

SAFETY DATA SHEET

SDS Code: PTI002
Date Prepared: 10/17/14

1. Identification

1.1 Product Identifier

Product Name: Acetonitrile
CAS Number: 75-05-8

1.2 Relevant Identified Uses of the substance and Uses Advised Against

Product Use: Industrial Applications
Uses Advised Against: Not for use in final consumer products

1.3 Details of the supplier/manufacturer

Manufacturer/Supplier: Purification Technologies, Inc. (PTI)
67 Winthrop Rd., Chester, CT 06412**General Assistance:** 860-526-7801 (Mon-Fri, 8:30 am to 5:00 pm)

1.4 Emergency Telephone Number:

24-hr Emergency Number CHEMTREC: In USA: 800-424-9300
Outside USA: 703-527-3887

2. Hazards Identification

GHS Classification: Flammable liquids (Category 2)
Acute Toxicity, Oral (Category 4)
Acute Toxicity, Inhalation (Category 4)
Acute Toxicity, Dermal (Category 4)
Eye Irritation (Category 2A)**Category Key:**
Category 1: Most dangerous
Category 4: Least severe

Label elements:

Pictogram

**Signal Word** Danger**Hazard Statements**H225 Highly flammable liquid and vapor
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H319 Causes serious eye irritation**Precautionary Statements**P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge.**Document ID Number: SDS.01, Acetonitrile Safety Data Sheet****Revision Level: 0**

SAFETY DATA SHEET

SDS Code: PTI002

Date Prepared: 10/17/14

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin 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/ protective clothing/ eye protection/ face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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 doctor/ physician if you feel unwell.
P322	Specific measures (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

3. Composition/Information on Ingredients

Ingredient	CAS Number	% Weight
Acetonitrile	75-05-8	99.9%

4. First Aid Measures

Eye contact:	Immediately flush eyes with large amounts of tepid running water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention immediately.
Skin:	Immediately wash area of contact thoroughly with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Contaminated leather, particularly footwear, must be discarded. Note that contaminated clothing may be a fire hazard. If symptomatic, treat as described under inhalation. Get medical attention immediately.
Inhalation:	If inhaled, remove person from source of exposure to fresh air. If breathing is difficult, administer oxygen if available. Do not use mouth to mouth resuscitation. If not breathing, give artificial respiration. Get medical attention immediately.
Ingestion:	Get immediate medical attention. Do not wait for symptoms to develop. Do NOT induce vomiting unless directed to by medical personnel. If vomiting occurs the head should be kept low so that stomach vomit does not enter the lungs.
Notes to Physician:	The onset of symptoms is typically delayed for up to several hours after oral inhalation, or dermal contact. The prolonged duration of symptoms, regardless of route of exposure, may require repeat doses of cyanide antidotes. Treat as in cyanide poisoning. Toxicity may be delayed due to metabolic release of cyanide. Support respiratory and cardiovascular function.

SAFETY DATA SHEET

SDS Code: PTI002

Date Prepared: 10/17/14

5. Firefighting Measures

Flammability:	Flammable
Flashpoint:	5.60°C (42 °F) closed cup
Auto-ignition temperature:	524.00°C (975.00°F)
Explosion limits:	Lower: 4.4% Upper: 16.00%
Products of Combustion:	Irritating or toxic substances may be emitted upon thermal decomposition, which may include oxides of carbon and nitrogen (CO – carbon monoxide, CO ₂ – carbon dioxide, NO – nitrous oxide, NO ₂ – nitrogen dioxide).
Unusual Fire and Explosion Hazards:	Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, spread to distant ignition sources and flash back. Runoff to sewer may cause fire or explosion hazard. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Container explosion may occur under fire conditions or when heated. Water is 100% miscible with acetonitrile and should be used to drop concentration below mixture concentration ratio which can ignite.
Fire-fighting media and procedures:	<p>In case of fire, use water fog, foam, dry chemicals or carbon dioxide. DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. Use water jet to cool fire-exposed structures and containing vessels in order to prevent pressure build-up, autoignition or explosion, and to protect personnel.</p> <p>If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to dilute spills and to flush them away from sources of ignition. Do not flush down public sewers or other drainage systems.</p>
Protective Clothing (Fire):	Exposed firefighters must wear NIOSH approved positive pressure self-contained breathing apparatus (SCBA) with full-face mask and full protective clothing.

