

## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** Acetonitrile, 30% v/v with 0.1% Formic Acid HPLC Grade

**Product Number:** 234

**Other Identifying Product Numbers:** 234-1, 234-32

#### 1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

#### 1.3. Details of the Supplier of the Safety Data Sheet

**Company:** Ricca Chemical Company

**Address:** 448 West Fork Drive

Arlington, TX 76012 USA

**Telephone:** 888-467-4222

#### 1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

### SECTION 2: Hazard(s) Identification

#### 2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
Acute Toxicity - Oral	Category 4	H302	P264, P270, P301+P312, P330, P501
Acute Toxicity - Inhalation	Category 4	H332	P261, P271, P304+P340, P312
Eye Damage / Irritation	Category 2	H319	P264, P280, P305+P351+P338, P337+P313
Flammable Liquids	Category 2	H225	P210, P233, P240, P241, P242, P243, P280, P303+P361+P353, P370+P378, P403+P235, P501

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### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

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### Precautionary Statements:

Precautionary Number	Precautionary Statement
P210	Keep away from heat, sparks and open flame. No smoking.
P233	Keep container tightly closed.
P240	Ground container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing fumes, mist, vapors, or spray.
P264	Wash arms, hands and face 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 protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or physician if you feel unwell.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical attention.
P370+P378	In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

### 2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

## SECTION 3: Composition / Information on Ingredients

### 3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H <sub>2</sub> O	18.01 g/mol	7732-18-5	74.67
Acetonitrile	CH <sub>3</sub> CN	41.05 g/mol	75-05-8	25.20
Formic Acid	HCOOH	46.02 g/mol	64-18-6	0.13

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## SECTION 4: First-Aid Measures

### 4.1. General First Aid Information

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

**Inhalation:** IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Skin Contact:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. May result in irritating rash. May be absorbed through the skin with effects similar to those of inhalation.

**Ingestion:** IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Dilute immediately with water or milk. Induce vomiting. Call a physician.

### 4.2. Most Important Symptoms and Effects, Acute and Delayed

Harmful if swallowed. Causes serious eye irritation. Harmful if inhaled. Flammable liquid. May be fatal if swallowed, inhaled or absorbed through the skin. Forms Cyanide in the body. If ingested, give large quantity of water and induce vomiting. Call a physician immediately. Contact may cause irritation to the skin, eyes and respiratory tract. Wash areas of contact with water. It is excreted in the urine as Cyanide. Acetonitrile metabolizes into Cyanide over 2 to 8 hours, so symptoms or signs of toxicity may be delayed after significant exposure. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: May result in irritating rash. May be absorbed through the skin with effects similar to those of inhalation. CHRONIC EFFECTS / CARCINOGENICITY: Long-term exposures may affect liver, kidneys and central nervous system.

### 4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Do not give mouth-to-mouth resuscitation. Call a physician immediately. Acetonitrile can cause fatal cyanide poisoning. Available Cyanide antidotes are Hydroxocobalamin, Sodium Nitrite and Sodium Thiosulfate administered via intravenous (IV) infusion by qualified healthcare professionals. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

In case of fire: Use dry chemical, foam or carbon dioxide to extinguish. Use dry chemical, alcohol foam, or carbon dioxide for extinguishing the surrounding fire. Use water as fog in flooding quantities.

### 5.2. Specific Hazards Arising from the Substance or Mixture

Highly flammable liquid and vapor. Flammable liquid. Vapors are heavier than air and may travel to a source of ignition and flash back. Combustion by-products include hydrogen cyanide and oxides of nitrogen.

### 5.3. Special Protective Equipment for Firefighters

Wear full protective clothing and positive pressure self-contained breathing apparatus. Butyl rubber barrier recommended.

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## SECTION 6: Accidental Release Measures

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye protection.

### 6.2. Cleanup and Containment Methods and Materials

Eliminate all ignition sources. Approach release from upwind. Stop or control the leak, if this can be done without undue risk. Use water spray to cool and disperse vapors, protect personnel, and dilute spills to form nonflammable mixtures. Control runoff and isolate discharged material for proper disposal.

## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling and Storage Conditions

Store in a well-ventilated place. Keep cool. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Store in secure, flammable storage area away from all sources of ignition. Empty containers may be hazardous since they retain product residues.

## SECTION 8: Exposure Controls / Personal Protection

### 8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Formic Acid (64-18-6)	TLV-TWA	USA	5 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Formic Acid (64-18-6)	TWA	USA	5 ppm TWA; 9 mg/m <sup>3</sup> TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Formic Acid (64-18-6)	TLV-STEL	USA	10 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Acetonitrile (75-05-8)	TLV-TWA	USA	20 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Acetonitrile (75-05-8)	TWA	USA	40 ppm TWA; 70 mg/m <sup>3</sup> TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Acetonitrile (75-05-8)	TWA	USA	5 mg/m <sup>3</sup> TWA (as CN)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

### 8.2. Exposure Controls

**Engineering Controls:** Use only outdoors or in a well-ventilated area. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

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**Respiratory Protection:** Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

**Skin Protection:** Wear protective gloves and eye protection. Chemical resistant gloves.

**Eye Protection:** Wear protective gloves and eye protection. Safety glasses or goggles.

### 8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn. Chemical resistant gloves. Safety glasses or goggles.

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

**Appearance:** Colorless Liquid

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Data not available.

**Melting/Freezing Point:** Approximately -45°C

**Initial Boiling Point/Range:** Approximately 85°C -

**Flash Point:** Data not available.

**Evaporation Rate:** Data not available.

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Vapor Pressure:** Data not available.

**Vapor Density:** Data not available.

**Relative Density:** 1.00

**Solubility:** Miscible

**Partition Coefficient:** Data not available.

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**Viscosity:** Data not available.

**Explosive Properties:** Data not available.

**Oxidizing Properties:** Data not available.



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### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

#### 10.2. Possibility of Hazardous Reactions

Data not available.

#### 10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed. Oxidizing material, Sulfuric Acid, Perchlorates, nitrating agents, oleum, heat, sparks, open flame.

#### 10.4. Hazardous Decomposition Products

Will not occur.

### SECTION 11: Toxicological Information

#### 11.1. Information on Toxicological Effects

##### Acute Toxicity - Oral Exposure:

Harmful if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Dispose of contents in accordance with local, state, federal and international regulations.

##### Acute Toxicity - Dermal Exposure:

Not applicable.

##### Acute Toxicity - Inhalation Exposure:

Harmful if inhaled. Avoid breathing fumes, mist, vapors, or spray. Use only outdoors or in a well-ventilated area. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

##### Acute Toxicity - Other Information:

LD50, Oral, Rat: 2460 mg/kg (Acetonitrile), 1100 mg/kg (Formic); LD50, Dermal, Rabbit: 1250 µg/kg (Acetonitrile), details of toxic effects not reported other than lethal dose value. LC50, Inhalation, Rabbit: 2828 ppm/4H (Acetonitrile), 15 g/m<sup>3</sup> (Formic), behavioral and blood effects noted.

##### Skin Corrosion and Irritation:

Not applicable.

##### Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

##### Respiratory Sensitization:

Not applicable.

##### Skin Sensitization:

Not applicable.



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**Germ Cell Mutagenicity:**

Not applicable.

**Carcinogenicity:**

Not applicable.

**Reproductive Toxicity:**

Not applicable.

**Specific Target Organ Toxicity from Single Exposure:**

Not applicable.

**Specific Target Organ Toxicity from Repeated Exposure:**

Not applicable.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

### SECTION 12: Ecological Information

**12.1. Ecotoxicity**

Not applicable.

**12.2. Persistence and Degradability**

Data not available.

**12.3. Bioaccumulative Potential**

Data not available.

**12.4. Mobility in Soil**

Data not available.

**12.5. Other Adverse Ecological Effects**

Data not available.

### SECTION 13: Disposal Considerations

**13.1. Waste Treatment Methods**

Data not available.



