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NIOSH Pocket Guide to Chemical Hazards

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CAS

Hydrogen peroxide

7722-84-1

RTECS

H₂O₂

[MX0900000](#)

Synonyms & Trade Names

DOT ID & Guide

High-strength hydrogen peroxide, Hydrogen dioxide, Hydrogen peroxide (aqueous), Hydroperoxide, Peroxide

2984 [140](#) (8-20% solution)
2014 [140](#) (20-60% solution)
2015 [143](#) (>60% solution)

Exposure NIOSH REL: TWA 1 ppm (1.4 mg/m³)

Limits OSHA PEL: TWA 1 ppm (1.4 mg/m³)

IDLH Conversion

75 ppm See: [772841](#) 1 ppm = 1.39 mg/m³

Physical Description

Colorless liquid with a slightly sharp odor. [Note: The pure compound is a crystalline solid below 12°F. Often used in an aqueous solution.]

MW: 34.0 BP: 286°F FRZ: 12°F Sol: Miscible
VP(86°F): 5 mmHg IP: 10.54 eV Sp.Gr: 1.39
F.L.P: NA UEL: NA LEL: NA

Noncombustible Liquid, but a powerful oxidizer.

Incompatibilities & Reactivities

Oxidizable materials, iron, copper, brass, bronze, chromium, zinc, lead, silver, manganese. [Note: Contact with combustible material may result in SPONTANEOUS combustion.]

Measurement Methods

OSHA [ID126SG](#)

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

Personal Protection & Sanitation

([See protection](#))

Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: No recommendation
Provide: Eyewash, Quick drench

Respirator Recommendations

NIOSH/OSHA

Up to 10 ppm:
(APF = 10) Any supplied-air respirator*

Up to 25 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode*

Up to 50 ppm:
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 75 ppm:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:

First Aid

([See procedures](#))

Eye: Irrigate immediately
Skin: Water flush immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

(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 canister providing protection against the compound of concern/Any appropriate escape-type, self-contained breathing apparatus

[Important additional information about respirator selection](#)

Exposure Routes

inhalation, ingestion, skin and/or eye contact

Symptoms

Irritation eyes, nose, throat; corneal ulcer; erythema (skin redness), skin vesiculation; bleaching hair

Target Organs

Eyes, skin, respiratory system

See also: [INTRODUCTION](#) See ICSC CARD: [0164](#)

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