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Benzene

Synonyms & Trade Names

Benzol, Phenyl hydride

CAS No.

71-43-2

RTECS No.

[CY1400000](#)

DOT ID & Guide

1114 [130](#)

Formula

C₆H₆

Conversion

1 ppm = 3.19 mg/m³

IDLH

Ca [500 ppm]

See: [71432](#)

Exposure Limits

NIOSH REL

Ca TWA 0.1 ppm ST 1 ppm [See Appendix A](#)

OSHA PEL

[1910.1028] TWA 1 ppm ST 5 ppm [See Appendix F](#)

Measurement Methods

NIOSH [1500](#) , [1501](#) , [3700](#) , [3800](#);

OSHA [12](#) , [1005](#)

See: [NMAM](#) or [OSHA Methods](#)

Physical Description

Colorless to light-yellow liquid with an aromatic odor. [Note: A solid below 42°F.]

Molecular Weight

78.1

Boiling Point

176°F

Freezing Point

42°F

Solubility

0.07%

Vapor Pressure

75 mmHg

Ionization Potential

9.24 eV

Specific Gravity

0.88

Flash Point

12°F

Upper Explosive Limit

7.8%

Lower Explosive Limit

1.2%

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities

Strong oxidizers, many fluorides & perchlorates, nitric acid

Exposure Routes

inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms

irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]

Target Organs

Eyes, skin, respiratory system, blood, central nervous system, bone marrow

Cancer Site

[leukemia]

Personal Protection/Sanitation

[\(See protection codes\)](#)

Skin:Prevent skin contact

Eyes:Prevent eye contact

Wash skin:When contaminated

Remove:When wet (flammable)

Change:No recommendation

Provide:Eyewash, Quick drench

First Aid

[\(See procedures\)](#)

Eye:Irrigate immediately

Skin:Soap wash immediately

Breathing:Respiratory support

Swallow:Medical attention immediately

Respirator Recommendations

[\(See Appendix E\)](#)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister

Any appropriate escape-type, self-contained breathing apparatus

[Important additional information about respirator selection](#)