

**Burdick & Jackson*****Material Safety Data Sheet*****27% Acetonitrile & 73% Water Blend**

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**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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**PRODUCT NAME:** 27% Acetonitrile/73% Water

**OTHER/GENERIC NAMES:** Methyl Cyanide; Cyanomethane Solution, 27/73 Acetonitrile/Water

**PRODUCT USE:** Solvent

**MANUFACTURER:** Honeywell, Burdick & Jackson  
1953 South Harvey Street  
Muskegon, MI 49442

**FOR MORE INFORMATION CALL:**  
(Monday-Friday, 8:00am-5:00pm)  
1-800-368-0050

**IN CASE OF EMERGENCY CALL:**  
(24 Hours/Day, 7 Days/Week)  
1-800-707-4555 or Chemtrec 1-800-424-9300

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

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<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Acetonitrile	75-05-8	~27%
Water	7732-18-5	~73%

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

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**3. HAZARDS IDENTIFICATION**

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**EMERGENCY OVERVIEW:**

Flammable liquid and vapor. Clear colorless liquid with sweet, ether-like odor. Causes irritation to the eyes, skin and respiratory tract. Can cause convulsions. Can cause fatal cyanide poisoning.

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**POTENTIAL HEALTH HAZARDS**

**SKIN:** Irritant. Additional effects may include headache, nausea, disorientation, convulsions, suffocation, shock and/or coma. (As for inhalation).

**EYES:** Irritant. Tearing may occur and be persistent.

**INHALATION:** Respiratory depression. Irritant. Additional effects may include headache, nausea, disorientation, extreme weakness, convulsions, suffocation, shock and/or coma and death.

**Burdick & Jackson****MATERIAL SAFETY DATA SHEET****27% Acetonitrile & 73% Water Blend**

**INGESTION:** Respiratory depression. Irritant. Additional effects may include headache, nausea, disorientation, extreme weakness, convulsions, suffocation, shock and/or coma and death. Bluish skin color may accompany some symptoms.

**DELAYED EFFECTS:** Several hours may elapse from time of exposure and onset of symptoms. Chronic exposure may produce liver and kidney damage.

**Ingredients found on one of the OSHA designated carcinogen lists are listed below.**

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
No ingredients listed in this section.			

**4. FIRST AID MEASURES**

**SKIN:** Immediately rinse affected area with plenty of water for 15 minutes. Get medical assistance.

**EYES:** Immediately rinse eyes with plenty of water or normal saline solution for 15 minutes. Get medical assistance.

**INHALATION:** Remove from exposure area to fresh air. If victim is not breathing administer artificial respiration according to your level of training and obtain professional medical assistance immediately.

**INGESTION:** Do not induce vomiting. Get medical assistance immediately.

**ADVICE TO PHYSICIAN:** Acetonitrile is metabolized to cyanide. Patients with significant exposures must be observed for signs of cyanide poisoning and treated accordingly.

**5. FIRE FIGHTING MEASURES****FLAMMABLE PROPERTIES**

<b>FLASH POINT:</b>	57°F (14°C)
<b>FLASH POINT METHOD:</b>	Open Cup
<b>AUTOIGNITION TEMPERATURE:</b>	Acetonitrile = 975°F (524°C)
<b>UPPER FLAME LIMIT (volume % in air):</b>	Acetonitrile = 16%
<b>LOWER FLAME LIMIT (volume % in air):</b>	Acetonitrile = 3%
<b>FLAME PROPAGATION RATE (solids):</b>	Not Applicable
<b>OSHA FLAMMABILITY CLASS:</b>	IB

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**Burdick & Jackson**

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**MATERIAL SAFETY DATA SHEET**

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**27% Acetonitrile & 73% Water Blend****EXTINGUISHING MEDIA:**

Carbon dioxide, dry chemical, water spray or alcohol resistant foam.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Dangerous fire hazard when exposed to heat or flame.

Vapor/air mixtures are explosive. Vapor is heavier than air and danger of flashback exists.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

Do not release runoff from fire fighting efforts to sewers or waterways. Fire may produce toxic fumes. Always wear Self Contained Breathing Apparatus.

