

**Diluent, Acetonitrile Anhydrous (017)**

Version 1

Revision Date 01/31/2008

Print Date 01/31/2008

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Diluent, Acetonitrile Anhydrous  
MSDS Number : 000000011355  
Product Use Description : Solvent

Company : Honeywell International Inc.  
1953 South Harvey Street  
Muskegon, MI 49442

For more information call : 1-800-368-0050  
(Monday-Friday, 9:00am-5:00pm)

**In case of emergency call : Medical: 1-800-498-5701**  
: **Transportation: 1-800-424-9300 or 703-527-3887**  
: (24 hours/day, 7 days/week)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : sweet ether-like

Hazard Summary : Flammable. In use, may form flammable/explosive vapour-air mixture. May be harmful if inhaled. May be harmful if absorbed through skin. May be harmful if swallowed. Irritating to eyes, respiratory system and skin. Causes headache, drowsiness or other effects to the central nervous system. May cause irritation of the gastrointestinal tract. Can cause fatal cyanide poisoning. May cause convulsions. Symptoms may be delayed. Can be absorbed through skin. Repeated exposure may cause skin dryness or cracking. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

**Potential Health Effects**

Skin : May be harmful if absorbed through skin.  
Irritating to skin.  
Can be absorbed through skin.  
May cause systemic poisoning with symptoms paralleling those of inhalation.  
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

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|                              |  |
|------------------------------|--|
|                              | Can cause fatal cyanide poisoning.<br>Symptoms may be delayed.   |
| Eyes                         | : Irritating to eyes.<br>Causes itching, burning, redness and tearing.   |
| Ingestion                    | : May be harmful if swallowed.<br>Causes headache, drowsiness or other effects to the central nervous system.<br>Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.<br>May cause systemic poisoning with symptoms paralleling those of inhalation.<br>Can cause fatal cyanide poisoning.<br>Symptoms may be delayed. |
| Inhalation                   | : May be harmful if inhaled.<br>Causes respiratory tract irritation.<br>Causes headache, drowsiness or other effects to the central nervous system.<br>Inhalation of high vapour concentrations can cause CNS-depression and narcosis.<br>Can cause fatal cyanide poisoning.<br>Symptoms may be delayed.   |
| Chronic Exposure             | : Can cause fatal cyanide poisoning.<br>Symptoms may be delayed.<br>Causes damage to the kidneys/liver/eyes/brain/respiratory system/central nervous system through prolonged or repeated exposure.<br>Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.                    |
| Aggravated Medical Condition | : People suffering from pre-existing thyroid conditions may experience adverse effects.<br>Neurological disorders<br>Heart disease<br>Respiratory disorders<br>Liver disorders<br>Kidney disorders<br>Skin disorders<br>Eye disorders  |
| Target Organs                | : Respiratory system<br>Cardiovascular system<br>Central nervous system<br>Liver<br>Kidney<br>Skin<br>Eyes<br>Heart  |

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thyroid gland

**Carcinogenicity**

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, IARC, or OSHA.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component    | CAS-No. | Weight % |
|--------------|---------|----------|
| Acetonitrile | 75-05-8 | 100.00   |

**SECTION 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 : Do not induce vomiting without medical advice. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Call a physician.

**Notes to physician**

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

**SECTION 5. FIRE-FIGHTING MEASURES**

- Flash point : 6 °C (43 °F)  
open cup
- Ignition temperature : 524 °C (975 °F)
- Lower explosion limit : 3 %(V)

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|  |   |  |
|--|---|--|
| Upper explosion limit  | : | 16 %(V)  |
| Suitable extinguishing media                                   | : | Carbon dioxide (CO2)<br>Dry chemical<br>Alcohol-resistant foam   |
| Extinguishing media which shall not be used for safety reasons | : | Water may be ineffective.<br>Do not use a solid water stream as it may scatter and spread fire.  |
| Specific hazards during fire fighting                          | : | Flammable.<br>Vapours may form explosive mixtures with air.<br>Vapours are heavier than air and may spread along floors.<br>Vapors may travel to areas away from work site before igniting/flashing back to vapor source.<br>Cool closed containers exposed to fire with water spray.<br>Do not allow run-off from fire fighting to enter drains or water courses.<br>In case of fire hazardous decomposition products may be produced such as:<br>Hydrogen cyanide (hydrocyanic acid)<br>Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke. |
| Special protective equipment for fire-fighters                 | : | In the event of fire and/or explosion do not breathe fumes.<br>Wear self-contained breathing apparatus and protective suit.<br>No unprotected exposed skin areas.  |