6. Accidental Releases Measures

Personal precautions:	Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Stop spill if you can do so without risk. Use suitable protective equipment (see section: "Exposure controls/personal protection"). Follow all fire fighting procedures (see section: "Fire-fighting measures"). Do not touch or walk through spilled material.
Environmental precautions and clean-up methods:	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (granulated charcoal if available – sand or soil could also be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for waste disposal information.

SAFETY DATA SHEET

SDS Code: PTI002

Date Prepared: 10/17/14

Personal protection in case of a large spill: Splash goggles. Full suit. Vapor respirator or a self-contained breathing apparatus. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and Storage

Handling Do not ingest. Do not get in eyes, on skin or on clothing. Use only with adequate ventilation. Do not breathe vapors or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.

Storage Store in segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name	OSHA PEL (US 1993)		ACGIH TLV (US 2003) Skin	
	TWA	STEL	TWA	STEL
Acetonitrile	40 ppm 8 hrs 70 mg/m ³ 8 hrs	None	20 ppm 8 hours	None

Control Measures: Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits during use of this product. Use explosion-proof ventilation equipment.

Hygiene Measures: Wash hands after handling compounds and before eating, smoking, using lavatory and at the end of day.

Personal Protection Equipment (PPE)

Eyes: Do not get in eyes. Wear chemical safety goggles and face shield. Have eye wash facilities readily available where eye contact can occur.

Skin and body: Do not get on skin or body. When working with this substance, wear appropriate protective clothing to prevent skin contact. Provide safety showers at any location where skin contact can occur.

Respiratory: Use with adequate ventilation. Do not breathe vapor or mist. If concentration is unknown, a Self-Contained Breathing Apparatus (SCBA) should be used to avoid inhalation of the product.

Hands: Wear gloves that cannot be penetrated by chemicals or oil (butyl rubber gloves). The correct choice of protective gloves depends upon the conditions of work and use and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should be chosen in consultation with the supplier and manufacturer with a full assessment of the working conditions.

SAFETY DATA SHEET

SDS Code: PTI002
Date Prepared: 10/17/14**Feet:** Wear clothing and footwear that cannot be penetrated by chemicals or oil.**Consult your supervisor or S.O.P. for special handling directions.
Consult local authorities for acceptable exposure limits.**

9. Physical and Chemical Properties

Physical State:	Liquid
Odor:	Faint odor, pungent
Appearance:	Clear, colorless
Molecular Weight:	41.05
Boiling Point:	81.60°C(180°F)
Melting Point:	-45.7°C
Specific Gravity:	0.7860
Density:	782 kg/m ³ (0.782 g/cm ³) at 20°C
Vapor Pressure:	9.681 kPa (72.80 mm Hg) @ 20°C
Vapor Density (Air=1):	1.43
Volatility:	>99% (v/v)
Evaporation Rate:	>1 compared to (n-butyl acetate=1)
Solubility:	Easily soluble in cold water.
Viscosity:	Dynamic: 0 Pa·s (0.35 cP) at 20°C
LogK_{ow}:	The product is more soluble in water; log(octanol/water) = -0.34
pH:	Not Determined

10. Stability and Reactivity

Stability and reactivity:	Stable under recommended storage and handling conditions (see Section: "Handling and storage").
Conditions to avoid:	Avoid all possible sources of ignition (spark or flame). Take precautionary measures against static discharges.
Incompatibility:	Incompatible with acids, bases, nitrating agents, nitrogen-fluorine compounds, oxidizers, perchlorates, sulfites.
Hazardous decomposition products:	These products are carbon oxides (CO – carbon monoxide, CO ₂ – carbon dioxide), nitrogen oxides (NO – nitrous oxide, NO ₂ – nitrogen dioxide), hydrogen cyanide.
Hazardous Polymerization:	Will not occur.

