**THE REACTIVITY OF SOME METALS**

**Activity Series**

Aim: To test the chemical properties of some metals and arrange them in order of their

chemical activity.

Materials: Aluminium, magnesium, copper, iron, lead, tin, silver and zinc

Steel wool

6 test tubes and rack

Zinc sulphate solution (saturated)

Copper sulphate solution (saturated)

Dilute hydrochloric acid

Procedure:

1. Place 5ml of zinc sulfate solution in each test tube**.**
2. Add a metal sample to each and leave it for 3 to 5 minutes**.**
3. Record any reactions that occur. A reaction may be indicated simply by a dark deposit on the metal. If the metal remains shiny, you can infer there was no reaction**.**
4. Wash and clean the samples. Then repeat the steps 1 to 3 using copper sulfate and hydrochloric acid. Again recording your results**.**

Results:

|  |  |  |  |
| --- | --- | --- | --- |
|  | HydrochloricAcid | Zinc SulfateSolution | Copper Sulfate Solution |
| Aluminium |  |  |  |
| Copper |  |  |  |
| Iron |  |  |  |
| Lead |  |  |  |
| Magnesium |  |  |  |
| Tin |  |  |  |
| Silver |  |  |  |
| Zinc |  |  |  |

Questions and Conclusions:

Look carefully at your data table and answer these questions.

1. What usually happens when you add dilute hydrochloric acid to a metal?
2. Which metals reacted with**:**
3. All three test solutions (acid, zinc sulphate and copper sulphate)?
4. Two solutions only?
5. One solution only?
6. None of the solutions?
7. Try to put the metals in order from most reactive to least reactive**.**
8. Suppose you want to make a metal tank to hold copper sulfate solution**.**

Which would be the best metal to use and why?