

Material Safety Data Sheet

Version 4.1

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benzyl cyanide

Product Number : B19401

Brand : Aldrich

Supplier : Sigma-Aldrich
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SAINT LOUIS MO 63103
USA

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Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Target Organ Effect, Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption

Target Organs

Central nervous system, Blood, Lungs, Cardiovascular system., Thyroid.

GHS Classification

Acute toxicity, Inhalation (Category 2)

Acute toxicity, Dermal (Category 3)

Acute toxicity, Oral (Category 3)

Skin irritation (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301 + H311

Toxic if swallowed or in contact with skin

H316

Causes mild skin irritation.

H330

Fatal if inhaled.

Precautionary statement(s)

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P280

Wear protective gloves/ protective clothing.

P284

Wear respiratory protection.

P310

Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification

Health hazard:

3

Chronic Health Hazard:

*

Flammability:

1

Physical hazards: 0
NFPA Rating
Health hazard: 4
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be fatal if inhaled. May cause respiratory tract irritation.
Skin Toxic if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Phenylacetonitrile
Formula : C₈H₇N
Molecular Weight : 117.15 g/mol

Component		Concentration
Phenylacetonitrile		
CAS-No.	140-29-4	-
EC-No.	205-410-5	

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO_x)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	light yellow

Safety data

pH	11.0 - 12.0 at 117.2 g/l at 25 °C (77 °F)
Melting point/freezing point	Melting point/range: 24 °C (75 °F) - lit.
Boiling point	233 - 234 °C (451 - 453 °F) - lit.
Flash point	102 °C (216 °F) - closed cup
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	0.1 hPa (0.1 mmHg) at 20 °C (68 °F) 1.1 hPa (0.8 mmHg) at 55 °C (131 °F)

	1 hPa (1 mmHg) at 81.7 °C (179.1 °F)
Density	1.015 g/mL at 25 °C (77 °F)
Water solubility	117.2 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	log Pow: 1.56
Relative vapour density	4.69
Odour	unpleasant
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents, Carbon dioxide (CO₂)

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO_x)
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - 270 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea. Liver:Other changes.

Inhalation LC50

LC50 Inhalation - rat - 2 h - 430 mg/m³

Remarks: Behavioral:Altered sleep time (including change in righting reflex). Behavioral:Muscle contraction or spasticity. Lungs, Thorax, or Respiration:Dyspnea.

Dermal LD50

LD50 Dermal - rabbit - 270 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be fatal if inhaled. May cause respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	Toxic if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Cyanosis, Mydriasis., Central nervous system depression, Coma., Seizures., Cushing's syndrome

Synergistic effects

no data available

Additional Information

RTECS: AM1400000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC0 - Leuciscus idus (Golden orfe) - 50 mg/l - 48 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 2470 Class: 6.1 Packing group: III
Proper shipping name: Phenylacetonitrile, liquid (Phenylacetonitrile)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 2470 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: PHENYLACETONITRILE, LIQUID (Phenylacetonitrile)
Marine pollutant: No

IATA

UN number: 2470 Class: 6.1 Packing group: III
Proper shipping name: Phenylacetonitrile, liquid (Phenylacetonitrile)

15. REGULATORY INFORMATION**OSHA Hazards**

Target Organ Effect, Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption

SARA 302 Components

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

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Phenylacetonitrile	140-29-4	1993-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
Phenylacetonitrile	140-29-4	1993-04-24

California Prop. 65 Components

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

16. OTHER INFORMATION**Further information**

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