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Material Safety Data Sheet

Benzyl cyanide

Section 1: Chemical Product and Company Identification

Molecular formula: C₈H₇N

CAS Nr: 140-29-4

EINECS: 205-410-5

Molecular weight:117.15

Synonyms: Benzeneacetonitrile

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Benzyl cyanide	140-29-4	100

Section 3: Hazards Identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 2), H330

Acute toxicity, Dermal (Category 3), H311

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram X

Signal word Danger

Hazard statement(s)

H301 + H311 Toxic if swallowed or in contact with skin

H330 Fatal if inhaled.	
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing.
P284	Wear respiratory protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310	Immediately call a POISON CENTER or doctor/ physician.
P320	Specific treatment is urgent (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P361	Remove/ Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.
Hazards not otherwise classified (HNOC) or not covered by GHS - none	

Section 4: First Aid Measures

Description of 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.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed
No data available

Section 5: Firefighting Measures

Extinguishing media

<p>Suitable extinguishing media</p> <p>Special hazards arising from the substance or mixture Carbon oxides, Nitrogen oxides (NOx)</p> <p>Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.</p> <p>Further information No data available</p>
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Section 6: Accidental Release Measures

<p>Personal precautions, protective equipment and emergency procedures Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.</p> <p>Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains.</p> <p>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.</p> <p>Reference to other sections For disposal see section 13.</p>

Section 7: Handling and Storage

<p>Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.</p> <p>Conditions for safe storage, including any incompatibilities 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.</p> <p>Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated</p>
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Section 8: Exposure Controls/Personal Protection

Control parameters				
Components with workplace control parameters				
Component	CAS-No.	Value	Control parameters	Basis
Phenylacetonitrile	140-29-4	TWA	5.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	CAS number varies with compound Skin designation		

	C	5.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Headache Nausea Thyroid effects Danger of cutaneous absorption Varies	
	C	4.700000 ppm 5.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		10 minute ceiling value	
Exposure controls			
Appropriate engineering controls			
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.			
Personal protective equipment			
Eye/face 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 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.			
Full contact			
Material: butyl-rubber			
Minimum layer thickness: 0.3 mm			
Break through time: 480 min			
Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)			
Splash contact			
Material: Nitrile rubber			
Minimum layer thickness: 0.4 mm			
Break through time: 30 min			
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)			
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374			
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.			
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.			
Respiratory protection			

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose 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).

Control of environmental exposure

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

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Appearance	Form: liquid Colour: light yellow
b) Odour	unpleasant
c) Odour Threshold	No data available
d) pH	11.0 - 12.0 at 117.2 g/l at 25 ° C (77 ° F)
e) Melting point/freezing point	Melting point/range: 24 ° C (75 ° F) - lit.
f) Initial boiling point and boiling range	233 - 234 ° C (451 - 453 ° F) - lit.
g) Flash point	102 ° C (216 ° F) - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) 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)
l) Vapour density	4.69
m) Relative density	1.015 g/mL at 25 ° C (77 ° F)
n) Water solubility	117.2 g/l at 20 ° C (68 ° F)
o) Partition coefficient: n-octanol/water	log Pow: 1.56
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

Other safety information

Relative vapour density 4.69

Section 10: Stability and Reactivity Data

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Strong oxidizing agents, Carbon dioxide (CO₂)

Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

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.

LD₅₀ Dermal - Rabbit - 270 mg/kg

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

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

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: AM1400000

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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

Section 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

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

No data available

Section 13: Disposal Considerations

Waste treatment methods

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.

Section 14: Transport Information

DOT (US)			
UN number: 2470	Class: 6.1	Packing group: III	
Proper shipping name: Phenylacetonitrile, liquid			
Reportable Quantity (RQ):			
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			
IATA			
UN number: 2470	Class: 6.1	Packing group: III	
Proper shipping name: Phenylacetonitrile, liquid			

Section 15: Other Regulatory Information

SARA 302 Components		
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.		
SARA 313 Components		
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		
Phenylacetonitrile	CAS-No.	Revision Date
	140-29-4	1993-04-24
New Jersey Right To Know Components		
Phenylacetonitrile	CAS-No.	Revision Date
	140-29-4	1993-04-24
California Prop. 65 Components		
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	CAS-No.	Revision Date
Phenylacetonitrile	140-29-4	1993-04-24

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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