

Nitrates and nitric acid Important Questions

Question 1. Name a nitrate that on heating gives oxygen as the only gaseous product.

Question 2. Write an equation for the action of heat on potassium nitrate.

Question 3. Name the gas that you can obtain in laboratory from ammonium nitrate and write the equation for the reaction taking place to obtain the gas.

Question 4. Write the equation for the action of heat on sodium nitrate.

Question 5. Give the name of a soluble lead salt and write the equation for the action of heat on this salt.

Question 6. Write the equation for the preparation of nitric acid from potassium nitrate.

Question 7. Write correctly balanced equations for the following reactions:

- i. Nitrogen and oxygen when lightning strikes.
- ii. Action of heat on potassium nitrate.

Question 8. Write balanced equations for each of the reactions given below:

- i. Action of heat on sodium nitrate and on copper nitrate.
- ii. Nitrogen monoxide and oxygen.

Question 9. Describe what you see (observe) when concentrated nitric acid is added to copper.

Question 10. From the following substances, choose one in each case which matches the description given below :

Ammonium nitrate, calcium hydrogen carbonate, copper carbonate, lead carbonate, lead nitrate, potassium nitrate, sodium carbonate, sodium hydrogen carbonate, zinc carbonate.

- i. A nitrate that gives off only oxygen when heated.
- ii. A nitrate that on heating decomposes into di-nitrogen oxide [nitrous oxide] and steam.
- iii. A nitrate that gives off oxygen and nitrogen dioxide when heated.

Question 11. What do you see when concentrated nitric acid is added to copper?

Question 12. Name (formula is not acceptable) the gas produced in each of the following reactions:

- i. Action of concentrated nitric acid on copper.
- ii. Heating of ammonium nitrate (name only the nitrogen containing compound).

Question 13. Choose the correct word from the brackets to complete the sentence: Sodium nitrate reacts with _____ (concentrated/dilute) sulphuric acid to produce nitric acid. Write equation for the same.

Question 14. Write the equation for the following reaction: Between copper and concentrated nitric acid.

Question 15. From the formula listed below, choose one, corresponding to the salt having the given description:

AgCl, CuCO₃, CuSO₄.5H₂O, KNO₃, NaCl, NaHSO₄, Pb(NO₃)₂, ZnCO₃, ZnSO₄.7H₂O.

This salt gives nitrogen dioxide on heating.

Question 16. Give equations for the action of heat on: (i) NH₄Cl (ii) NH₄NO₃.

State whether each reaction is an example of thermal decomposition or thermal dissociation.

Question 17. What compounds are required for the laboratory preparation of nitric acid?

Question 18. State why pure nitric acid takes on a yellowish brown colour when exposed to light.

Question 19. Write an equation for the reaction between copper and concentrated nitric acid.

Question 20. The first step in the manufacture of HNO₃ is the catalytic oxidation of NH₃. Name