

ORGANIC CHEMISTRY.

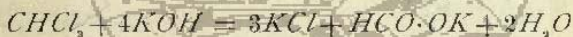
(PART 3.)

(1) By adding a little mercuric chloride, this compound destroys the red color of ferric thiocyanate, but does not change that of ferric acetate.

(2) See Art. 88.

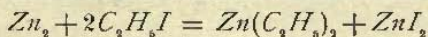


(4) Potassium chloride and potassium formate, as is seen from the following equation:



(5) See Art. 43.

(6) The equation

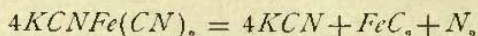


represents the formation of zinc ethide; taking the molecular weight of zinc at 130, and that of zinc ethide as 123, we have the proportion: $130:123 = x:194$, when $x = 205.04$ grams of zinc. Ans.

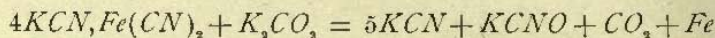
(7) A nitrile base is a tertiary amine compound, having the general formula NR''' , or NR_3' .

(8) Amido-acetic acid.

(9) Preparation of potassium cyanide (see Arts. **131** and **133**):



or



(10) See Art. **1**.

(11) See Art. **15**.

(12) See Art. **147**.

(13) $C_6H_5 \cdot NH \cdot NH_2$ is phenyl hydrazine; for its preparation see Art. **128**.

(14) See Art. **103**.

(15) See Art. **75**.

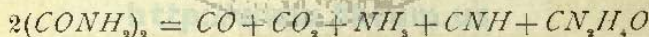
(16) The term "metallo-organic compounds" is applied to compounds composed of alcohol radicals and metallic atoms.

(17) $(C_2H_5)_2SO_4$ is ethyl sulphate.

(18) See Art. **147**.

(19) See Art. **125**.

(20) Carbon monoxide, carbon dioxide, ammonia, hydrocyanic acid, and urea, as is seen from the following equation:

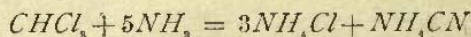


(21) See Art. **74**.

(22) $C_6H_5NO_2 + 3H_2 = C_6H_5NH_2 + 2H_2O$. The chief product is aniline.

(23) See Art. **40**.

(24) Ammonium chloride and ammonium cyanide, as is seen from the equation:



(25) See Art. **3**.

(26) Methyl cyanide has the formula CH_3CN , or $H_3\equiv C - C\equiv N$, nitrogen being trivalent.

(27) A substantive dye is a colored insoluble compound formed by the dyestuff and the fiber of the material to be dyed.

(28) See Art. **94**.

(29) See Art. **74**.

(30) See Art. **56**.

(31) See Art. **30**.

(32) Chloroform is distinguished by its anesthetic property.

(33) Prussian blue is ferric ferrocyanide; its formula is $Fe_4[Fe(CN)_6]_3$.

(34) See Art. **119**.

(35) See Art. **89**.

(36) All cacodyl compounds are extremely poisonous.

(37) See Art. **51**.

(38) See Art. **23**.

(39) Ethylene chloride or ethene chloride $C_2H_4Cl_2$.

(40) See Art. **132**.

(41) $C_6H_5 \cdot NH_2 + HNO_3 = C_6H_5 \cdot N : N \cdot NO_2 + 2H_2O$.

(42) Benzyl amine has the formula $C_6H_5 \cdot CH_2NH_2$, and toluidine has the formula $C_6H_4CH_3 \cdot NH_2$, from which it is seen that both compounds have the same molecular weight and the same percentage composition.

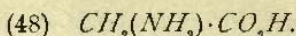
(43) See Art. **74**.

(44) See Art. **53**.

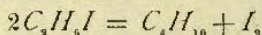
(45) See Art. **27**.

(46) See Art. **14**.

(47) See Art. **131**.

(49) NH_2CH_3 . See Art. **75** for the properties of methyl amine.(50) See Art. **61**.(51) See Art. **31**.(52) See Art. **16**.

(53) Ethyl iodide is decomposed by the action of the sun into iodine and butane, according to the equation:

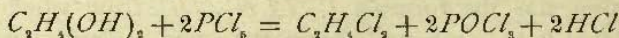
(54) Prussic acid has the formula $HC:N$; for its preparation see Art. **132**.(55) A diazo reaction takes place when nitrous oxides act on an ammonia base; the result is a diazo compound, containing the group $\cdot N:N$.(56) See Art. **90**.

(57) Bunsen and Berzelius.

(58) Dynamite is an infusorial earth, known as kieselguhr, impregnated with nitroglycerin.

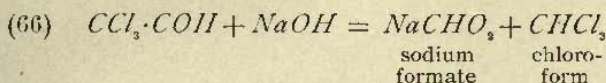
(59) Trichloroacetic acid has the formula $CCl_3 \cdot CO_2H$. It may be obtained by oxidizing chloral with nitric acid. See also Art. **23**.

(60) Ethylene chloride is obtained from glycol according to the following equation:

Taking the molecular weight of ethylene chloride as 99, and that of glycol as 62, we have the proportion $99 : 62 = 29 : x$, when $x = 18.16$ grams. Ans.(61) Turnbull's blue is ferrous ferricyanide; its formula is $Fe_3[Fe(CN)_6]_2$.(62) See Art. **119**.(63) See Art. **86**.

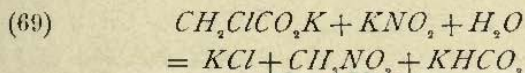
(64) $PH_3 \cdot C_6H_5$ is phenyl phosphine.

(65) See Art. 45.



(67) An adjective dye is a colored insoluble compound, formed by the dyestuff with a mordant.

(68) $(CONH_2)_2$ is oxamide. See Art. 101.



(70) In two; namely, one having the general formula CH_2XCH_2 , and another having the formula $CHXCH_2$.

(71) Tribromhydrin is prepared according to the following equation:



Taking the molecular weight of allyl iodide as 167.5, that of bromine as 159.5, and that of tribromhydrin as 280.25, we have the following proportions:

$$167.5 : 280.25 = x : 250$$

when x is 149.42 grams of allyl iodide, and

$$319 : 280.25 = x : 250$$

when x is 284.567 grams of bromine. Ans.