

## ***PROJECT PROFILE***

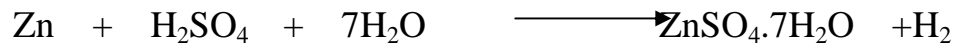
**Product Name** : **ZINC SULPHATE HEPTAHYDRATE**

**Product Specifications** :

Zn : **21%**

### **PROCESS DESCRIPTION**

Zinc Ash of 62-75% is reacted with dilute H<sub>2</sub>SO<sub>4</sub> in an agitated Reactor. The reaction as follows:



Zinc dissolves in sulphuric acid with evolution of H<sub>2</sub> gas. The slurry thus produced contains Zinc sulphate and impurities present in Zinc ash. The reaction is controlled in such a way that most of impurities form solid part of slurry is removed. The end point of reaction is very carefully maintained. The reactants are kept in a settling tank where some floc is added to fasten the separation of the solid impurities. These separated from clear solution of zinc sulphate in a PP recessed plate filter press. The filter press is hydraulically operated. The mud thus separated is sent for bagging and is sold to small farmers. The clear solution containing product is then led to crystallizer. Chilled brine is used to cool the solution and speed up crystallization. The crystals thus formed are separated from mother liquor in a centrifuge. The dried crystals are then packed into bags.

**LIST OF EQUIPMENTS:**

1. Acid Storage Tank
2. Pump
3. Hopper
4. Belt Conveyor
5. Screw Conveyor
6. Acid Day Tank
7. Reactors
8. Settling Tank
9. Pumps
10. Filter Press
11. Collection tray
12. Crystallizers
13. Centrifuge
14. M L Storage Tank
15. Pump
16. Chilling Unit
17. Brine Tank
18. Pump
19. Solution Tank
20. Pump
21. Drier
22. Hot Air Generating Unit
23. Cyclone
24. Hot Air Blower
25. Chimney
26. Bin
27. Bagging Machine
28. Stitching Machine
29. Slat Conveyor
30. Motor & Gear boxes

**AREAS OF APPLICATION** : **Micronutrient**  
**PRODUCTION CAPACITY** : **15 TPD**  
**INPUT** : **Per ton of Product**

**a) RAW MATERIAL:**

**Basis: 1MT of Product**

1. Zinc Ash (70-75%) : 310 Kg
2. Sulphuric Acid (98.4%) : 310 Kg
3. Common Salt : 31 kg / Day max.
4. Flocculent : Suitable

**b) UTILITIES**

**c) POWER** : **120 KWH/MT**

**d) SPACE REQUIREMENT** : **1500Sq. m.**

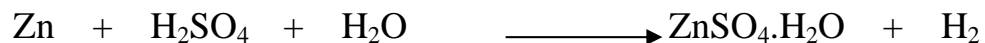
## ***PROJECT PROFILE***

**Product Name** : **ZINC SULPHATE MONOHYDRATE**

**Product Specifications** : **Zn : 28.33%**

### **PROCESS DESCRIPTION**

ZINC SULPHATE MONOHYDRATE:



The process is same till filtration as in heptahydrate. After that process is changed to obtain Monohydrate. The clear solution containing products led to a spray drier where down going solution meets an updraft of hot air. The water is evaporated leaving dry crystals of MONOHYDRATE which are then packed into bags.

## **LIST OF EQUIPMENT**

- 1. Acid Storage Tank**
- 2. Pump**
- 3. Hopper**
- 4. Belt Conveyor**
- 5. Screw Conveyor**
- 6. Acid Day Tank**
- 7. Reactors**
- 8. Settling Tank**
- 9. Pumps**
- 10. Filter Press**
- 11. Collection tray**
- 12. Crystallizers**
- 13. Centrifuge**
- 14. M L Storage Tank**
- 15. Pump**
- 16. Chilling Unit**
- 17. Brine Tank**
- 18. Pump**
- 19. Solution Tank**
- 20. Pump**
- 21. Drier**
- 22. Hot Air Generating Unit**
- 23. Cyclone**
- 24. Hot Air Blower**
- 25. Chimney**
- 26. Bin**
- 27. Bagging Machine**
- 28. Stitching Machine**
- 29. Slat Conveyor**
- 30. Motor & Gear boxes**

**PRODUCTION CAPACITY** : **15 TPD**  
**INPUT** : **Per ton of product**

**a) RAW MATERIAL**

**Basis : 1MT of Product**

1.Zinc Ash (70-75%) : 455 Kg  
2.Sulphuric Acid (98.4%) : 455Kg  
3.Flocculent : Suitable

**b) UTILITIES**

**POWER** : **120 KWH/MT.**

**c) SPACE REQUIREMENT** : **1000 Sq ft**

**d) SPACE OF STORAGE FINAL  
PRODUCT AND RAW MATERIALS** : **1000 Sq ft.**