

Material Safety Data Sheet

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Regulation (EC) No 1907/2006

1 - Product and Company Information

Product Name BENZYL CYANIDE
Product Number 13300

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2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Harmful if swallowed. Toxic in contact with skin. Very toxic by inhalation.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
BENZYL CYANIDE	140-29-4	205-410-5	None

Formula C8H7N
Molecular Weight 117.15 AMU
Synonyms Benzeneacetonitrile (9CI) * Benzyl cyanide *
Benzylcyanid (Czech) * Benzyl nitrile *
(Cyanomethyl)benzene * alpha-Cyanotoluene *
omega-Cyanotoluene * Phenylacetonitrile *
2-Phenylacetonitrile * Phenyl acetyl nitrile *
Toluene, alpha-cyano- * alpha-Tolunitrile * USAF
KF-21

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Appropriate foam.

Unsuitable: Do not use carbon dioxide extinguisher on this material.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool fire-exposed containers.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid Color: Very faintly yellow	
Property	Value	At Temperature or Pressure
pH	11.0 - 12.0	
BP/BP Range	231.0 - 233.0 °C	
MP/MP Range	- 24.0 °C	
Flash Point	102 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	0.1 mmHg 1 mmHg	20 °C 817 °C
SG/Density	1.015 g/cm ³	
Partition Coefficient	Log Kow: 1.56	
Viscosity	N/A	
Vapor Density	1.7 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: 1 M in H ₂ O, 20 °C complete, colorless	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions of Instability: May decompose on exposure to moist air or water.

Materials to Avoid: Avoid contact with acid., Strong oxidizing agents Carbon dioxide.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen cyanide Carbon monoxide, Carbon dioxide, Nitrogen oxides.

Hazardous Decomposition Products Formed Upon Contact with Water: Hydrogen cyanide

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: AM1400000

ACUTE TOXICITY

LD50
Oral
Rat

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

LC50
Inhalation
Rat
430 mg/m3
2H
Remarks: Lungs, Thorax, or Respiration:Dyspnea.
Behavioral:Muscle contraction or spasticity. Behavioral:Altered
sleep time (including change in righting reflex).

LD50
Skin
Rat
2000 mg/kg

LD50
Oral
Mouse
45.5 mg/kg

LC50
Inhalation
Mouse
100 mg/m3
2H

LD50
Intraperitoneal
Mouse
10 MG/KG

LD50
Skin
Rabbit
270 mg/kg

LD50
Oral
Guinea pig
10 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity).
Behavioral:General anesthetic. Lungs, Thorax, or
Respiration:Dyspnea.

IRRITATION DATA

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

Systemic toxicity of benzyl cyanide is presumed to be a result
of the metabolic release of cyanide. Seizures. Coma. CNS
depression. Mydriasis. Cyanosis. Symptoms of exposure may
include burning sensation, coughing, wheezing, laryngitis,
shortness of breath, headache, nausea, and vomiting.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: Readily absorbed through skin. Toxic if absorbed through skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be fatal if inhaled.
Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION

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

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: LC0 Fish
Species: Leuciscus idus
Time: 48 h
Value: 50 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 2470
Class: 6.1
PG: III
Proper Shipping Name: Phenylacetonitrile, liquid

IMDG

UN#: 2470
Class: 6.1
PG: III
Proper Shipping Name: Phenylacetonitrile, liquid
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 2470
Class: 6.1
PG: III
Proper Shipping Name: Phenylacetonitrile, liquid
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T+
Very toxic.
R-PHRASES: 22-24-26
Harmful if swallowed. Toxic in contact with skin. Very toxic by

inhalation.

S-PHRASES: 28-36/37-45

After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3

ID-Number: 60

KBwS-Decision

16 - Other Information

WARRANTY

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 Inc., 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. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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