

**NORTH CAROLINA DEPARTMENT OF LABOR  
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH  
RALEIGH, NORTH CAROLINA**

Chapter 7  
Subchapter 7F  
NC-OSH

CFR Revision 117A

**Field Information System Part I  
Air Contaminants; Readoption of 45 PELs in Table Z-1-A  
General Industry; Final Rule**

**DISCUSSION:**

Following the revocation of the "Final Rule Limits" column of Table Z-1-A of 29 CFR 1910.1000 (58 FR 35338-35351) by Federal OSHA on June 30, 1993, the Division of Occupational Safety and Health re-evaluated those PELs. In an effort to make our health standards regarding Respiratory Effects and Avoidance of Cancer more protective for employees working with specified substances, 45 permissible exposure limits from the 1989 Table Z-1-A are being re-adopted. The attached text shows the 33 substance permissible exposure limits under Respiratory Effects and 12 substance exposure limits under Avoidance of Cancer that have been readopted. These PELs have been studied and found to be legally defensible.

**ACTION:**

This final rule at 29 CFR 1910.1000, Subpart Z was adopted in North Carolina by the Commissioner of Labor with an effective date of May 1, 1994. A copy of the regulatory text from the North Carolina Administrative Code is attached.

Please file this NC CFR Revision in Part I of your Field Information System.

Date: 05-02-94

Filing Date: January 5, 1994  
NC Effective Date: May 1, 1994  
Number: 13 NCAC 7F.0101(a)(2)

*Labor - OSHA*

.0107 LIFE SAFETY CODE

**SUBCHAPTER 7F - STANDARDS**

**SECTION .0100 - GENERAL INDUSTRY STANDARDS**

**.0101 GENERAL INDUSTRY**

- a. The provisions for the Occupational Safety and Health Standards for General Industry, Title 29 of the Code of Federal Regulations Part 1910, are incorporated by reference except as follows:
  1. Subpart H - Hazardous Materials, 29 CFR 1910.120, Hazardous waste operations and emergency response, § 1910.120(q)(6) is amended by adding a new level of training:

"(vi) First responder operations plus level. First responders at operations plus level are individuals who respond to hydrocarbon fuel tank leaks where the leaking tanks contain a hydrocarbon fuel which is used to propel the vehicle on which the tank is located. Only those vehicles designed for highway use or those used for industrial, agricultural or construction purposes are covered. First responders at the operations plus level shall have received at least training equal to first responder operations level and, in addition, shall receive training or have had sufficient experience to objectively demonstrate competency in the following areas and the employer shall so certify:

    - A. Know how to select and use proper specialized personal protective equipment provided to the first responder at operations plus level;
    - B. Understand basic hazardous materials terms as they pertain to hydrocarbon fuels;
    - C. Understand hazard and risk assessment techniques that pertain to gasoline, diesel fuel, propane and other hydrocarbon fuels;
    - D. Be able to perform control, containment, and/or confinement operations for gasoline, diesel fuel, propane and other hydrocarbon fuels within the capabilities of the available resources and personal protective equipment; and
    - E. Understand and know how to implement decontamination procedures for hydrocarbon fuels."
  2. Subpart Z -- Toxic and Hazardous Substances, 29 CFR 1910.1000, Air Contaminants: Re-adoption of revised permissible exposure limits as

originally published in 54 FR (January 19, 1989) pages 2496 - 2533 and pages 2668 - 2695 as follows:

### "RESPIRATORY EFFECTS

Chemical Name	CAS No.	PEL
Aluminum	7429-90-5	15 mg/m <sup>3</sup> TWA Total Dust 5 mg/m <sup>3</sup> TWA Resp. fraction
Bismuth telluride, Undoped	1304-82-1	15 mg/m <sup>3</sup> TWA Total Dust 5 mg/m <sup>3</sup> TWA Resp. fraction
Chlorine dioxide	10049-04-4	0.1 ppm TWA 0.3 ppm STEL
Chromium metal (as Cr)	7440-47-3	1 mg/m <sup>3</sup> TWA
Coal Dust (<5% quartz) Resp. fraction	None	2 mg/m <sup>3</sup> TWA
Coal Dust (>5 % quartz) Respirable quartz fraction	None	0.1 mg/m <sup>3</sup> TWA
Ethyl acrylate	140-88-5	5 ppm TWA 25 ppm STEL, Skin
Ferrovanadium dust	12604-58-9	1 mg/m <sup>3</sup> TWA 3 mg/m <sup>3</sup> STEL
Grain Dust (oat, wheat, barley)	None	10 mg/m <sup>3</sup> TWA
Graphite, natural, Resp. Dust	7782-42-5	2.5 mg/m <sup>3</sup> TWA
Indium & compounds (as In)	7440-74-6	0.1 mg/m <sup>3</sup> TWA
Iron oxide (dust & fume)	1309-37-1	10 mg/m <sup>3</sup> TWA
Methylene bis (4-Cyclohexylisocyanate)	5124-30-1	0.01 ppm Ceiling, Skin