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### SECTION 14: Transportation Information

#### 14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

**Sizes:** 1 L, 4 L

**UN Number:** UN1648

**Proper Shipping Name:** Acetonitrile Solution

**Hazard Class:** 3

**Packing Group:** II

**Hazard Label(s):**



#### 14.2. Transportation by Air - International Air Transport Association (IATA)

**Sizes:** 1 L, 4 L

**UN Number:** UN1648

**Proper Shipping Name:** Acetonitrile Solution

**Hazard Class:** 3

**Packing Group:** II

**Hazard Label(s):**



#### 14.3 Transportation of Dangerous Goods (TDG, Canada)

**Sizes:** 1 L, 4 L

**UN Number:** UN1648

**Proper Shipping Name:** ACETONITRILE SOLUTION

**Hazard Class:** 3

**Packing Group:** II

**Hazard Label(s):**



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## SECTION 15: Regulatory Information

### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

### 15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

### 15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Formic Acid (CAS # 64-18-6): 5000 lb final RQ; 2270 kg final RQ

Acetonitrile (CAS # 75-05-8): 5000 lb final RQ; 2270 kg final RQ

### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Formic Acid (CAS # 64-18-6): 1.0 % de minimis concentration

Acetonitrile (CAS # 75-05-8): 1.0 % de minimis concentration

Acetonitrile (CAS # 75-05-8): 1.0 % de minimis concentration (X+CN<sup>-</sup> where X=H<sup>+</sup> or any other group where a formal dissociation can be made, for example, KCN or Ca(CN)<sub>2</sub>, listed under Chemical Category N106)

### 15.5. Massachusetts Right-to-Know Substance List

Formic Acid (CAS # 64-18-6): Present

Acetonitrile (CAS # 75-05-8): Present

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Formic Acid (CAS # 64-18-6): Environmental hazard

Formic Acid (CAS # 64-18-6): Present

Acetonitrile (CAS # 75-05-8): Environmental hazard

Acetonitrile (CAS # 75-05-8): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

### 15.7. New Jersey Worker and Community Right-to-Know Components

Formic Acid (CAS # 64-18-6): corrosive

Formic Acid (CAS # 64-18-6): sn 0948

Formic Acid (CAS # 64-18-6): SN 0948 500 lb TPQ

Acetonitrile (CAS # 75-05-8): flammable - third degree

Acetonitrile (CAS # 75-05-8): sn 0008

Acetonitrile (CAS # 75-05-8): SN 0008 500 lb TPQ

Acetonitrile (CAS # 75-05-8): sn 2308

Acetonitrile (CAS # 75-05-8): SN 2308 500 lb TPQ (Category Code N106. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

### 15.8. California Proposition 65

Not listed.

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### 15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Formic Acid (CAS # 64-18-6): Present (DSL)  
Formic Acid (CAS # 64-18-6): Present (NDSL)  
Acetonitrile (CAS # 75-05-8): Present (DSL)  
Water (CAS # 7732-18-5): Present (DSL)

### 15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Formic Acid (CAS # 64-18-6): Present (ACTIVE)  
Acetonitrile (CAS # 75-05-8): Present (ACTIVE)  
Water (CAS # 7732-18-5): Present (ACTIVE)

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Formic Acid (CAS # 64-18-6): 200-579-1  
Formic Acid (CAS # 64-18-6): 273-079-4  
Acetonitrile (CAS # 75-05-8): 200-835-2  
Water (CAS # 7732-18-5): 231-791-2

## SECTION 16: Other Information

### 16.1. Full Text of Hazard Statements and Precautionary Statements

Highly flammable liquid and vapor. Harmful if swallowed. Causes serious eye irritation. Harmful if inhaled.

Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed. Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing fumes, mist, vapors, or spray. Wash arms, hands and face 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 and eye protection.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse mouth. If eye irritation persists: Get medical attention. In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

Store in a well-ventilated place. Keep cool.

Dispose of contents in accordance with local, state, federal and international regulations.

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## 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

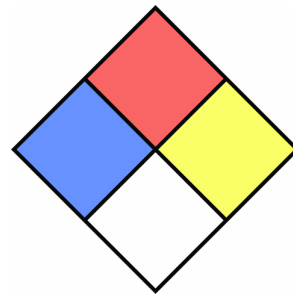
## 16.3. National Fire Protection Association (NFPA) Rating

**Health:**

**Flammability:**

**Reactivity:**

**Special Hazard:**



## 16.4. Document Revision

**Last Revision Date:** 2023-09-11

## DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.