

# Preparation of Potash Alum

## BACKGROUND-

Potash alum is otherwise known as potassium aluminium sulphate is a chemical compound commonly encountered as the dodecahydrate. It is mostly used in water purification, dyeing, leather tanning and in baking powder. It forms regular octahedron crystals with flattened corners. The chemical formula of potash alum is  $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$ .

Potash alum is soluble in water and it turns litmus paper red. It is prepared by crystallizing the alum from a concentrated solution containing equimolar amounts of potassium sulfate and aluminium sulfate. It is a colourless, crystalline solid with a sour taste. It is commonly known as '*fitkari*'.

**Aim:** Aim of the experiment is to do the preparation of Potash alum.

The chemical reaction is given below.



## REQUIREMENTS-

**Sample:** Ammonium sulphate,

Aluminium Sulphate,

Ice

**Apparatus:** Two 250ml beaker,

China Dish,

Funnel,

Funnel Stand,

Glass Rod,

Wash Bottle

## PROCEDURE-

In a clean 250ml beaker, 2.5g of potassium sulphate crystals were transferred and 20ml of water was added and stirred till crystals get dissolved.

Then another beaker was taken and 10g of aluminium sulphate crystals were transferred to which 20ml of water and 1ml of dilute  $H_2SO_4$  was added to prevent hydrolysis of aluminium sulphate.

Heated for about 5mins, if milkiness persists, filter the solution. The two solutions are further mixed in a china dish was placed on a wire guaze which is placed over burner.

Stirred the solution with glass rod and concentrated till the crystallisation point is reached and the beaker was placed over cold water.

Almost immediately the crystals of potash alum were separated out, the mother liquor has to be decanted off and the crystals have to be washed with a small quantity of ice cold water.

**Use-**

1. It can be used for water purification and also as an antiseptic.
2. It can be used as an astringent.
3. It can be used as a deodorant.

**CONCLUSION-**

The colours of the crystals were observed to be white small crystals having octahedron shape.

**OBSERVATIONS-**

Colour of the crystal	Colourless
Shape of the crystal	Octahedral
Solubility in water	Soluble
Action of blue litmus paper	Blue litmus turns red

**REFERENCES-**

1. Inorganic medicinal and pharmaceutical chemistry., Block, Roche, Soine, Wilson.
2. Indian Pharmacopoeia, 1996, 2016.
3. Available at: [www.learncbse.in/prepare-pure-sample-potash-alum/](http://www.learncbse.in/prepare-pure-sample-potash-alum/).