

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benzyl cyanide
Product Number : 185728
Brand : Aldrich
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight : 117.15 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Phenylacetone			
140-29-4	205-410-5	-	-

3. 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.

HMIS Classification

Health Hazard: 4
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. May be fatal if absorbed through skin.

Eyes
Ingestion

May cause eye irritation.
Toxic if swallowed.

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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 102 °C (216 °F) - closed cup

Ignition temperature no data available

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

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 for 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

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

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.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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	24 °C (75 °F)
Boiling point	233 - 234 °C (451 - 453 °F)
Flash point	102 °C (216 °F) - closed cup
Ignition 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

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

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), Hydrogen cyanide (hydrocyanic acid)

Reacts with water to form: - Hydrogen cyanide (hydrocyanic acid)

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 270 mg/kg

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

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.

LC50 Inhalation - mouse - 2 h - 100 mg/m³

LD50 Dermal - rabbit - 270 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation

Sensitisation

no data available

Chronic exposure

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.

Signs and Symptoms of Exposure

Symptoms and signs of poisoning are: burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Mydriasis., Central nervous system depression, Coma, Seizures., Systemic toxicity of benzyl cyanide is presumed to be a result of the metabolic release of cyanide.

Potential Health Effects

Inhalation	May be fatal if inhaled. May cause respiratory tract irritation.
Skin	Toxic if absorbed through skin. May cause skin irritation. May be fatal if absorbed through skin.
Eyes	May cause eye irritation.
Ingestion	Toxic if swallowed.
Target Organs	Central nervous system, Blood, Lungs, Cardiovascular system., Thyroid.,

Additional Information

RTECS: AM1400000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

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

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. 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

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

	CAS-No.	Revision Date
Phenylacetonitrile	140-29-4	1991-07-01

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

Phenylacetonitrile

CAS-No.
140-29-4Revision Date
1991-07-01**Pennsylvania Right To Know Components**

Phenylacetonitrile

CAS-No.
140-29-4Revision Date
1991-07-01**New Jersey Right To Know Components**

Phenylacetonitrile

CAS-No.
140-29-4Revision Date
1991-07-01**California Prop. 65 Components**

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

16. OTHER INFORMATION**Further information**

Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.