

PHENYLACETONITRILE

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1. Product Identification

Synonyms: Benzeneacetonitrile (9CI), Benzyl cyanide, Benzyl nitrile, (Cyanomethyl) benzene, Alpha-Cyanotoluene, Omega-Cyanotoluene, Alpha-Tolunitrile, AC-7210, 68632

CAS No.: 140-29-4

Molecular Weight: 117.15

Chemical Formula: C₆H₅CH₂CN

Product Codes: CHEM-612 and others.

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Phenylacetonitrile	140-29-4	99+%	Yes

3. Hazards Identification

Emergency Overview

May be fatal by ingestion, inhalation, or by skin absorption. Target organs: blood, central nervous system, cardiovascular system, thyroid, lungs.

SAF-T-DATA^(tm) Ratings

Health Rating: 4 - Extreme (Highly Toxic)

Flammability Rating: 3 - Severe

Reactivity Rating: 0 - None

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Red (Flammable)

Potential Health Effects:

Inhalation:

Highly toxic. Material is irritating to mucous membranes and upper respiratory tract. May cause headache, nausea, vomiting, drowsiness, dizziness, dyspnea, incoordination, unconsciousness and possibly death.

Ingestion:

Highly toxic. Nausea, vomiting, diarrhea

Skin Contact:

Causes irritation. Readily absorbed through skin. See inhalation.

Eye Contact:

Causes irritation. May cause burns or damage to eyes.

Chronic Exposure:

Carcinogenic effects: Not available. Mutagenic effects: Not available. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

If conscious wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Skin Contact:

Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Flash point: 100°C (closed cup).

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use DRY chemical, carbon dioxide, alcohol-resistant foam or water spray. Water or foam may cause frothing. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode.

Special Information:

Contact with oxidizers may cause fire and/or explosion. Vapor forms explosive mixture with air. Container explosion may occur under fire conditions or when heated. The sensitivity to static discharge is not available. The sensitivity to impact is not available. Emits toxic fumes under fire conditions.

6. Accidental Release Measures

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Evacuate the area. Eliminate all sources of ignition. Cover with dry soda ash or lime. Place in a suitable container and mark for disposal. Use non-sparking tools. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material.

7. Handling and Storage

Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Ground the container while dispensing. Use non-sparking tools. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.).

8. Exposure Controls/Personal Protection

Splash goggles. Impervious gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Have available and use as appropriate: face shields, rubber suits, aprons, and boots. If use conditions generate vapors or mists, wear a NIOSH-approved respirator appropriate for those emission levels. Appropriate respirators may be a full facepiece or a half mask air-purifying cartridge respirator equipped for organic vapors/mists, a self-contained breathing apparatus in the pressure demand mode, or a supplied-air respirator. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location. Use in a chemical fume hood. Use adequate ventilation. Do not use in unventilated spaces.

9. Physical and Chemical Properties

Appearance:

Colorless liquid.

Odor:

Sweet almond-like.

Solubility:

Insoluble in cold water.

Specific Gravity:

1.015

pH:

Not applicable.

% Volatiles by volume @ 21°C (70°F):

100

Boiling Point:

233-234°C

Melting Point:

-24°C

Vapor Density (Air=1):

4.

Vapor Pressure (mm Hg):

0.1 (0.8) @ 20°C.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination

Hazardous Decomposition Products:

Burning may produce carbon and nitrogen oxides.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Explodes in presence of sodium hypochloride. Oxidizing agents, bases, reducing agents, acids.

Conditions to Avoid:

Incompatibles.

11. Toxicological Information

ORAL (LD50): Acute: 270 mg/kg (Rat). 45500 ug/kg (Mouse). 10 mg/kg (Guinea pig).

DERMAL (LD50): Acute: 270 mg/kg (Rabbit). 2000 mg/kg (Rat).

VAPOR (LC50): Acute: 430 mg/m³ (Rat) (2 hour(s)). 100 mg/m³ (Mouse) (2 hour(s)).

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an after burner and scrubber. Dispose of according to all applicable regulations. Harmful to aquatic life at very low concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

14. Transport Information

Domestic (Land, D.O.T.)

TDG Class: 6.1

PIN: UN2470 PG: III

15. Regulatory Information

WHMIS:

CLASS: D-1B D-2B

16. Other Information

NFPA Ratings: Health: 2 Flammability: 1 Reactivity: 1

Warning:

Highly toxic! Irritant! Readily absorbed through skin. Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Keep away from heat, sparks and flame. Handle and open container with care. Container should be opened only by a technically qualified person. RTECS NO: AM1400000 (Phenylacetonitrile).

Product Use:

Laboratory Reagent and Consumer Hobby.

Revision Information:

None

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