Mica, Respirable Dust	12001-26-2	3 mg/m <sup>3</sup> TWA
Nitrogen dioxide	10102-44-0	1 ppm STEL
Oxygen difluoride	7783-41-7	0.05 ppm Ceiling
Ozone	10028-15-6	0.1 ppm TWA 0.3 ppm STEL
Paraquat, Respirable Dust	4685-14-7	0.1 mg/m <sup>3</sup> TWA, Skin
Silica, crystalline cristobalite, Respirable Dust	14464-46-1	0.05 mg/m <sup>3</sup> TWA
Silica, crystalline quartz, Respirable Dust	14808-60-7	0.1 mg/m <sup>3</sup> TWA
Silica, crystalline tridymite, Respirable Dust	15468-32-3	0.05 mg/m <sup>3</sup> TWA
Silica, crystalline tripoli (as quartz) Respirable Dust	1317-95-9	0.1 mg/m <sup>3</sup> TWA
Silica, fused Respirable Dust	60676-86-0	0.1 mg/m <sup>3</sup> TWA
Soapstone, total dust	None	6 mg/m <sup>3</sup> TWA
Soapstone, Respirable Dust	None	3 mg/m <sup>3</sup> TWA
Sulfur dioxide	7446-09-5	2 ppm TWA 5 ppm STEL
Sulfur tetrafluoride	7783-60-0	0.1 ppm Ceiling
Talc (containing no asbestos) Respirable Dust	14807-96-6	2 mg/m <sup>3</sup> TWA
Tin oxide (as Sn)	7440-31-5	2 mg/m <sup>3</sup> TWA

Trimellitic anhydride	552-30-7	0.005 ppm TWA
Wood dust, hard	None	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL
Wood dust, soft	None	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL
Wood dust, allergenic (Western Red Cedar)	None	2.5 mg/m <sup>3</sup> TWA

## AVOIDANCE OF CANCER

Chemical Name	CAS No.	PEL
Acrylamide	79-06-1	0.03 mg/m <sup>3</sup> TWA, Skin
Amitrole	61-82-5	0.2 mg/m <sup>3</sup> TWA
Carbon tetrachloride	56-23-5	2 ppm TWA
Chloroform	67-66-3	2 ppm TWA
Chromic acid	1333-82-0	0.1 mg/m <sup>3</sup> Ceiling
Dimethyl sulfate	77-78-1	0.1 ppm TWA, Skin
2-Nitropropane	79-46-9	10 ppm TWA
Perchloroethylene	127-18-4	25 ppm TWA
o-Toluidine	95-53-4	5 ppm TWA, Skin
p-Toluidine	106-49-0	2 ppm TWA, Skin
Vinyl bromide	593-60-2	5 ppm TWA
Vinyl cyclohexene dioxide	106-87-6	10 ppm TWA, Skin."

b. The parts of the Code of Federal Regulations adopted by reference in this Subchapter shall not automatically include any subsequent amendments thereto, except as follows:

1. Subpart H -- Hazardous Materials -- technical corrections at 1910.109(g)(4)(v), Explosives and Blasting Agents, published in 58 FR (March 29, 1993) page 16496 and adopted by the North Carolina Department of Labor on December 31, 1993;
2. Subpart H -- Hazardous Materials -- technical corrections at 1910.110(d)(11), Storage and Handling of Liquefied Petroleum Gases, published in 58 FR (March 19, 1993) page 15089 and adopted by the North Carolina Department of Labor on December 31, 1993;
3. Subpart J -- General Environmental Controls -- typographical and clarifying corrections at 1910.146, Permit-Required Confined Spaces, published in 59 FR (June 29, 1993) pages 34844 -34851 and adopted by the North Carolina Department of Labor on September 24, 1993; corrections are to final rule for Permit-Required Confined Spaces as originally published in 58 FR 4462 (January 14, 1993);
4. Subpart Z -- Toxic and Hazardous Substances:
  - A. Revocation of exposure limits in "Final rule limits" columns of Table Z-1-A at 1910.1000, Air Contaminants, published in 58 FR (June 30, 1993) pages 35338-35351 and adopted by the North Carolina Department of Labor on September 24, 1993.
  - B. Correction to Table Z-3 Mineral Dust at 1910.1000, Air Contaminants. published in 58 FR (July 27, 1993) page 40191 and adopted by the North Carolina Department of Labor on December 31, 1993.
  - C. Typographical and technical corrections at 1910.1027, Cadmium, published in 58 FR (April 23, 1993) pages 21778 - 21787 and adopted by the North Carolina Department of Labor on September 24, 1993; corrections are to final rule for Occupational Exposure to Cadmium as originally published in 57 FR 42101 (September 14, 1992).

c. Copies of the applicable Code of Federal Regulations sections referred to in this Subchapter are available to the public. Please refer to 13 NCAC 7A.0302 for the costs involved and from whom copies may be obtained.

*History Note: Filed as a Temporary Amendment Eff. August 16, 1993, for a Period of 180 Days or Until the Permanent Rule Becomes Effective, Whichever is Sooner; Statutory Authority G.S. 95-131; 95-133; 150B-21.6;*

- *Eff. August 2, 1993;*
- *Amended Eff. May 1, 1994; February 1, 1994; December 31, 1993; September- 24, 1993.*

## **.0102 LIFE SAFETY CODE**

All places of employment shall be designed, constructed, maintained, and occupied in accordance with the standards set out in the 1991 edition of the Code for Safety to Life from Fire in Buildings and Structures, ANSI/NFPA 101, which is hereby incorporated by reference. This incorporation shall not include any subsequent editions or amendments to this code. Copies of this code may be obtained from the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269, for twenty-seven dollars and fifty cents (\$27.50). This rule supersedes any standards based on earlier editions of the Life Safety Code.

*History Note: Statutory Authority G. S. 95-131;  
Eff. April 1, 1992;  
Recodified from 13 NCAC 7C .0107 Eff. August 2, 1993.*