Substances Control Act  
(TSCA) Chemical  
Substances Inventory, as  
amended

: All substances listed as active on the TSCA inventory

Australian Inventory of  
Industrial Chemicals: All components are listed on the inventory, regulatory  
obligations/restrictions apply

Canada. Domestic

: All components of this product are on the Canadian DSL

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Substances List (DSL), as amended

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS) : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC) : On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI) : On the inventory, or in compliance with the inventory

Thailand. Existing Chemicals Inventory from FDA (TECI List) : On the inventory, or in compliance with the inventory

**16. OTHER INFORMATION**

	<b>HMIS III</b>	<b>NFPA</b>
Health hazard	: 2*	2
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

\* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

**Further information**

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Energy and Sustainability Solutions Product Stewardship Group Product Stewardship Group