

High Purity Acetonitrile

1. Product and company identification

Product identifier

Trade name: High Purity Acetonitrile

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

General use: Solvent, intermediate(s)
For industrial purposes only

Details of the supplier of the safety data sheet

Company name: INEOS Manufacturing Deutschland GmbH

Street/POB-No.: Alte Strasse 201

Postal Code, city: DE-50769 Köln

WWW: www.ineos.com

E-mail: nitrilesreach@ineos.com

Department responsible for information:

E-mail: nitrilesreach@ineos.com

Other product information: Phone number: +1 (703)

741-5970

Website: <http://www.ineos.com>

Additional information: INEOS Nitriles USA LLC
13050 State Highway 185 N
Port Lavaca, TX 77979
USA

Emergency phone number

+1 (703) 741-5970

+1 (800) 424-9300 (toll free)

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: liquid

Color: Clear, colorless

Odor: Slightly odor

Classification: Flammable Liquid - Category 2; Acute Toxicity - oral - Category 4; Acute Toxicity - dermal - Category 4; Acute Toxicity - inhalative - Category 4; Eye Irritation - Category 2A;

Hazard symbols:



Signal word: **Danger**

Hazard statements: Highly flammable liquid and vapor.
Harmful if swallowed.
Harmful in contact with skin.
Causes serious eye irritation.
Harmful if inhaled.

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Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing mist/vapors/spray.
Wash 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/protective clothing/eye protection.
IF SWALLOWED: Immediately call a POISON CENTER/doctor.
IF ON SKIN: Wash with plenty of water/soap.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.
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.
Call a POISON CENTER/doctor if you feel unwell.
Specific measures (see 'First aid' on this label).
Rinse mouth.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use ... to extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container to hazardous or special waste collection point.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

Special danger of slipping by leaking/spilling product.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Acetonitrile - 99.9%

CAS-Number: 75-05-8

RTECS-Number: AL7700000

4. First aid measures

General information: First aider: Pay attention to self-protection!
Take off contaminated clothing and wash it before reuse.
Do not allow victim to become chilled. Keep victim warm. If victim is at risk of losing consciousness, position and transport on their side.
No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen.
Immediately get medical attention.

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Following skin contact:	After contact with skin, wash immediately with plenty of water. Take off contaminated clothing and wash it before reuse. Immediately get medical attention.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention.

Most important symptoms/effects, acute and delayed

Harmful if inhaled. Harmful if swallowed. Harmful in contact with skin. Causes serious eye irritation.

Information to physician

Treat symptomatically.

The following symptoms may occur: Hydrocyanic acid poisoning!

Symptoms of poisoning can only emerge after several hours; medical supervision is therefore essential for at least 48 hours.

Treatment methods and measures are determined by the physician's judgement in consultation with the patient.

Treatment (recommended):

- Europe, UK, USA: N-Acetylcysteine (NAC), intravenous:

1st Dose: 150 mg/kg bw/ 4h

2nd Dose: 100 mg/kg bw/36h

- Europe, UK, USA: N-Acetylcysteine (NAC), oral:

1st Dose: 140 mg/kg bw

2nd Dose: 70 mg/kg/4h

- Europe, USA: vitamine, intravenous:

Dose: 5 g/20 min.

- USA: Sodium nitrite, intravenous:

Dose: 10 ml of 3% sol. (300 mg)/ <5 min.

- Europe: 4-Dimethyl aminophenol:

Dose: 5 ml aus 5% sol. (250 mg)/1min.

5. Fire fighting measures

Flash point/flash point range:

55.04 °F (c.c, 101,3 kPa)

Auto-ignition temperature: 975.2 °F (101,3 kPa)

Suitable extinguishing media:

Water spray jet, foam, dry chemical powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

full water jet

Specific hazards arising from the chemical

Flammable liquid and vapor.

Vapors form explosive mixtures with air. Beware of reignition.

Emits toxic fumes under fire conditions.

In case of fire may be liberated: hydrogen cyanide, nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

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Additional information: Cool endangered containers with water spray and, if possible, remove from danger zone. Use a water fog to control vapors. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Do not allow fire water to penetrate into surface or ground water.

6. Accidental release measures

Personal precautions: Plug leak if safely possible. Remove all sources of ignition. Evacuate area. Immediately get rescue workers. Keep unprotected people away. Avoid contact with the substance. Avoid breathing mist/vapors/spray. Wear appropriate protective equipment. Provide adequate ventilation. Take off contaminated clothing and wash it before reuse.

