



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Phosphate buffer/Acetonitrile, 50%/50%

Product Number R5181410

Other Identifying Product Numbers R5181410-1C

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 412 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

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Acute Toxicity - Oral	Category 4	H302	P264,P270,P301+P312,P330,P501
Acute Toxicity - Inhalation (Vapors)	Category 3	H331	P261,P271,P304+P340,P311, P321,P403+P233,P405,P501
Flammable Liquids	Category 2	H225	P210,P233,P240,P241,P242,P243, P280,P303+P361+P353,P370+P378, P403+P235,P501
Serious Eye Damage / Eye Irritation	Category 2	H319	P264,P280,P305+P351+P338, P337+P313

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H319	Causes serious eye irritation
H331	Toxic if inhaled

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

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Prevention

Precautionary Number	Precautionary Statement
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharge.
P261	Avoid breathing vapors.
P264	Wash hands, arms, 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.

Response

Precautionary Number	Precautionary Statement
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P311	Call a poison center or doctor.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice or attention.
P370+P378	In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish.

Storage

Precautionary Number	Precautionary Statement
P403+P233+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

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2.4. Ingredients of Unknown Acute Toxicity

This product does not contain any ingredients of unknown acute toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
water	Water	7732-18-5	53.44
acetonitrile	Acetonitrile; Methyl cyanide	75-05-8	46.52
sodium dihydrogenphosphate monohydrate	Sodium Phosphate, Monobasic Monohydrate	10049-21-5	< 0.1

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

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.

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

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 or shower. May result in irritating rash. May be absorbed through the skin with effects similar to those of inhalation.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Toxic 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. Immediate 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.

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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 in a Fire

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 and Precautions for Firefighters

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

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Ground and bond container and receiving equipment. Use explosion-proof equipment. Use non-sparking tools. Take action to prevent 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 container tightly closed. Keep cool. Store locked up. 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. Exposure Limits

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U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

Chemical Name	CAS Number	Exposure Limit
Acetonitrile	75-05-8	40 ppm TWA; 70 mg/m ³ TWA

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

No limits found.

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Acetonitrile	75-05-8	20 ppm TWA

8.2. 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.

8.3. Individual Protective Measures and Personal Protective Equipment

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: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	Liquid
Color:	Clear, colorless
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Approximately 0°C
Boiling Point/Range:	Approximately 100°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	8 °C (calculated)
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	Data not available.
Kinematic Viscosity:	Data not available.
Solubility:	Miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	0.89
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	Data not available.

NOTE: Flash point was calculated according to the method of Gmehling and Rasmussen (Ind. Eng. Chem. Fundament, 21, 186, (1982)), as allowed by GHS Rev 7, section 2.6.4.2.3.

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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Oxidizing material, Sulfuric Acid, Perchlorates, nitrating agents, oleum, heat, sparks, open flame.

10.4. Hazardous Decomposition Products

Will not occur.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 1326 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	Oral LD50 Rat 8290 mg/kg (Source: NLM_CIP) As Sodium dihydrogen phosphate (1:2:1) [7558-80-7]
Acetonitrile	75-05-8	Oral LD50 Mouse 617 mg/kg (Source: ECHA_API)

Acute Toxicity - Dermal Exposure:

Dermal acute toxicity estimate (ATE): 2364 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	Dermal LD50 Rabbit >7940 mg/kg (Source: IUCLID) As Sodium dihydrogen phosphate (1:2:1) [7558-80-7]
Acetonitrile	75-05-8	Dermal LD50 Acute Toxicity Estimate 1100 mg/kg (Source: Canada_WHMIS)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 6.4488 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	Inhalation LC50 Rat >0.83 mg/L 4 h (no deaths occurred, dust, Source: ECHA_API) As Sodium dihydrogen phosphate (1:2:1) [7558-80-7]
Acetonitrile	75-05-8	Inhalation LC50 Acute Toxicity Estimate 3 mg/L 4 h (Canada_WHMIS)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
No data found.		

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Acetonitrile	75-05-8	Male Rat - Equivocal Evidence; Female Rat - No Evidence; Male Mice - No Evidence; Female Mice - No Evidence (TR-447)

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U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
No data found.		

11.3 Additional Toxicology Information:

Harmful if swallowed. Causes serious eye irritation. Toxic if inhaled.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Acetonitrile	75-05-8	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 1600 - 1690 mg/L [flow-through] (EPA); LC50 96 h Pimephales promelas 1000 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 1850 mg/L [static] (EPA); LC50 96 h Poecilia reticulata 1650 mg/L [static] (EPA)

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

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

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

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

15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

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

Chemical Name	CAS Number	RQ
No data found.		

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

Chemical Name	CAS Number	Regulatory Information
Acetonitrile	75-05-8	5000 lb final RQ; 2270 kg final RQ

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Acetonitrile	75-05-8	Emission Reporting	1.0 % de minimis concentration

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Acetonitrile	75-05-8	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Acetonitrile	75-05-8	Environmental hazard

15.07. New Jersey Worker and Community Right-to-Know Components

Chemical Name	CAS Number	Regulatory Information
Acetonitrile	75-05-8	sn 0008

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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
No data found.		

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

Chemical Name	CAS Number	List	Status
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	DSL	"Present" As Sodium acid phosphate [7558-80-7]; "Present" As Sodium phosphate [7632-05-5]
Acetonitrile	75-05-8	DSL	Present
Water	7732-18-5	DSL	Present

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

Chemical Name	CAS Number	Status
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	"Present (ACTIVE)" As Phosphoric acid, sodium salt (1:1) [7558-80-7]; "Present (ACTIVE)" As Phosphoric acid, sodium salt (1:?) [7632-05-5]
Acetonitrile	75-05-8	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)

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

Chemical Name	CAS Number	List	Number
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	EINECS	"231-449-2" As Sodium dihydrogenorthophosphate [7558-80-7]; "231-558-5" As Phosphoric acid, sodium salt [7632-05-5]
Acetonitrile	75-05-8	EINECS	200-835-2
Water	7732-18-5	EINECS	231-791-2

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	Present [22419]
Acetonitrile	75-05-8	Present [39036]
Water	7732-18-5	Present [32224]

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15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	Annex 1	"Present [KE-31577]" As Sodium acid phosphate [7558-80-7]; "Present [KE-28642]" As Sodium phosphate [7632-05-5]
Acetonitrile	75-05-8	Annex 1	Present [KE-00067]
Water	7732-18-5	Annex 1	Present [KE-35400]

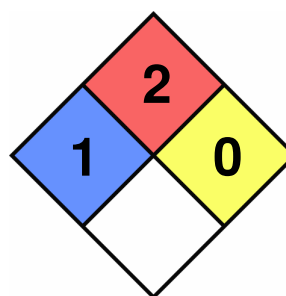
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Sodium Phosphate, Monobasic Monohydrate	10049-21-5	(1)-497
Acetonitrile	75-05-8	(2)-1508
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 1
Flammability: 2
Reactivity 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
 2026-05-25

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.