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**6. ACCIDENTAL RELEASE MEASURES**

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**IN CASE OF SPILL OR OTHER RELEASE:** (Always wear recommended personal protective equipment.) Eliminate sources of ignition. Isolate the spill area. Stop leak in a safe and practical manner. (If leak cannot be stopped easily and safely, advise trained emergency response personnel of the situation.) Using inert material (such as ground corncobs) dike the spilled solvent to prevent it from running into drains or waterways.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

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**7. HANDLING AND STORAGE**

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**NORMAL HANDLING:** (Always wear recommended personal protective equipment.)

Flammable liquid and vapors. Keep container closed. Do not breathe vapors. Avoid contact with skin, eyes and mucous membranes. Keep away from heat, sparks and flame. Electrically ground all handling equipment. Protective neoprene or rubber gloves and apron are recommended.

**STORAGE RECOMMENDATIONS:**

Store in an area designed for storage of flammable liquids. (OSHA 29 CFR 1910.106)

Protect from temperature extremes and sunlight, and store away from incompatible substances and in accordance with 29 CFR 1910.106. Avoid acids, bases, oxidizers, explosives, nitrogen-fluorine compounds, sulfites, perchlorates, reducing agents and plastics.

Flammable liquid and vapor. Once liquid solvent has been completely dispensed, containers which appear "empty" should be handled in the same manner as when they were "full" of liquid solvent.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**ENGINEERING CONTROLS:**

Provide general or local exhaust ventilation systems to maintain airborne concentrations below exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**Burdick & Jackson****MATERIAL SAFETY DATA SHEET****27% Acetonitrile & 73% Water Blend****PERSONAL PROTECTIVE EQUIPMENT****SKIN PROTECTION:**

Wear chemically protective gloves, boots and aprons to prevent prolonged or repeated skin contact.

**EYE PROTECTION:**

Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**RESPIRATORY PROTECTION:**

Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**ADDITIONAL RECOMMENDATIONS:**

Emergency eyewash stations and washing facilities available in work area..

Separate contaminated work clothes from street clothes. Launder before reuse. Remove material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material.

**EXPOSURE GUIDELINES**

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Acetonitrile	40 PPM TWA 60 ppm STEL	40 ppm TWA 60 ppm STEL	

\* = Limit established by Honeywell International, Inc.

\*\* = Workplace Environmental Exposure Level (AIHA).

\*\*\* = Biological Exposure Index (ACGIH).

**OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:**

Hydrogen Cyanide - ceiling 4.7 ppm (ACGIH).

**Burdick & Jackson****MATERIAL SAFETY DATA SHEET****27% Acetonitrile & 73% Water Blend****9. PHYSICAL AND CHEMICAL PROPERTIES**

*All values listed in this section are for acetonitrile.*

<b>APPEARANCE:</b>	Clear, Colorless
<b>PHYSICAL STATE:</b>	Liquid
<b>MOLECULAR WEIGHT:</b>	41.05
<b>CHEMICAL FORMULA:</b>	C <sub>2</sub> H <sub>3</sub> N
<b>ODOR:</b>	Sweet ether like odor. Odor threshold: 40ppm (NIOSH)
<b>SPECIFIC GRAVITY (water = 1.0):</b>	0.7857
<b>SOLUBILITY IN WATER (weight %):</b>	100%
<b>pH:</b>	Not applicable
<b>BOILING POINT:</b>	82°C (180°F)
<b>MELTING POINT:</b>	-46°C (-51°F) a.k.a. Freezing Point
<b>VAPOR PRESSURE:</b>	73 mm Hg at 20°C
<b>VAPOR DENSITY (air = 1.0):</b>	1.42
<b>EVAPORATION RATE:</b>	5 <b>COMPARED TO:</b> Butyl Acetate = 1
<b>% VOLATILES:</b>	100
<b>FLASH POINT:</b>	6°C (42°F) ACETONITRILE

(Flash point method and additional flammability data are found in Section 5.)

**10. STABILITY AND REACTIVITY**

**STABILITY (CONDITIONS TO AVOID):** Acetonitrile is stable at room temperature in closed containers under normal storage and handling conditions. Avoid heat, ignition sources, incompatible materials.

