

Chemical Safety Data Sheet MSDS / SDS

Propionitrile

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name : Propionitrile
CBnumber : CB9852701
CAS : 107-12-0
EINECS Number : 203-464-4
Synonyms : Propionitrile,propiononitrile

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P405 Store locked up.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

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

Hazard statements

H331 Toxic if inhaled

H319 Causes serious eye irritation

H310 Fatal in contact with skin

H300 Fatal if swallowed

SECTION 3: Composition/information on ingredients

Substance

Product name	: Propionitrile
Synonyms	: Propionitrile,propiononitrile
CAS	: 107-12-0
EC number	: 203-464-4
MF	: C3H5N
MW	: 55.08

SECTION 4: First aid measures

First Aid Measures

General advice

Consult a physician if necessary. Remove to fresh air.

Eye contact

Wash with plenty of water.

Skin Contact

Wash skin with soap and water.

Inhalation

Remove to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration

Ingestion

Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical

flammable.

Hazardous combustion products

Carbon oxides. Hydrogen cyanide. Nitrogen oxides (NO_x).

Explosion data

Sensitivity to Mechanical Impact

No information available.

Sensitivity to Static Discharge

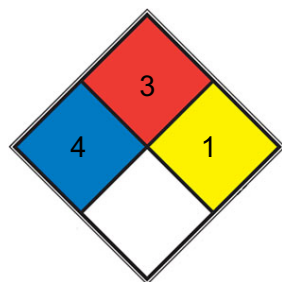
No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters

As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA 704



HEALTH 4 Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, [hydrofluoric acid](#))

FIRE 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

SPEC.
HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

Remove all sources of ignition. Use personal protective equipment as required.

Environmental precautions

Environmental precautions

See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store at room temperature.

Incompatible materials

None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Guidelines

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Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Column 1	Column 2	Column 3	Column 4
Propionitrile 107-12-0-		TWA: 5 mg/m3 CN (vacated) TWA: 5 mg/m3 S* as CN	IDLH: 25 mg/m3 CN TWA: 6 ppm TWA: 14 mg/m3

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations

Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and Body Protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical State	liquid
Appearance	No information available
Odor	No information available
pH	10 (20°C, 50g/L in H ₂ O)
Melting point/freezing point	-93 °C
Boiling point	97 °C
Flash point	6 °C CC (closed cup)
Liquid Density	0.77 g/mL
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	53.33-63.195hPa at 22.05-25°C
Vapor density	No information available
Specific gravity	No information available
Water solubility	decomposes. 5-10 g/100 mL at 23 °C
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Density and/or relative density	0.772 g/mL at 25 °C (lit.)
Solubility	soluble in water at 40°C is 11.9 g/100 g H ₂ O; miscible with alcohol, ether, dimethylformamide
Colour	Clear Colourless
Upper/lower flammability or explosive limits	3.1-14% (v/v)
Dielectric constant	27.7 (20°C)

SECTION 10: Stability and reactivity

Reactivity

Not applicable

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Contact with acids may liberate toxic gas.

Hazardous polymerization

No information available.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides. Hydrogen cyanide. Nitrogen oxides (NO_x).

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation

Classified based on available data. For more details, see section 2.

Eye contact

Classified based on available data. For more details, see section 2.

Skin Contact

Classified based on available data. For more details, see section 2.

Ingestion

Classified based on available data. For more details, see section 2.

Information on toxicological effects

Symptoms

Classified based on available data. For more details, see section 2.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity

May cause adverse liver effects. Target Organ Effects Central Vascular System (CVS), Central nervous system, Eyes, Respiratory system, Kidney, Liver, Skin.

Numerical measures of toxicity - Product Information

Unknown acute toxicity

Classified based on available data. For more details, see section 2

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

39 mg/kg

ATEmix (dermal)

50 mg/kg

ATEmix (inhalation-dust/mist)

3.3 mg/l

SECTION 12: Ecological information

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Propionitrile 107-12-0-		1450 - 1580: 96 h Pimephales promelas mg/L- LC50 flow-through		-

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Propionitrile - 1450 - 1580: 96 h

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107

12-0 Pimephales promelas mg/L

LC50 flow

through

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability No information available. **Bioaccumulation** No information available. **Mobility** No information available.

Propionitrile

0.16

107-12-0

-0.10

SECTION 13: Disposal considerations

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container.

US EPA Waste Number

D001

SECTION 14: Transport information

DOT

UN/ID no

UN2404

Hazard Class

3

Subsidiary class

6.1

Packing Group

II

Propionitrile

Reportable Quantity (RQ) (Propionitrile: RQ (kg)= 4.54)

UN2404, Propionitrile, 3 (6.1), II, Marine pollutant

Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT

Emergency Response Guide Number

131

IMDG

UN/ID no

UN2404

Hazard Class

3

Subsidiary hazard class

6.1

Packing Group

II

Propionitrile

UN2404, Propionitrile, 3 (6.1), II, (6°C c.c.)

EmS-No

F-E, S-D

IATA

UN/ID no

UN2404

Hazard Class

3

Subsidiary hazard class

6.1

Packing Group

II

Propionitrile

UN2404, Propionitrile, 3 (6.1), II

ERG Code

3P

SECTION 15: Regulatory information

International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) China (IECSC) ENCS (Japan):

X - Listed

Philippines (PICCS)

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Propionitrile	X	X	-	X	-	X	X	-	X	X

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories**Acute health hazard**

Yes

Chronic Health Hazard

No

Fire hazard

Yes

Sudden release of pressure hazard

No

Reactive hazard

No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Propionitrile 107-12-0		X	X	

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Propionitrile 107-12-0	X	X	X

SECTION 16: Other information**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.