Material Safety Data Sheet

Section 1 - Chemical Name and Identification

Acetone

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>% EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-05-8</td>
<td>Acetone</td>
<td>99.0 200-385-2</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: Clear, colorless. Flash Point: 6 deg C.

Warning: May be harmful if absorbed through the skin. Flammable. May cause respiratory tract irritation. May cause skin and irritation. May cause eye and skin irritation. May cause respiratory tract irritation. May cause liver and kidney damage. May cause pulmonary edema. May cause reproductive and fetal effects.

Target Organs: Kidneys, central nervous system, liver, red blood cells.

Potential Health Effects

Eye: May cause moderate eye irritation. Vapors may cause eye irritation.

Skin: May cause skin irritation. May be harmful if absorbed through the skin. May be metabolized to cyanide which in turn acts by inhibiting cytochrome oxidase. May cause CNS depression, unconsciousness and coma. May cause liver and kidney damage. Inhaling may lead to dizziness, weakness, and drowsiness. Long-term exposure may cause chronic poisoning.

Inhalation: May cause CNS depression, unconsciousness and coma. May cause liver and kidney damage. Inhaling may lead to dizziness, weakness, and drowsiness. Long-term exposure may cause chronic poisoning.

Ingestion: May cause CNS depression, unconsciousness and coma. May cause liver and kidney damage. Inhaling may lead to dizziness, weakness, and drowsiness. Long-term exposure may cause chronic poisoning.

Inhalation: May cause CNS depression, unconsciousness and coma. May cause liver and kidney damage. Inhaling may lead to dizziness, weakness, and drowsiness. Long-term exposure may cause chronic poisoning.

Section 4 - First Aid Measures

**Eyes:**
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

**Skin:**
Get medical aid immediately. Wash skin with plenty of soap and water for at least 15 minutes while removing contamination clothing and shoes.

**Ingestion:**
If victim is conscious and alert, give 2-4 cups of milk or water. Do not give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:**
Get medical help immediately. Remove from exposure to fresh air immediately. Breathing is difficult, give oxygen.

Notes to Physician:
Exposure should be treated as a cyanide poisoning. Effects may be delayed.

Antidote:
Always have a cyanide antidote kit on hand when working with cyanide compounds. Get medical advice as soon as possible.

Section 5 - Fire Fighting Measures

**General Information:**
Containers can build up pressure if exposed to heat or fire. As in any fire, use a self-contained breathing apparatus in pressure-demand. MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form explosive mixtures with air.

**Extinguishing Media:**
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool exposed containers. Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with quantities of water until well after fire is out.

**Autoignition Temperature:**
524 deg C (975.20 deg F)

**Flash Point:**
6 deg C (46.86 deg F)

**NFPA Rating:**
health-2; flammability-3; reactivity-0

**Explosion Limits:**
Lower: 4.4 vol %
Upper: 16.00 vol %

Section 6 - Accidental Release Measures

**General Information:**
Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**
Avoid runoff into storm sewers and ditches which lead to waters. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. A vapor suppressing foam may be needed to quench vapor cloud. Avoid contact with heat, sparks, and flame. Do not enter areas where a fire or explosion is likely to occur.

**Handling:**
Avoid contact with heat, sparks, and flame. Keep away from sources of ignition. Do not store in the vicinity of incompatible substances.

**Engineering Controls:**
Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Acetonitrile

**OSHA Vacated PELs:**
- Acetonitrile: 40 ppm TWA; 70 mg/m³ TWA

**Personal Protective Equipment:**
- Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
- Wear appropriate protective gloves to prevent skin exposure.
- Wear appropriate protective clothing to prevent skin exposure.
- Follow the OSHA respiratory regulations found in 29 CFR 1910.134 or European Standard EN 149 approved respirator when necessary.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

- Physical State: Liquid
- Appearance: Clear, colorless
- Odor: Sweetish odor, aromatic odor
- pH: Not available
- Vapor Pressure: 73 mm Hg
- Vapor Density: 1.42 (Air = 1)
- Evaporation Rate: 5.70 (Butyl acetate = 1)
- Viscosity: 0.36 cp @ 20 deg C
- Boiling Point: 82 deg C @ 760 mm Hg
- Freezing/Melting Point: 50 deg C
- Decomposition Temperature: Not available
- Solubility: Soluble
- Specific Gravity/Density: 0.810/g/cm³
- Molecular Formula: C3H3N
- Molecular Weight: 41.04

**SECTION 10 - STABILITY AND REACTIVITY**

- Chemical Stability: Stable under normal temperatures and pressures.
- Conditions to Avoid: Incompatible materials, ignition sources.
- Incompatible Materials: Other Materials: Chlorine, fluorine, 2-chloro-2-propyl nitrate, dinitrogen tetraoxide, iodine, diphosphorus, 2,2-dichloro, thiocyanate, nitrate, nitric acid, perchloric acid, sulfuric acid, sulfur trioxide, hydrogen cyanide, nitrogen oxides, copper monoxide, carbon dioxide.
- Hazardous Decomposition Products: None reported.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

