SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Cap A (1-Methylimidazole in Acetonitrile, 2:8)
CAS number	616-47-7, 75-05-8
Synonyms	Capping Solution

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory Chemicals

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable Liquids: GHS Category 2, H225
Acute Toxicity (oral): GHS Category 4, H302
Acute Toxicity (inhalation): GHS Category 3, H331
Acute Toxicity (dermal): GHS Category 3, H311
Skin corrosion: GHS Category 1B, H314
Serious Eye Damage: GHS Category 1, H318

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger!

Hazard statements:
H225 – Highly flammable liquid and vapor.
H302 + H331 – Harmful if swallowed or if inhaled.
H311 – Toxic in contact with skin
H314 – Causes severe skin burns and eye damage.
H318 – Causes serious eye damage.

Precautionary statements:
P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P280 – Wear protective gloves/clothing/eye protection/face protection.
P284 – Wear respiratory protection.
P301+P312 – IF SWALLOWED: Call a POISON CENTER/doctor 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+P341 – If inhaled: If breathing is difficult, 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.
P403+P235 – Store in a well-ventilated place. Keep cool.
P501 – Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

May be fatal if swallowed, inhaled, or absorbed through the skin. Readily absorbs through the skin. Affects cardiovascular system, central nervous system, liver, and kidneys. Causes burns and severe irritation to the eyes, skin, and respiratory tract. May metabolize to cyanide in the body. Highly flammable liquid and vapor. Flammable liquid and vapor (GHS Category 2).

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
1-Methylimidazole	No information available	616-47-7	10%
Acetonitrile	No information available	75-05-8	90%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration, but DO NOT give mouth-to-mouth resuscitation.
In case of skin contact	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover irritated skin with an emollient or anti-bacterial cream. Soap and cold water may be used. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
If swallowed	If swallowed, rinse mouth with water. Get medical attention immediately; DO NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. If not breathing, begin artificial respiration. DO NOT give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Exposure should be treated as a cyanide poisoning. Effects may be delayed. For methemoglobinemia, administer oxygen alone or oxygen with Methylene Blue depending on the methemoglobin concentration in the blood. May be partially metabolized in the body. Always have a cyanide antidote kit on hand when working with cyanide compounds.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Unsuitable extinguishing media	None.

5.2 Specific hazards arising from the substance or mixture

May decompose into toxic products under fire conditions (hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide).

5.3 Special protective equipment and precautions for firefighters

As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined area

5.4 Further information

Flash Point Acetonitrile: 2 °C (36 °F), closed cup (CC)

Autoignition Temperature No information available.

Explosion limits

Upper 16.0 vol % (Acetonitrile)
Lower 2.9 vol % (Acetonitrile)

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
2	3	0	0

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

6.2 Environmental precautions

No information available.

6.3 Methods and materials for containment and cleaning up

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

6.4 Reference to other sections

For personal protective equipment, see Section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No information available.

Hygiene measures

No information available.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep in a flammables area away from all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from moisture.

Incompatibilities

See Section 10.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

Exposure limits for Methylimidazole are not available.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Acetonitrile	Final PELs; TWA	Final PELs – 40 ppm TWA; 70 mg/m3 TWA

US. ACGIH Threshold Limit Values

Component	Type	Value
Acetonitrile	TWA	20 ppm TWA; Skin – potential significant contribution to overall exposure by cutaneous route

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Acetonitrile	TWA; IDLH	20 ppm TWA; 34 mg/m3 TWA; 500 ppm IDLH

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal protective equipment

Eye/face protection

Wear protective chemical goggles and face shield for eye and face protection.

Skin protection

Use appropriate protective gloves to prevent skin exposure.

Body Protection
Use protective clothing to prevent skin exposure.