Environmental precautions: Do not allow to enter soil, sewage, water bodies, lower level rooms or pits. Danger of explosion! If necessary notify appropriate authorities.

Methods for clean-up: Do not touch or step on spilled substance. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal.

Additional information: Can form a highly explosive mixture with air. Use only spark proof tools. Beware of reignition.

7. Handling and storage

Handling

Advices on safe handling: Avoid contact with skin, eyes, and clothing. Avoid breathing mist/vapors/spray. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Provide adequate ventilation. When using do not eat, drink or smoke. Wash hands before breaks and after work. Have eye wash bottle or eye rinse ready at work place.

Precautions against fire and explosion: Take precautionary measures against static discharges. Keep away from heat. Keep away from sources of ignition - No smoking. Do not weld. Use only spark proof tools. Use grounding equipment.

Storage

Requirements for storerooms and containers:

Keep in a separate and approved area. Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage: Do not store together with combustible or self-igniting materials or any highly flammable solids. Keep away from food, drink and animal feedingstuffs. Do not store together with: Acids, strong alkalis, oxidizing agents, perchlorate, perchloric acid, nitric acid, sulphuric acid

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8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

Type	Limit value
USA: ACGIH: TWA	34 mg/m ³ ; 20 ppm (may be absorbed through the skin)
USA: NIOSH: TWA	34 mg/m ³ ; 20 ppm
USA: OSHA: TWA	70 mg/m ³ ; 40 ppm

Engineering controls

Provide good ventilation and/or an exhaust system in the work area. The substance should only be handled in closed apparatus or systems.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.
In case of handling larger quantities: Flame-resistant antistatic protective clothing
protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: Butyl caoutchouc (butyl rubber)
Breakthrough time: >240 min
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded.
Use combination filter type A/P according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.
Have a breathing apparatus that is not dependent on the circulating air ready for emergencies.
The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

General hygiene considerations:

Avoid breathing mist/vapors/spray. Avoid contact with skin and eyes.
Take off contaminated clothing and wash it before reuse.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.
Have eye wash bottle or eye rinse ready at work place.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Physical state at 68 °F and 101.3 kPa: liquid
Color: Clear, colorless

Odor: Slightly odor

Odor threshold: 170 ppm

pH: Not applicable

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Melting point/freezing point:	-50.26 °F (101,3 kPa)
Initial boiling point and boiling range:	178.97 °F (101,3 kPa)
Flash point/flash point range:	55.04 °F (c.c, 101,3 kPa)
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapor.
Explosion limits:	LEL (Lower Explosion Limit): 4.40 Vol-% UEL (Upper Explosive Limit): 16.00 Vol-%
Vapor pressure:	at 68 °F: 98.64 hPa
Vapor density:	1.42 (Luft=1)
Density:	at 68 °F: 0.79 g/L
Water solubility:	at 77 °F: 1000 g/L
Partition coefficient: n-octanol/water:	at 77 °F: -0.34 log K(o/w) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	975.2 °F (101,3 kPa)
Thermal decomposition:	No data available
Viscosity, dynamic:	at 68 °F: 0.35 mPa*s
Explosive properties:	Not explosive
Oxidizing characteristics:	Not oxidising

10. Stability and reactivity

Reactivity:	Flammable liquid and vapor. Sensitive to heat and warmth (Decomposition)
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
Incompatible materials:	Acids, strong alkalis, oxidizing agents perchlorate, perchloric acid, nitric acid, sulphuric acid
Hazardous decomposition products:	Hydrogen cyanide, nitrogen oxides (NOx), carbon monoxide and carbon dioxide.
Thermal decomposition:	No data available

11. Toxicological information

Toxicological tests

Acute toxicity:	LD50 oral, Rat:	1.68 - 8.53 ml/kg
	LD50 oral, Mouse:	617 mg/kg
	LD50 dermal, Rabbit:	> 2000 mg/kg
	LC50 inhalative, Mouse:	3587 ppm/4h
	LC50 inhalative, Rat:	16000 ppm/4h

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Toxicological effects:

Acute toxicity (oral): Acute Toxicity - oral - Category 4 = Harmful if swallowed.

Acute toxicity (dermal): Acute Toxicity - dermal - Category 4 = Harmful in contact with skin.