- RTECS: CAS #: 75-05-8: AL7700000
- LC50/1/L50:
  - Acetonitrile: 40 ppm TWA; 70 mg/m³ TWA

**ECOTOXICITY**
- aquatic minnow (hard water) TLM = 1150 ppm / 24H.
- Environmental Fate:
  - No information reported.
  - Physical/Chemical:
  - No information available.
  - Other:
  - None.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

- Dispose of in a manner consistent with federal, state, and local regulations.
- RCRA D-Series Maximum Concentration of Contaminants:
  - None listed.
- RCRA D-Series Chronic Toxicity Reference Levels:
  - None listed.
- RCRA F-Series:
  - None listed.
- RCRA P-Series:
  - None listed.
- RCRA U-Series:
  - CAS #: 75-05-8: waste number U003
  - Ignitable waste / Toxic waste.

**SECTION 14 - TRANSPORT INFORMATION**

- US DOT
  - Shipping Name: ACETONITRILE
  - Hazard Class: 3
  - UN Number: UN1648
  - Packing Group: II
- IMO
  - No information available.
- IATA
  - No information available.
- RID/ADR
  - No information available.
  - Canadian TDG
    - Shipping Name: ACETONITRILE
      - Hazard Class: 3
      - UN Number: UN1648
- Other Information: FLASHPOINT 6 C

**SECTION 15 - REGULATORY INFORMATION**

- US FEDERAL
  - TSCA: CAS #: 75-05-8 is listed on the TSCA inventory.
  - Health & Safety Reporting List
    - CAS #: 75-05-8: Effective Date: October 4, 1982; Sunset Date: October 4, 1982
  - Chemical Test Rules
    - None of the chemicals in this product are under a Chemical Test Rule.
  - Section 12b
    - None of the chemicals are listed under TSCA Section 12b.
  - TSCA Significant New Use Rule
    - None of the chemicals in this material have a SNUR under TSCA.
  - SARA
    - Section 302 (RO)
      - CAS #: 75-05-8: final RW = 5000 pounds (2270 kg)
    - Section 80 (TPQ)
      - None of the chemicals in this product have a TPQ.
  - SARA Codes
    - CAS #: 75-05-8: acute, chronic, flammable.
    - Section 311
      - This material contains Acetonitrile (CAS #: 75-05-8, 99.0%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.
  - Clean Air Act: CAS #: 75-05-8 is listed as a hazardous air pollutant (HAP).
    - This material does not contain any Class 1 Ozone depleters.
    - This material does not contain any Class 2 Ozone depleters.
  - Clean Water Act
    - None of the chemicals in this product are listed as Hazardous Substances under the CWA.
    - None of the chemicals in this product are listed as Priority Pollutants under the CWA.
    - None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
  - OSHA:
    - None of the chemicals in this product are considered highly hazardous by OSHA.
- STATE
  - Acetonitrile can be found on the following state right to know lists:
    - California
    - New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts
    - California No Significant Risk Level
    - None of the chemicals in this product are listed.
  - European/International Regulations
European Labelling in Accordance with EC Directives

Hazard Symbols: T F
Risk Phrases:
R 11 Highly flammable.
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 27 Take off immediately all contaminated clothing.
S 45 In case of accident if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)
CAS# 75-05-8: 2
Canada
CAS# 75-05-8 is listed on Canada's DSL/DSL List.
This product has a WHMIS classification of B2, D1B, D2B.
CAS# 75-05-8 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits
CAS# 75-05-8: OEL - ARAB Republic of Egypt: TWA 40 ppm (70 mg/m3); Skin
- AUSTRALIA: TWA 40 ppm (70 mg/m3); STEL 60 ppm; Skin.
- BELGIUM: TWA 40 ppm (70 mg/m3); STEL 60 ppm (10 mg/m3); Skin.
- DENMARK: TWA 40 ppm (70 mg/m3); STEL 60 ppm (10 mg/m3); Skin.
- FINLAND: TWA 40 ppm (70 mg/m3); STEL 60 ppm (10 mg/m3); Skin.
- FRANCE: TWA 40 ppm (70 mg/m3); Skin.
- GERMANY: TWA 40 ppm (70 mg/m3); Skin.
- HUNGARY: TWA 40 ppm (70 mg/m3); STEL 100 ppm (3 mg/m3); Skin.
- JAVA: OEL - THE NETHERLANDS: TWA 40 ppm (70 mg/m3).
- PHILIPPINES: TWA 40 ppm (70 mg/m3); Skin.
- RUSSIA: STEL 10 ppm (0.01 mg/m3).
- SWITZERLAND: TWA 40 ppm (70 mg/m3); STEL 60 ppm (3 mg/m3).
- TURKEY: TWA 40 ppm (70 mg/m3); Skin.
- UNITED KINGDOM: TWA 40 ppm (70 mg/m3); STEL 60 ppm (3 mg/m3).
- USA: OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGI TLV.
- OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV.

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 1/04/1995 Revision #71 Date: 4/23/1998

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