Respiratory protection
A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless liquid
Odor	Sweetish, ethereal, possibly pungent
Odor Threshold	No data available
pH	Methylimidazole – 11.3 in 1% water solution
Melting Point/Range	Acetonitrile: -45ºC
Boiling Point/Range	Acetonitrile: 81.6ºC @ 760 mm Hg
Evaporation Rate	No data available
Flammability (solid)	No data available
Flammability or explosive limit	
Upper	Acetonitrile Upper Limit – 16.0 vol %
Lower	Acetonitrile Lower Limit – 2.9 vol %
Vapor Pressure	No data available
Vapor Density	No data available
Density	0.831 g/cm3, (Acetonitrile: 0.7810 g/cm3; Methylimidazole: 1.4 g/cm3)
Solubility	No data available
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No data available
Decomposition Temp	No data available
Viscosity	No data available
Molecular Formula	No data available
Molecular Weight	No data available
VOC Content(%)	No data available
Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

Will not occur.

10.4 Conditions to avoid

Ignition sources, excess heat, exposure to moist air or water, incompatible materials.

10.5 Incompatible materials

Oxidizing agents, reducing agents, acids, acid chlorides, and chloroformates.

10.6 Hazardous decomposition products

Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon, dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetonitrile	Mouse: LD50 = 269 mg/kg Rabbit: LD50 = 50 mg/kg Rat: LD50 = 2460 mg/kg	Rabbit: LD50 = 2000 mg/kg	Mouse: LC50 = 2693 ppm/1H Rabbit: LC50 = 2828 ppm/4H Rat: LC50 = 7551 ppm/8H
Methylimidazole	Rat: LD50 = 1130 mg/kg	Rabbit: LD50 = 400-600 mg/kg	No information available

In a well conducted study of mice, the oral LD50 of acetonitrile was calculated to be 617 mg/kg.

Skin corrosion/irritation

Causes burns to skin. May be absorbed into body. Absorbed material may be metabolized into cyanide which inhibits cytochrome oxidase impairing cellular respiration. Poisoning from dermal contact has been reported and an LD50 > 2000 mg/kg was obtained in a well conducted acute dermal toxicity study in rabbits.

Serious eye damage/eye irritation

Causes burns. May cause minor reversible damage.

Respiratory or skin sensitization

May be harmful if inhaled. Can irritate respiratory tract or possibly be destructive to mucous membranes and upper respiratory tract. Breaks down slowly in the body releasing cyanide ion and very high concentrations may produce cyanide poisoning. Symptoms are usually delayed several hours and include stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways), headache, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), muscle weakness, kidney effects, effects on heart rate, loss of coordination, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), lung edema (fluid buildup in the lung tissue). Victims may have an irregular heartbeat and feel tightness in the chest. Severe overexposure may result in death.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Acetonitrile	75-05-8	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

No information available.

Specific target organ toxicity - repeated exposure

No information available.

Reproductive toxicity

(Acetonitrile): In relation to fertility, there is no information available in humans and there are no animal studies specifically investigating such effects. However, no changes were seen in weight of the right cauda or right testis and no effect on sperm motility in rats or mice exposed for 13 weeks with 100, 200, and 400 ppm to acetonitrile.
Teratogenicity (Acetonitrile): In most of the available assays, teratogenicity was associated with maternal toxicity. In a well conducted study, rats exposed by inhalation to acetonitrile did not result in significant fetal effects, even in concentrations that were overtly toxic to the dam. In this study, a maternal NOAEL of 1200 ppm and NOAEL of 1200 ppm with respect to developmental toxicity were established. A case-control study of pregnancy outcome among Finnish lab workers revealed n association between exposure to acetonitrile and increased risk of spontaneous abortion in mothers, or malformation and birth weight in their children.

Chronic effects

Acetonitrile is toxic to blood kidneys, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, skin, eyes, and central nervous system. It may be toxic to the reproductive system. Repeated or prolonged exposure can produce target organ damage. Repeated exposure may produce general deterioration of health in target organs. Acetonitrile may be metabolized to cyanide in the body which inhibits cytochrome oxidase impairing cellular respiration.

11.2 Additional Information

Ingestion: May cause tissue anoxia with symptoms of dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness, effects on heart rate, loss of coordination, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), and coma. Severe overexposure may result in death. In single dose toxicity studies by various routes, different animal species and different individuals of the same species displayed widely varying susceptibility to acetonitrile. The oral LD50 range for mammals was 140-6762 mg/kg body weight. A well conducted study of mice calculated an oral LD50 of 617 mg/kg.
Epidemiology (Acetonitrile): Three volunteers were exposed for 4 hours at 40, 80, and 160 ppm acetonitrile. At 40 ppm, odor was detected, after which olfactory fatigue was noted. At this concentration, two persons had no signs of response, including no appreciable blood or urinary cyanide or thiocyanate. The third person experiences slight tightness in the chest that evening. A sensation of cooling in the lungs was observed and persisted for 24 hours. Traces of urinary thiocyanate were recorded.

