



13th Singapore National Crystal Growing Challenge

2nd Announcement

The details of the competition are given below. For safety reasons, all experiments must be performed under the supervision of a school teacher/lecturer.

Junior Level

Ammonium cobalt(II) sulphate hexahydrate [(NH₄)₂Co(SO₄)₂·6H₂O]

Ammonium cobalt(II) sulphate hexahydrate is a double salt containing both ammonium and cobalt as cations. It is obtained by the combination of two different salts which are crystallized in the same regular ionic lattice. Ammonium cobalt(II) sulfate hexahydrate is most commonly used as spectroscopic standard in analytical chemistry. It also finds its applications in cobalt plating, catalysis, ceramic and pharmaceutical industries.

[Combining ammonium sulphate and cobalt sulphate solids and dissolve in solvent and crystallize them together to get the double salt crystals.]

Senior Level

Sodium zinc sulphate tetrahydrate (Na₂Zn(SO₄)₂·4H₂O)

Sodium zinc sulphate tetrahydrate is also known as artificial changoite, named after the Changos people, the early former inhabitants of northern Chile. Natural variety of this compound is known as mineral changoite. This salt belong to the family of Bloedites which are compounds of general formula: MI₂MII(SO₄)₂·4H₂O, where MI and MII stand for univalent and bivalent cations. Sodium zinc sulphate tetrahydrate is prepared by dissolving equimolar amounts of sodium sulphate (usually Na₂SO₄·10H₂O) and zinc sulfate (ZnSO₄·7H₂O) in water and then allowed to crystallize.

Open Level

“Crystal Tree”

For this category, contestants are tasked to prepare a crystal tree that contain only organic crystals. You may use any organic crystal except sugar. Some examples are sulfamic acid, hippuric acid and amino acids. The method of crystallisation is left to the contestants. The main objective is to provide contestants with the opportunity to exercise their creativity, individuality and breath of scientific knowledge in growing the organic crystals.

[The crystal tree should be grown from one type of crystal. If needed, a tree-like prop could be inserted in the solution in the process of growing the crystal so that the crystals formed on the prop will make the crystal tree more firm. But the prop should not be seen. Do not use different crystals and do not connect them using the prop.]

More details about the evaluation criteria can be found in our Website:

<http://www.chemistry.nus.edu.sg/events/CommunityOutreach/ncgc/Rubrics.htm>

Registration

Registration is open now till **2 Mar 2018** or when the full registration is reached.

Hurry Up ! to register for the Challenge @ <https://goo.gl/forms/BBkmofLEppZar6Yn2>

For enquiries, please email to: chemistry-outreach@nus.edu.sg

May the Best Crystal Win!