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

|                           |   |  |
|---------------------------|---|--|
| Personal precautions      | : | Immediately evacuate personnel to safe areas.<br>Keep people away from and upwind of spill/leak.<br>Wear personal protective equipment. Unprotected persons must be kept away.<br>Ensure adequate ventilation.<br>Remove all sources of ignition.<br>Vapors may travel to areas away from work site before igniting/flashing back to vapor source.<br>Do not swallow.<br>Avoid breathing vapors, mist or gas.<br>Avoid contact with skin, eyes and clothing. |
| Environmental precautions | : | Prevent further leakage or spillage if safe to do so.<br>Discharge into the environment must be avoided.<br>Do not flush into surface water or sanitary sewer system.<br>Prevent product from entering drains.<br>Collect contaminated fire extinguishing water separately. This must not be discharged into drains.   |

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Methods for cleaning up : Ventilate the area.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

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

Handling : Handle with care.  
Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep away from fire, sparks and heated surfaces.  
Take precautionary measures against static discharges.  
Ensure all equipment is electrically grounded before beginning transfer operations.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Do not smoke.  
Do not swallow.  
Avoid breathing vapors, mist or gas.  
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Vapours may form explosive mixtures with air.  
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.  
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.  
Container hazardous when empty.  
Keep product and empty container away from heat and sources of ignition.  
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.  
Take measures to prevent the build up of electrostatic charge.  
To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.  
Electrical equipment should be protected to the appropriate standard.  
No sparking tools should be used.  
Use explosion-proof equipment.  
No smoking.

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**Storage**

Requirements for storage areas and containers : Storage rooms must be properly ventilated.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store in area designed for storage of flammable liquids. Protect from physical damage.  
Store away from incompatible substances.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.  
Do not swallow.  
Avoid breathing vapors, mist or gas.  
Avoid contact with skin, eyes and clothing.

Engineering measures : Use with local exhaust ventilation.  
Prevent vapor buildup by providing adequate ventilation during and after use.

Eye protection : Do not wear contact lenses.  
Wear as appropriate:  
Safety glasses with side-shields  
If splashes are likely to occur, wear:  
Goggles or face shield, giving complete protection to eyes

Hand protection : Solvent-resistant gloves  
Gloves must be inspected prior to use.  
Replace when worn.

Skin and body protection : Wear as appropriate:  
Solvent-resistant apron and boots  
Flame retardant antistatic protective clothing  
If splashes are likely to occur, wear:  
Protective suit

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.  
Use NIOSH approved respiratory protection.

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Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
 When using, do not eat, drink or smoke.  
 Wash hands before breaks and immediately after handling the product.  
 Keep working clothes separately.  
 Remove and wash contaminated clothing before re-use.  
 Do not swallow.  
 Avoid breathing vapors, mist or gas.  
 Avoid contact with skin, eyes and clothing.

**Exposure Guidelines**

|              |         |       |     |        |
|--------------|---------|-------|-----|--------|
| Acetonitrile | 75-05-8 | ACGIH | TWA | 20 ppm |
|--------------|---------|-------|-----|--------|

Skin designation:  
 Can be absorbed through the skin.

|       |     |        |                      |
|-------|-----|--------|----------------------|
| NIOSH | REL | 20 ppm | 34 mg/m <sup>3</sup> |
|-------|-----|--------|----------------------|

|           |         |        |                      |
|-----------|---------|--------|----------------------|
| US CA OEL | TWA PEL | 40 ppm | 70 mg/m <sup>3</sup> |
|-----------|---------|--------|----------------------|

|           |      |        |                       |
|-----------|------|--------|-----------------------|
| US CA OEL | STEL | 60 ppm | 105 mg/m <sup>3</sup> |
|-----------|------|--------|-----------------------|

Skin designation:  
 Can be absorbed through the skin.

|         |     |        |                      |
|---------|-----|--------|----------------------|
| OSHA Z1 | PEL | 40 ppm | 70 mg/m <sup>3</sup> |
|---------|-----|--------|----------------------|

|          |     |        |                      |
|----------|-----|--------|----------------------|
| OSHA Z1A | TWA | 40 ppm | 70 mg/m <sup>3</sup> |
|----------|-----|--------|----------------------|

|          |      |        |                       |
|----------|------|--------|-----------------------|
| OSHA Z1A | STEL | 60 ppm | 105 mg/m <sup>3</sup> |
|----------|------|--------|-----------------------|

|        |        |         |                       |
|--------|--------|---------|-----------------------|
| TX ESL | ST ESL | 200 ppm | 340 ug/m <sup>3</sup> |
|--------|--------|---------|-----------------------|

|        |        |        |                      |
|--------|--------|--------|----------------------|
| TX ESL | AN ESL | 20 ppm | 34 ug/m <sup>3</sup> |
|--------|--------|--------|----------------------|