SECTION 12: Ecological information

12.1 Toxicity

Component	Fish	Value
Acetonitrile	Fathead minnow	1150 ppm; 24 Hr; TLm (hard water)
Acetonitrile	Fathead minnow	1000 mg/L; 96 Hr; TLm (soft water)
Acetonitrile	Bluegill/Sunfish	1850 mg/L; 96 Hr; TLm (soft water)
Acetonitrile	Fathead minnow	1640 mg/L; 96 Hr; LC50 (flow-bioassay)
Acetonitrile	Fathead minnow	1640 mg/L; 96 Hr; EC50 (flow-bioassay)

Environmental Fate (Acetonitrile): Acetonitrile is unreactive towards photochemically-generated free radicals and direct photolysis in the gaseous phase.

12.2 Persistence and degradability

Acetonitrile is biodegradable.

12.3 Bio accumulative potential

Estimated BCF value = 0.3. This value indicates that acetonitrile will not significantly bioconcentrate in aquatic organisms or adsorb to suspended solids and sediments in water.

12.4 Mobility in soil

Estimated Koc value = 16. Acetonitrile is expected to weakly adsorb to most soils based on the Koc value. Volitization from soil surfaces and leaching into ground water is expected to be significant.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use, or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements. Acetonitrile is a “U” listed waste (U003 – ignitable, toxic waste).

SECTION 14: Transport information

DOT (US)

UN Number	UN2924
Proper Shipping name	Flammable Liquids, Corrosive, n.o.s. (Acetonitrile, Methylimidazole)
Hazard Class	3 (8)
Packaging Group	II

IMDG

UN Number	UN2924
Proper Shipping name	Flammable Liquids, Corrosive, n.o.s. (Acetonitrile, Methylimidazole)
Hazard Class	3 (8)
Packaging Group	II EMS-No: F-E, S-C

IATA

UN Number	UN2924
Proper Shipping name	Flammable Liquids, Corrosive, n.o.s. (Acetonitrile, Methylimidazole)
Hazard Class	3 (8)
Packaging Group	II

SECTION 15: Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

CAS# 75-05-8 and CAS# 616-47-7 are listed on the TSCA Inventory.
Health and Safety Reporting List: CAS# 75-05-8 – Effective 10/4/82, sunset 10/4/92.
Chemical Test Rules: CAS# 75-05-8 – 40 CFR 799.5115
Section 12b: CAS# 75-05-8 – Section 4, 1% de minimis rule
TSCA Significant New Use Rule: Does not have an SNUR under TSCA.

CERCLA Hazardous Substance List (40 CFR 302.4)
CAS# 75-05-8 – 5000 lb final RQ; 2270 kg final RQ

SARA 304 Emergency release notification
No information available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not considered highly hazardous by OSHA.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Does not have a TPQ

SARA 311/312 Hazardous
CAS# 75-05-8 – immediate, delayed, fire

SARA 313 (TRI reporting)
Acetonitrile (CAS# 75-05-8) is subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
CAS# 616-47-7 8 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.
CAS# 616-47-7 8 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
No information available.

Safe Drinking Water Act
CAS# 75-05-8 and CAS# 616-47-7 are not listed as a Hazardous Substance. They are not a Priority Pollutant. They are not a Toxic Pollutant.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
No information available.

US state regulations

US. Massachusetts RTK - Substance List
CAS# 75-05-8 is on the state right-to-know list.

US. New Jersey Worker and Community Right-to-Know Act
CAS# 75-05-8 is on the state right-to-know list.

US. Pennsylvania Worker and Community Right-to-Know Law
CAS# 75-05-8 is on the state right-to-know list.

California Proposition 65
California No Significant Risk Level: Not listed

SECTION 16: Other information

Date of Issue: 6/29/2026

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.