



September 2010

NIOSH Publication Number 2010-168c

Acrylonitrile

Synonyms & Trade Names Acrylonitrile monomer, AN, Cyanoethylene, Propenenitrile, 2-Propenenitrile, VCN, Vinyl cyanide

CAS No. 107-13-1

RTECS No. [AT5250000](#)
([../rtecs/at501bdo.html](#))

DOT ID & Guide 1093 [131P](#) ([../erg/erg2008/g131.pdf](#)) (inhibited)

Formula CH₂=CHCN

Conversion 1 ppm = 2.17 mg/m³

IDLH Ca [85 ppm]
See: [107131](#) ([../idlh/107131.html](#))

Exposure Limits

NIOSH REL : Ca TWA 1 ppm C 10 ppm [15-minute] [skin] See [Appendix A](#) ([nengapdx.html](#))

OSHA PEL : [1910.1045] TWA 2 ppm C 10 ppm [15-minute] [skin]

Measurement Methods

NIOSH [1604](#) ([../docs/2003-154/pdfs/1604.pdf](#))

OSHA [37](#) ([../oshamethods/organic/orgo37/orgo37.html](#))

See: [NMAM](#) ([../docs/2003-154/default.html](#)) or [OSHA Methods](#) ([../oshamethods/oshameth.htm](#))

Physical Description Colorless to pale-yellow liquid with an unpleasant odor. [Note: Odor can only be detected above the PEL.]

MW:
53.1

BP:
171°F

FRZ: -116°F

Sol: 7%

VP: 83 mmHg

IP: 10.91 eV

Sp.Gr:
0.81

Fl.P:
30°F

UEL: 17%

LEL: 3.0%

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

Incompatibilities & Reactivities Strong oxidizers, acids & alkalis; bromine; amines [Note: Unless inhibited (usually with methylhydroquinone), may polymerize spontaneously or when heated or in presence of strong alkali. Attacks copper.]

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

Symptoms irritation eyes, skin; asphyxia; headache; sneezing; nausea, vomiting; lassitude (weakness, exhaustion), dizziness; skin vesiculation; scaling dermatitis; [potential occupational carcinogen]

Target Organs Eyes, skin, cardiovascular system, liver, kidneys, central nervous system

Cancer Site [brain tumors, lung & bowel cancer]

Personal Protection/Sanitation (See protection codes ([protect.html](#)))

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 ([firstaid.html](#)))

Eye: Irrigate immediately

Skin: Water wash immediately

Breathing: Respiratory support

Swallow: Medical attention immediately

Respirator Recommendations

(See Appendix E) ([nengapdx.html](#))

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 ([pgintrod.html#mustread](#))

See also: [INTRODUCTION \(pgintrod.html\)](#) See ICSC CARD: [0092 \(../ipcsneng/neng0092.html\)](#) See MEDICAL TESTS: [0008 \(../docs/2005-110/nmed0008.html\)](#)

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