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Posted by Anonymous on Fri, 2016-03-18 09:34

Storage and disposal of deliquescent chemicals - Zinc Nitrate: Hi, My bottle of zinc nitrate has liquid in it and the bottle has expanded. It does not look right.

Voting:



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Year Level:

7

8

9

10

Senior Secondary

Laboratory Technicians:

Laboratory Technicians

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Zinc Nitrate

Submitted by sat on 19 March 2016

Answer reviewed 27 February 2023

Zinc nitrate is deliquescent, which means that it absorbs water from the air and dissolves in that water to become a liquid. This is very likely what has happened to your container of zinc nitrate. The extra volume has caused the bottle to expand. This chemical is no longer suitable for use and, because it is considered a heavy metal, should be disposed of by a licenced chemical waste disposal company.

Science ASSIST recommends the following.

- Wear appropriate PPE (safety glasses, laboratory coat, gloves and closed-in shoes) when handling zinc nitrate and zinc nitrate solutions.
- Place your current container into secondary containment, such as a larger plastic container, or at least a heavy-duty plastic bag in case the container splits and the contents spill.
- Arrange for disposal by a licenced chemical waste disposal company, because it is a heavy metal and not suitable for disposal via landfill or via the water sewerage system.
- Always purchase and store chemicals in small quantities. Consider storing hygroscopic or deliquescent chemicals in a desiccator to prevent the absorption of water from the air. Zinc nitrate should be stored with other oxidising agents away from combustible materials and reducing agents.
- Monitor the condition of all your chemicals and their containers to ensure that they are in a good and stable condition.

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