Metallurgy

Amalgum : An alloy in which one of the component metals is mercury, is called amalgam.

In alloys, the chemical properties of the component elements are retained but certain physical properties are improved.

Compounds of metal and non-metal and their uses :

1. Ferrous oxide (FeO) : In green glass, Ferrous salt.

2. Ferric oxide (Fe3O4) : In electroplating of ornaments an rmat n of f rric slat

3. Ferrous sulphate (FeSO4 · 7H2O) : In dye indus ry, an Mohr's salt

4. Ferric hydroxide [(Fe(OH)3)] : In laboratory reage t and in making medicines.

5. Iodine (I2) : (i) As antiseptic, (ii) In maki g tincture of iodine.

6. Bromine (Br2) : (i) In dye industry i) As laboratory reagent

7. Chlorine (Cl2) : In th formation f (i) M stard gas (ii) Bleaching powder

8. Hydrochloric acid (HCl) : n the formation of aquaregia (3 HCl : 1 HNO3) and dyes

9. Sulphuric acid (2SO4) :) As a reagent (ii) In purification of petroleum (iii) In lead storag battery

10. Sulphu d ox d (SO2) : (i) As oxidants & reductants (ii) As bleaching agent

11. Hydr gen S lphides (H2S) : In qualitative analysis of basic radical (group separation)

12. Sulphur (S) Antiseptics, vulcanization of rubber, gun powder, medicine.

13. Ammonia (NH3) : As reagent in ice factory.

14. Phosphorous : (i) Red (P4) refrigerent, in match industry etc. (ii) White (P4) – Rat killing Medicine.

15. Producer gas (CO + N2) : (i) In heating furnace (ii) Cheap fuel (iii) In Extraction of metal

16. Water gas (CO + H2) : (i) As fuel (ii) Welding work

17. Coal gas : (i) As fuel (ii) Inert atmosphere

18. Nitrous oxide (N2O) : Laughing gas, Surgery.

19. Carbondioxide (CO2) : Sodawater, Fire extinguisher.

20. Carbon monoxide (CO) : In phosgene gas (COCl2).

21. Graphite : As electrodes.

22. Diamond : Ornaments, Glass cutting, Rock drilli g.

23. Alum [K2SO4 Al2 (SO4)3 · 24 H2O] : (i) Purifica on of wa er (ii) Leather industry.

24. Aluminium sulphate [Al2(SO4)3 · 18 2O] : In aper industry/fire extinguisher.

25. Anhydrous aluminium chloride (lCl3) : Cracking of petroleum.

26. Mercuric Chloride (H Cl2) : Ca mel, Insecticides (Corrosive sublimate)

27. Mercuric oxide (HgO) : O ntment, poison.

28. Mercury (Hg) : Thermom ter vermillion, amalgum.

29. Zin Sulp de (ZnS) White pigment.

30. Zinc Su ate (White vitriol) (ZnSO4 · 7H2O) : Lithopone, Eye ointment.

31. Zinc C lorid (ZnCl2) : Textile industry.

32. Zinc oxide ZnO) : Ointment.

33. Zinc (Zn) : In battery.

34. Calcium carbide (CaC2) : Calcium cyanide & acetylene gas.

35. Bleaching powder [Ca(OCl) Cl] : Insecticides, Bleaching actions.

36. Plaster of paris [(CaSO4)2 · 2H2O / CaS O4 ½ HzO)] : Statue, Surgery.

37. Calcium sulphate (CaSO4 · 2H2O) : Cement industry.

38. Calcium carbonate (CaCO3) : Lime & toothpaste.

39. Copper sulphate (CuSO4 · 5H2O) : Insecticides, Electric cells.

40. Cupric oxide (CuO) : Blue & green glass, purification of petroleum

41. Cuprous Oxide (Cu2O) : Red glass, pesticides.

42. Copper (Cu) : Electrical wire.

43. Sodium nitrate (NaNO3) : Fertilizer.

44. Sodium Sulphate (Glauber salt) (Na2SO4 · 10H2O) : Medicine, cheap glass

45. Sodium bicarbonate (Baking soda) (aHCO3 : Fire extinguisher, bakery, reagent.

46. Sodium Carbonate (Washing s da) : (i) G ss industry (ii) Paper industry (iii) Removal of permanent hardness o water (iv) washing

47. Hydrogen peroxide (H2O2) : O dants & reductants, Insecticides.

48. Heavy water (D2O) Nucl ar reactor.

49. Liquid hydrog n : Rocke fuel.