Acute toxicity (inhalative): Acute Toxicity - inhalative - Category 4 = Harmful if inhaled.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

Skin sensitisation: Based on available data, the classification criteria are not met.

Specific symptoms in animal studies, guinea pig: negative

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

Mutagenicity (in-vivo/in-vitro): negative

Carcinogenicity: Based on available data, the classification criteria are not met.

Specific symptoms in animal studies (Mouse, Rat): none carcinogenic effect

Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific symptoms in animal studies (Mouse, Rat): negative

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure): Lack of data.

NOAEC Mouse, inhalative: 200 ppm/104 weeks

NOAEC Rat, inhalative: 400 ppm/104 weeks

Aspiration hazard: Based on available data, the classification criteria are not met.

Symptoms

In case of inhalation: Symptoms may occur with delay.

In case of ingestion:

Nausea, vomiting, dizziness, headache, spasms, unconsciousness, apnea, cardiovascular failure.

Symptoms may occur with delay.

After contact with skin: Danger of cutaneous absorption.

After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

12. Ecological information**Ecotoxicity**

Aquatic toxicity:

Fish toxicity:

LC50, Pimephales promelas (fathead minnow): 1,640 mg/L/96h

LC50, Oryzias latipes (Ricefish): > 1,000 mg/L/48h

NOEC, Oryzias latipes (Ricefish): > 102 mg/L/21d

Daphnia toxicity:

LC50, Daphnia magna (Big water flea): 3,600 mg/L/48h

NOEC, Daphnia magna (Big water flea): 160 - 960 mg/L/21d

Algae toxicity:

EC50, Pseudokirchneriella subcapitata (green algae): > 1,000 mg/L/48h

ErC50, Phaeodactylum tricornutum: 400 mg/L/72h

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Mobility in soil

Soil: 0.3 - 16

No adsorption in soil or sediment.

Persistence and degradability

Further details:

Biodegradation:

Product is readily biodegradable.

Additional ecological information

General information:

Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations**Product**

Recommendation: Dispose of waste according to applicable legislation.

PackageRecommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.**14. Transport information****14.2 UN proper shipping name**

ADR/RID, IMDG, IATA-DGR:

UN 1648, ACETONITRILE

Transport hazard class(es)

ADR/RID: Class 3, Code: F1

IMDG: Class 3, Subrisk -

IATA-DGR: Class 3

**Packing group**

ADR/RID, IMDG, IATA-DGR:

II

Environmental hazards

Marine pollutant:

no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Identification number: UN1648

Proper shipping name: UN 1648, ACETONITRILE

Hazard class or Division: 3

Packing Group: II



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Sea transport (IMDG)

UN number: UN 1648
Proper shipping name: UN 1648, ACETONITRILE
Class or division, Subsidiary risk: Class 3, Subrisk -
Packing Group: II
EmS: F-E, S-D
Marine pollutant: no
Segregation group: none

Air transport (IATA)

UN/ID number: UN 1648
Proper shipping name: UN 1648, ACETONITRILE
Class or division, Subsidiary risk: Class 3
Packing Group: II
Hazard label: Flamm. liquid

15. Regulatory information

National regulations - U.S. Federal Regulations

TSCA Inventory: listed; EPA flags T
TSCA HPVC: not listed
Clean Air Act:
Hazardous Air Pollutants: yes
SOCMI Chemical: yes
Other Environmental Laws:
CERCLA: RQ 5000 lbs.
RCRA Hazardous Wastes: Code U003
RCRA Groundwater Monitoring: Methods 8015 / PQL 100
SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard
NIOSH Recommendations:
Occupational Health Guideline: 0006*

16. Other information

Text for labeling:

Contains 100 % Acetonitrile. Safety data sheet available on request.

Hazard rating systems:

NFPA Hazard Rating:

Health: 2 (Moderate)

Fire: 3 (Serious)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 2 (Moderate)

Flammability: 3 (Serious)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor



HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
	X

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Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL: Occupational Exposure Limit Value
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC50: Effective Concentration 50%
EC: European Community
EN: European Standard
EU: European Union
MFSU: Manufacture, formulation, supply and use
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
LEL: Lower Explosion Limit
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
NOEC: No Observed Effect Concentration
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TLV: Threshold Limit Value
UN: United Nations
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

Date of first version: 9/15/2021

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.