

MODERN MARVELS: ACIDS VIDEO GUIDE

Name _____ Period _____ Date _____

1. The U.S. manufacturer's approximately _____ tons of acid per year.
2. List some products that are manufactured using acids.

3. _____ acid is one of the most dangerous acids and is the primary catalyst in the 3,000,000 tons of explosives detonated annually in North America.
4. _____ is the leading explosive used in civil construction.
5. _____ is the key ingredient used by the military in explosives.
6. Superficial nitric acid burns begin in approximately _____ seconds and 3rd degree burns begin in approximately _____ seconds .
7. C-4 is made of approximately _____% of RDX, which is made from nitric acid.
8. Most of the nitric acid produced goes into the production of _____ (chemical formula) fertilizer.
9. This fertilizer can also be used as an _____ for explosives.
10. In 1947, a freighter packed with ammonium nitrate fertilizer exploded in Texas City and killed _____ people and another 5,000 were injured. This disaster is considered the worst industrial accident in the history of the United States.
11. _____ acid is stronger than nitric acid and is the leading chemical produced in the United States.
12. Why is sulfuric acid considered a strong acid?

13. Why shouldn't water be added to acid?

14. List some observations when the aluminum foil and sulfuric acid reacted:

15. What happens to sugar when sulfuric acid is added to it?

16. The Mosaic company produces _____ tons of sulfuric acid per day, which is comparable to the weight 17,000 automobiles.
17. List some uses of sulfuric acid.

18. Describe the process for producing sulfuric acid.

19. Why do your eyes water when cutting onions?

20. How long does it take for acid to dissolve a body?

21. What acid is produced in your stomach to dissolve food?

22. How is gelatin produced?

23. List some products that are produced with gelatin.

24. What type of acid is found in cola?

25. How many tons of vinegar are consumed in a year?

26. _____ is also known as “mother of vinegar.”
27. _____ acid is used to make “sugar of lead.”
28. What are the key ingredients (acids) in the electropolishing vats?

29. During electropolishing, acid reacts with chromium to form a protective layer of _____ that passivates stainless steel keeping it sterile.
30. What catalysts are used in the production of gasoline and jet fuel?

31. Why is sulfuric acid used to recover platinum?

32. What is the name of the acid cocktail used to dissolve precious metals?

33. What acids are found in acid rain?

34. Acid rain has a similar pH to _____.
35. What is another name for hydrochloric acid?

36. What happens to mustard gas when inhaled?

37. In the Middle Ages, goldsmiths used acid to _____, one of the earliest known applications of acid etching.
38. More people have died in Yellowstone due to _____ than from bear attacks.
39. Thermoacidophiles produce _____ that protect them from acidic conditions.
40. Hyperthermophiles produce an enzyme that is being synthesized to produce clean burning _____ from corn.