**INCOMPATIBILITIES:** Acids, bases, oxidizers, explosives, nitrogen-fluorine compounds, sulfites, perchlorates, reducing agents and plastics.

**CONDITIONS TO AVOID:** Heat, sparks and flame. Direct sunlight.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal oxidative decomposition can produce highly toxic fumes of hydrogen cyanide and toxic oxides of carbon and nitrogen.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**Burdick & Jackson****MATERIAL SAFETY DATA SHEET****27% Acetonitrile & 73% Water Blend****11. TOXICOLOGICAL INFORMATION**

*All values listed in this section are for acetonitrile.*

**IMMEDIATE (ACUTE) EFFECTS:**

Oral (Rat) LD<sub>50</sub> = 2,460 mg/Kg

Human Oral Td<sub>10</sub> = 64 mg/Kg

Dermal (Rabbit) LD<sub>50</sub> = 1.25 ml/Kg

Skin (Rabbit), mild irritant, 500 mg (open)

Eye (Rabbit), severe irritant

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

Fetotoxicity, impaired fertility and developmental effects have been reported in animals with oral and inhalation exposure. Blood, liver and kidney effects and pulmonary edema have been observed with chronic exposure in reported exposure animal studies.

**OTHER DATA:** None

**12. ECOLOGICAL INFORMATION**

LC<sub>50</sub> Pimephales promelas (fathead minnow) 1,640 mg/L/96-hr (confidence limit 1,600-1,690 mg/L), flow-through bioassay with measured concentrations, 26.1°C, dissolved oxygen 6.1 mg/L, hardness 43.0 mg/L calcium carbonate, alkalinity 46.0 mg/L calcium carbonate, and pH 7.4

**13. DISPOSAL CONSIDERATIONS****RCRA**

Is the unused product a RCRA hazardous waste if discarded? YES

If yes, the RCRA ID number is: D001, U003

**OTHER DISPOSAL CONSIDERATIONS:**

Dispose of material in accordance with all applicable local, state, and federal regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**14. TRANSPORT INFORMATION**

**US DOT PROPER SHIPPING NAME:** Acetonitrile Solution

**US DOT HAZARD CLASS:** 3, Flammable liquid

**US DOT ID NUMBER:** UN 1648

**US DOT PACKING GROUP:** II

**NA EMERGENCY RESPONSE GUIDE:** 131

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

**Burdick & Jackson****MATERIAL SAFETY DATA SHEET****27% Acetonitrile & 73% Water Blend****15. REGULATORY INFORMATION****TOXIC SUBSTANCES CONTROL ACT (TSCA)****TSCA INVENTORY STATUS:** Acetonitrile is listed on the TSCA inventory.**OTHER TSCA ISSUES:** None**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPO (lb)</u>
Acetonitrile	5000	Not Listed

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

**SECTION 311 HAZARD CLASS:** Immediate. Acute. Fire.**SARA 313 TOXIC CHEMICALS:**

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

<u>INGREDIENT NAME</u>	<u>COMMENT</u>
Acetonitrile	Listed and reportable

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

<u>INGREDIENT NAME</u>	<u>WEIGHT %</u>	<u>COMMENT</u>
Acrylonitrile	Trace	See following CA Proposition 65 Statement:

**California Proposition 65 Label Statement***Acetonitrile contains trace amounts of Acrylonitrile, which is listed on one of the California Proposition 65 lists; therefore, the following statement has been placed on the product label:**"Warning: This product contains a chemical known to the State of California to cause cancer."***ADDITIONAL REGULATORY INFORMATION:**

None

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**MATERIAL SAFETY DATA SHEET**

---

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**WHMIS CLASSIFICATION (CANADA):** Class B, Division 2

**FOREIGN INVENTORY STATUS:**

Listed on Canadian Domestic Substance List. Listed on the EINECS Inventory.

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**16. OTHER INFORMATION**

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**CURRENT ISSUE DATE:** June, 2000

**PREVIOUS ISSUE DATE:** December, 1996, August, 1997

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:** New format.  
New header and footer information.

**OTHER INFORMATION: NFPA Classification**

Health:	2
Flammability:	3
Reactivity:	0