SAFETY DATA SHEET

SDS Code: PTI002

Date Prepared: 10/17/14

11. Toxicological Information

Ingredient name	Test	Result	Route	Species
Acetonitrile	LD50	3081 mg/kg	Oral	Rat
	LD50	617 mg/kg	Oral	Mouse
	LD50	>2000 mg/kg	Dermal	Rabbit
	LC50	16000 ppm (4 hours)	Inhalation	Rat
	LC50	3587 ppm (4 hours)	Inhalation	Mouse

Chronic toxicity

Carcinogenic effects: No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or International Agency for Research on Cancer (IARC).

Mutagenic effects: No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

Reproductive effects: No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.

Teratogenic effects: There is experimental evidence that this chemical may cause adverse effects on the developing fetus at maternally toxic effects.

12. Ecological Information

Ecotoxicity: 1640 mg/l [EC50], 96 hours (Pimephales Promelas)
5810 mg/l [EC50], 18 hours (Daphnia)

Persistence/ degradability: This product is readily biodegradable.

Mobility: The product is poorly absorbed onto soils or sediments. The product will evaporate at a moderate rate from soil. The product will infiltrate soil and contaminate water. The product will dissolve rapidly in water.

Bioaccumulative potential: This product is not expected to bioaccumulate through food chains in the environment.

Other ecological information: This product is readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

13. Disposal Considerations

Waste information: Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if state or federal regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Comply with all local, regional and national laws pertaining to waste management.




SAFETY DATA SHEET

SDS Code: PTI002

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14. Transport Information

International transport regulations

Regulatory Information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1648	Acetonitrile Bill of Lading Description: UN 1648, Acetonitrile, 3, PGII, RQ	3	II	Flammable Liquid 	Reportable quantity: 5000 lbs (2268 kg) Limited quantity: Yes Packaging instruction: Passenger Aircraft Quantity Limitation: 5 L Cargo Aircraft: Quantity limitation: 60 L
TDG Classification	UN1648	Acetonitrile	3	II	Flammable Liquid	
IMDG Classification	UN1648	Acetonitrile	3	II	Flammable Liquid 	
IATA Classification	UN1648	Acetonitrile	3	II	Flammable Liquid 	

15. Regulatory Information

U.S. Federal Regulations

US Inventory (TSCA): Listed on inventory

TSCA 12(b) one-time export notification: Acetonitrile

This product is not regulated under section 302 of SARA and 40 CFR Part 355

SARA 311/312 MSDS distribution – chemical inventory – hazard identification: Acetonitrile: Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313**Form R- Reporting Requirements**

Product Name	CAS number	Concentration
Acetonitrile	75-05-8	100

Supplier Notification

Acetonitrile	75-05-8	100
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SAFETY DATA SHEET

SDS Code: PTI002
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CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):
Acetonitrile 5000 lbs (2268 kg)

State Regulations
Massachusetts RTK: Acetonitrile
New Jersey: Acetonitrile
Pennsylvania RTK: Acetonitrile (environmental hazard, generic environmental hazard)
California Prop 65: No products were found

Inventories
AUSTRALIAN Inventory (AICS): Listed on inventory.
CANADA Inventory (DSL): Listed on inventory.
CHINA Inventory (IECS): Listed on inventory.
ECInventory (EINECS/ELINCS): Listed on inventory.
JAPAN Inventory (ENCS): Listed on inventory.
KOREA Inventory (ECL): Listed on inventory.
PHILIPPINE Inventory (PICCS): Listed on inventory.

16. Other Information

HMIS® Rating:
Health 2
Flammability 3
Physical Hazard 0
Personal Protection X

National Fire
Protection
Association
(U.S.A.)



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