For an unanswered copy of these questions, [download this PDF file](https://miningquiz.com/quiz/MORE_MINE_GAS_QUESTIONS.pdf).

1. \_\_\_\_\_\_\_\_\_\_ may be found anywhere but is most likely to be encountered in virgin coal, roof cavities, high places, abandoned workings, and places that are improperly ventilated.
2. Carbon Dioxide
3. Sulfur Dioxide
4. Methane\*
5. Hydrogen Sulfide
6. Coal dust in the air will decrease the lower explosive limit of Methane.
7. True\*
8. False
9. There can be no explosion when the percentage of Methane is greater than fifteen percent (15%) because the amount of Oxygen present is insufficient for rapid combustion to occur.
10. True\*
11. False
12. For a mixture of strictly methane and air, an explosion is impossible if the oxygen content is:
13. 19.5 percent or less
14. 16 percent or less
15. 12 percent or less\*
16. 20.5 percent or less
17. What is the weight of one cubic foot of Methane at 60 degrees

Fahrenheit and 30.00 inches of mercury pressure?

1. Fifty-three ten thousandths (0.0053) of one pound
2. Four hundred twenty-four ten thousandths of one pound (0.0424)\*
3. Seven hundred forty ten thousandths of one pound (0.0740)
4. Twelve hundred seventeen ten-thousandths of one pound (0.1217)

6. What percent of Carbon Monoxide can cause death in less than one hour?

a) 0.1 percent or more

b) 0.2 percent or more

c) 0.4 percent or more\*

d) None of the above

1. 0.01% of Carbon Monoxide might produce symptoms of poisoning if breathed indefinitely?
2. True\*
3. False
4. What percentage of blood saturation by Carbon Monoxide (CO) will cause death?
5. 20% - 30%
6. 25% - 30%
7. 70% - 80%\*
8. 40% - 50%
9. This dangerous gas is most likely to be encountered above a pillar fall.
10. Carbon Dioxide
11. Methane\*
12. Hydrogen Sulfide
13. Nitrogen Dioxide
14. Because \_\_\_\_\_\_\_\_\_\_ is lighter than air, if not properly diffused, it will rise, stratify and accumulate in inadequately ventilated places.
15. Carbon Dioxide
16. Methane\*
17. Oxygen
18. Hydrogen Sulfide
19. What is the principle combustible gas usually found in coal mines?
20. Methane\*
21. Carbon Dioxide
22. Carbon Monoxide
23. Hydrogen
24. What is the principal poisonous gas produced by explosions?
25. Carbon Dioxide
26. Methane
27. Carbon Monoxide\*
28. Hydrogen
29. Carbon Monoxide causes injury to life by combining with the hemoglobin of the blood and excluding Oxygen.
30. True\*
31. False
32. What is the weight of one cubic foot of Carbon Monoxide at 60 degrees Fahrenheit and 30.00 inches of mercury pressure?
33. Eleven hundred seventy ten thousandths (0.1170) pounds
34. Seven hundred forty ten thousandths of one pound (0.0740)\*
35. Fifty-three ten thousandths (0.0053) of one pound
36. Four hundred twenty-four ten thousandths of one pound (0.0424)
37. Oxides of Nitrogen cause fluid to accumulate in the lungs resulting in asphyxia.
38. True\*
39. False
40. What is the chemical symbol of Nitrogen Dioxide?
41. NO2\*
42. N2
43. CO2
44. H2S
45. What is the threshold limit value for Oxides of Nitrogen?
46. 5 ppm\*
47. 10 ppm
48. 25 ppm
49. 50 ppm

18. What is the specific gravity of Nitric Oxide?

1. 1.589
2. 1.036\*
3. 0.5545
4. 0.0695
5. What concentration of Hydrogen produces the most violent explosion?
6. 7 to 8 percent\*
7. 10 percent
8. 5 to 15 percent
9. 4 to 5 percent
10. Which is the heaviest, one cubic foot of Methane or one cubic foot of air?
11. one cubic foot of air\*
12. one cubic foot of methane
13. What gas is odorless, tasteless, non-toxic, colorless and explosive in the concentration of 5%-15%?
14. Hydrogen
15. Oxides of Nitrogen
16. Methane\*
17. Oxygen
18. The presence of small quantities of Hydrogen greatly increases the explosive range of other gases.
19. True\*
20. False
21. Which of these gases is not commonly found in coal mines following a mine fire or explosion?
22. Carbon Monoxide
23. Carbon Dioxide
24. Hydrogen Sulfide\*
25. Nitrogen
26. Displacement of oxygen by other gases, and consumption by oxidation, including mine fires and explosions are the two main causes of oxygen deficiency.
27. True\*
28. False

25. What is the specific gravity of Oxygen?

1. 1.105\*
2. 0.967
3. 1.529
4. 1.000

26. Is Oxygen flammable or explosive?

1. Yes
2. No\*

27. Whitedamp refers to which gas?

1. Carbon Dioxide
2. Carbon Monoxide\*
3. Hydrogen Sulfide
4. Methane

28. How much Methane is present in a Firedamp atmosphere?

1. 5% - 15%
2. 30% - 70%\*
3. 12.5% - 75%
4. 4.0% - 45%

29. Blackdamp is an atmosphere deficient in Oxygen.

1. True\*
2. False

30. What is the threshold limit value of Hydrogen Sulfide?

1. 100 PPM
2. 10 PPM\*
3. 50 PPM
4. 3 PPM

31. Hydrogen Sulfide is **NOT** water soluble?

1. True
2. False\*

32. What is the explosive range of Hydrogen Sulfide?

1. 4.3% - 45%\*
2. 5% - 15%
3. 12.5% - 75%
4. None of the above

33. Hydrogen Sulfide is lighter than air.

1. True
2. False\*

34. Sulfur Dioxide is detected by the sense of smell and its effect on the air passages.

1. True\*
2. False

35. Sulfur Dioxide is water soluble **AND** combustible.

1. True
2. False\*

36. What gas is a product of complete combustion?

1. Hydrogen
2. Carbon Monoxide
3. Carbon Dioxide\*
4. Nitrogen

37. Respiration is increased as the concentration of Carbon Dioxide increases.

1. True\*
2. False

38. What is the threshold limit value of Nitrogen?

1. 81%\*
2. 75%
3. 50%
4. 33%
5. Carbon monoxide may be found in small quantities after blasting and will be found after an explosion or in the return from a mine fire and use of diesel equipment underground.
6. Hydrogen
7. Carbon Monoxide\*
8. Hydrogen Sulfide
9. Methane
10. The presence of Carbon Monoxide (CO) in a sealed mine area indicates a fire.
11. True\*
12. False