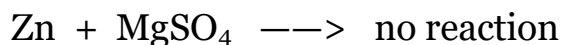


Spacecraft Materials and the Chemistry of Space Exploration

List the observed metal reactivity order, from highest to lowest:

1. Explain why putting zinc into magnesium sulfate would NOT produce a reaction.



2. Use the activity series of metals list to predict whether or not the following reactions will occur.



3. The clouds on Venus contain droplets of sulfuric acid (H_2SO_4). If we were building a satellite or a rover that would travel to Venus, which metals should we use? Which ones should we avoid? Explain your reasoning below.

4. It may be difficult or expensive to build satellites and rovers entirely out of unreactive metals. Other factors may come into play, such as cost, weight, or melting point. Discuss some pros and cons of some of the less reactive metals as candidates for your space craft. How could you incorporate more reactive metals into a design without having to worry about your rover dissolving before the mission is complete.