

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 02/27/2020

Version 1.3

SECTION 1. Identification

Product identifier

Product number	AX0143
Product name	Acetonitrile Anhydrous DriSolv®
Synonyms	ACN
CAS-No.	75-05-8

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

Identified uses	Reagent for analysis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 400 Summit Drive Burlington Massachusetts 01803 United States of America General Inquiries: +1 800-645-5476 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Flammable liquid, Category 2, H225
Acute toxicity, Category 4, Oral, H302
Acute toxicity, Category 4, Inhalation, H332
Acute toxicity, Category 4, Dermal, H312
Eye irritation, Category 2A, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

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Product name

Acetonitrile Anhydrous DriSolv®

Hazard pictograms



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.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ 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/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 + 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/doctor 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.

Other hazards

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None known.

SECTION 3. Composition/information on ingredients

Formula	CH ₃ CN	C ₂ H ₃ N (Hill)
Synonyms	ACN	
Molar mass	41.05 g/mol	

Hazardous ingredients

Chemical name (Concentration)

CAS-No.

acetonitrile (>= 90 % - <= 100 %)

75-05-8

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

May cause headache and dizziness.

The following applies to cyanogen compounds/ nitriles in general: utmost caution!

Release of hydrocyanic acid is possible - blockade of cellular respiration.

Cardiovascular disorders, dyspnoea, unconsciousness.

irritant effects, Nausea, Vomiting, Convulsions, Shortness of breath, respiratory arrest, cardiac arrest, Unconsciousness

Indication of any immediate medical attention and special treatment needed

No information available.

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SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Pay attention to flashback.

Forms explosive mixtures with air at ambient temperatures.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapors possible in the event of fire.

Fire may cause evolution of:

nitrogen oxides, Hydrogen cyanide (hydrocyanic acid)

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Components

Basis	Value	Threshold limits	Remarks
<i>acetonitrile 75-05-8</i>			
ACGIH	Time Weighted Average (TWA): Skin designation:	20 ppm	Can be absorbed through the skin.
NIOSH/GUIDE	Recommended exposure limit (REL):	20 ppm 34 mg/m ³	
OSHA_TRANS	PEL:	40 ppm 70 mg/m ³	
Z1A	Time Weighted Average (TWA):	40 ppm 70 mg/m ³	
	Short Term Exposure Limit (STEL):	60 ppm 105 mg/m ³	

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

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Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream.
Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0.7 mm
Break through time:	480 min

splash contact:

Glove material:	polychloroprene
Glove thickness:	0.65 mm
Break through time:	10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 720 Camapren® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapors/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapors of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer.

These measures have to be properly documented.

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SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	ether-like
Odor Threshold	39.8 ppm
pH	No information available.
Melting point	-50.3 °F (-45.7 °C)
Boiling point/boiling range	178.9 °F (81.6 °C) at 1,013 hPa
Flash point	36 °F (2 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	3.0 %(V)
Upper explosion limit	17 %(V)
Vapor pressure	97 hPa at 68 °F (20 °C)
Relative vapor density	1.42
Density	0.786 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble

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Partition coefficient: n-octanol/water	log Pow: -0.34 (IUCLID) Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0.316 mPa.s at 77 °F (25 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	975 °F (524 °C)

SECTION 10. Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

heat-sensitive

Distillable in an undecomposed state at normal pressure.

Possibility of hazardous reactions

Violent reactions possible with:

Strong bases, strong reducing agents

Risk of explosion with:

nitrates, perchlorates, perchloric acid

conc. sulfuric acid, with, Heat.

Risk of ignition or formation of inflammable gases or vapors with:

Oxidizing agents, Nitric acid

nitrogen dioxide, with, Catalyst

Generates dangerous gases or fumes in contact with:

Acids

Conditions to avoid

Warming.

Incompatible materials

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rubber, various plastics

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Inhalation, Eye contact, Skin contact

Target Organs

Respiratory system
cardiovascular system
Central nervous system
Liver
Kidneys

Acute oral toxicity

LD50 Mouse: 617 mg/kg
OECD Test Guideline 401

Symptoms: Nausea, Vomiting

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Skin irritation

Rabbit
Result: No skin irritation
OECD Test Guideline 404

Eye irritation

Rabbit
Result: Eye irritation
OECD Test Guideline 405

Causes serious eye irritation.

Sensitization

Buehler Test Guinea pig
Result: negative
Method: OECD Test Guideline 406

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Genotoxicity in vivo

In vivo micronucleus test

Mouse

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(External MSDS)

Mutagenicity (mammal cell test):

MOUSE LYMPHOMA TEST

Result: negative

Method: OECD Test Guideline 476

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

After absorption:

Systemic effects:

Shortness of breath, Headache, Dizziness, Nausea, Convulsions, respiratory arrest, cardiac arrest, Unconsciousness

Symptoms may be delayed.

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The following applies to cyanogen compounds/ nitriles in general: utmost caution!
Release of hydrocyanic acid is possible - blockade of cellular respiration.
Cardiovascular disorders, dyspnoea, unconsciousness.
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

semi-static test LC50 *Oryzias latipes* (Orange-red killifish): > 100 mg/l; 96 h
OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

semi-static test EC50 *Daphnia magna* (Water flea): > 1,000 mg/l; 48 h
OECD Test Guideline 202

semi-static test NOEC *Daphnia magna* (Water flea): 960 mg/l; 21 d
OECD Test Guideline 202

Toxicity to algae

static test EC50 *Pseudokirchneriella subcapitata* (green algae): > 1,000 mg/l; 72 h
OECD Test Guideline 201

static test NOEC *Pseudokirchneriella subcapitata* (green algae): > 1,000 mg/l; 72 h
OECD Test Guideline 201

IC5 *Scenedesmus quadricauda* (Green algae): 7,300 mg/l; 8 d (IUCLID) (maximum permissible toxic concentration)

Toxicity to bacteria

EC5 *Pseudomonas putida*: 680 mg/l; 16 h (IUCLID) (maximum permissible toxic concentration)

Persistence and degradability

Biodegradability

70 %; 21 d
OECD Test Guideline 302B
Readily biodegradable.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -0.34
(IUCLID) Bioaccumulation is not expected.

Bioaccumulation

Bioconcentration factor (BCF): 0.3
Lepomis macrochirus (Bluegill sunfish) (Does not significantly accumulate in organisms.)

(Information taken from reference works and the literature.)

Mobility in soil

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Distribution among environmental compartments

Adsorption/Soil

log K_{oc}: 1.21

Mobile in soils (Lit.)

Other adverse effects

Stability in water

DT50

> 9,999 d

at pH: 7

(calculated) Hydrolyzes slowly.

Additional ecological information

Biological effects:

Hazard for drinking water supplies.

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1648
Proper shipping name	ACETONITRILE
Class	3
Packing group	II
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1648
Proper shipping name	ACETONITRILE
Class	3
Packing group	II
Environmentally hazardous	--

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Special precautions for user no

Sea transport (IMDG)

UN number	UN 1648
Proper shipping name	ACETONITRILE
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

SECTION 15. Regulatory information

United States of America

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Components

acetonitrile	75-05-8	100 %
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SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Components

acetonitrile

Pennsylvania Right To Know

Components

acetonitrile

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New Jersey Right To Know

Components

acetonitrile

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



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

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 02/27/2020

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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