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form : liquid, clear  
 Color : colourless  
 Odor : sweet ether-like  
 Molecular Weight : 41 g/mol  
 pH : not applicable

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|-----------------------------|--|
| Melting point/range         | : -46 °C (-51 °F)                              |
| Boiling point/boiling range | : 82 °C (180 °F)                               |
| Vapor pressure              | : 97.325 hPa<br>at 20 °C (68 °F)               |
| Relative vapour density     | : 1.42<br>(Air = 1.0)                          |
| Density                     | : 0.7875 g/cm <sup>3</sup><br>at 15 °C (59 °F) |
| Water solubility            | : completely soluble                           |

**SECTION 10. STABILITY AND REACTIVITY**

|                                  |  |
|----------------------------------|--|
| Conditions to avoid              | : Heat, flames and sparks.<br>Keep away from direct sunlight.  |
| Materials to avoid               | : Acids<br>Bases<br>Oxidizing agents<br>Reducing agents<br>Sulfites<br>Perchlorates<br>May attack many plastics, rubbers and coatings.   |
| Hazardous decomposition products | : In case of fire hazardous decomposition products may be produced such as:<br>Hydrogen cyanide (hydrocyanic acid)<br>Carbon dioxide (CO <sub>2</sub> ), carbon monoxide (CO), oxides of nitrogen (NO <sub>x</sub> ), dense black smoke. |
| Hazardous reactions              | : Hazardous polymerisation does not occur.<br>Stable under normal conditions.  |

**SECTION 11. TOXICOLOGICAL INFORMATION**

|                           |  |
|---------------------------|--|
| Acute oral toxicity       | : LD50 rat<br>Dose: 2,460 mg/kg                    |
| Acute dermal toxicity     | : LD50 rabbit<br>Dose: > 2,000 mg/kg               |
| Acute inhalation toxicity | : LC50 rat<br>Dose: 7551 ppm<br>Exposure time: 8 h |

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**SECTION 12. ECOLOGICAL INFORMATION**

Toxicity to fish : flow-through test LC50  
Species: Pimephales promelas (fathead minnow)  
Dose: 1,640 mg/l  
Exposure time: 96 h

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Information: Observe all Federal, State, and Local Environmental regulations.

**SECTION 14. TRANSPORT INFORMATION**

**DOT** UN-Number : 1648  
Proper shipping name : Acetonitrile  
Class : 3  
Packing group : II  
Hazard Label : 3

**IATA** UN Number : 1648  
Description of the goods : Acetonitrile  
Class : 3  
Packaging group : II  
Hazard Label : 3  
Packing instruction (cargo aircraft) : 307  
Packing instruction (passenger aircraft) : 305  
Packing instruction (passenger aircraft) : Y305

**IMDG** Substance No. : UN 1648  
Description of the goods : Acetonitrile  
Class : 3  
Packaging group : II  
Hazard Label : 3  
EmS Number : F-E  
Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION**

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**Inventories**

- EU. EINECS : On or in compliance with the inventory
- US. Toxic Substances Control Act : On TSCA Inventory
- Australia. Industrial Chemical (Notification and Assessment) Act : On or in compliance with the inventory
- Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) : All components of this product are on the Canadian DSL list.
- Japan. Kashin-Hou Law List : On or in compliance with the inventory
- Korea. Toxic Chemical Control Law (TCCL) List : On or in compliance with the inventory
- Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : On or in compliance with the inventory
- China. Inventory of Existing Chemical Substances : On or in compliance with the inventory
- Switzerland. Consolidated Inventory : On or in compliance with the inventory
- New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On or in compliance with the inventory
- TSCA 12B : US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

Acetonitrile 75-05-8

**National regulatory information**

**SARA 313 Components** : Acetonitrile 75-05-8

**SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

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**CERCLA Reportable Quantity** : 5000 lbs**California Prop. 65** : WARNING! This product contains a chemical known in the State of California to cause cancer.  
Acrylonitrile 107-13-1**Massachusetts RTK** : Acetonitrile 75-05-8**New Jersey RTK** : Acetonitrile 75-05-8**Pennsylvania RTK** : Acetonitrile 75-05-8**WHMIS Classification** : B2  
D1A  
D2B**SECTION 16. OTHER INFORMATION**

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

**Further information**

\* - Chronic health hazard