



NIOSH Publication No. 2005-149:

September 2005

NIOSH Pocket Guide to Chemical Hazards

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Ozone

CAS

10028-15-6

RTECS

O₃

[RS8225000](#)

Synonyms & Trade Names

DOT ID & Guide

Triatomic oxygen

Exposure NIOSH REL: C 0.1 ppm (0.2 mg/m³)

Limits OSHA PEL†: TWA 0.1 ppm (0.2 mg/m³)

IDLH Conversion

5 ppm See: [10028156](#) 1 ppm = 1.96 mg/m³

Physical Description

Colorless to blue gas with a very pungent odor.

MW: 48.0 BP: -169°F FRZ: -315°F Sol(32°F): 0.001%

VP: >1 atm IP: 12.52 eV RGasD: 1.66

F.I.P: NA UEL: NA LEL: NA

Nonflammable Gas, but a powerful oxidizer.

Incompatibilities & Reactivities

All oxidizable materials (both organic & inorganic)

Measurement Methods

OSHA [ID214](#)

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

Personal Protection & Sanitation

First Aid

([See protection](#))

Skin: No recommendation

Eyes: No recommendation

Wash skin: No recommendation

Remove: No recommendation

Change: No recommendation

([See procedures](#))

Eye: Medical attention

Breathing: Fresh air; 100% O₂

Respirator Recommendations

NIOSH/OSHA

Up to 1 ppm:

(APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against the compound of concern¹

(APF = 10) Any supplied-air respirator

Up to 2.5 ppm:

(APF = 25) Any supplied-air respirator operated in a continuous-flow mode

(APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against the compound of concern¹

Up to 5 ppm:

(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against the compound of concern¹

(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 concern¹

(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a

continuous-flow mode

(APF = 50) Any self-contained breathing apparatus with a full facepiece

(APF = 50) Any supplied-air respirator with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:

(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 concern²/Any appropriate escape-type, self-contained breathing apparatus

[Important additional information about respirator selection](#)

Exposure Routes

inhalation, skin and/or eye contact

Symptoms

Irritation eyes, mucous membrane; pulmonary edema; chronic respiratory disease

Target Organs

Eyes, respiratory system

See also: [INTRODUCTION](#) See ICSC CARD: [0068](#) See MEDICAL TESTS: [0172](#)

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