

## Go Green Profitably

### WOOW Series:

Acetaldehyde  
Acetic Acid  
Aluminium Chloride  
Ammonium Sulfate  
Butyraldehyde  
Cellosolve  
Dimethyl Sulfoxide  
Dimethyl Sulfide  
Formaldehyde  
Formic Acid  
Glycerol  
Glycolic Acid  
Glycols  
N-methyl pyrrolidone  
Phosphoric acid  
Potassium Carbonate  
Potassium Chloride  
Potassium Hydroxide  
Potassium Nitrate  
Potassium Sulfate  
Phenol/Phenolics  
Polyglycerol  
Para Toluene Sulfonic  
Silica  
Sulfuric acid  
Sodium Bromide  
Sodium Bisulfite  
Sodium Chloride  
Sodium Formate  
Sodium Hydroxide  
Sodium Metabisulfite  
Sodium Sulfate  
Sodium Sulfite  
Sodium Silicate  
Sodium Thiosulfate

Economically recover Potassium Nitrate from waste water stream.

Geist Novel Antisolvent Technology is the preferred solution for separation of Potassium Nitrate from its aqueous stream.

### Typical Case study:

Aqueous Stream Capacity	= 20000 kg/day with 20% Potassium Nitrate
Market price of Potassium Nitrate	= Rs 30 /kg
Value of Potassium Nitrate in waste stream	= Rs 360 lacs per Annum
Cost of treatment	= Rs 30 lacs per annum*

For Potassium Nitrate (98.5% pure) recovery by Antisolvent Technology:

Cost of Separation	= Rs 4.7 /kg of Potassium Nitrate
Cost of Major Equipments	= Rs 45 lacs **
Other Project Costs	= Rs 55 lacs
Savings	= (Material Cost +Treatment cost-Separation Cost) = Rs. 320 lacs/Annum

Payback Period	= 4 months
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### Advantages:

1. Complete recovery of Potassium Nitrate.
2. Significantly lower capital expenditure.
3. Works in presence of other organic or inorganic impurities.
4. Saving in the overall production cost because of increased recycle & reuse.
5. Reduced load on treatment and / or disposal.
6. Environmental friendly process and can be converted to zero discharge.
7. Very attractive return on investment (typically less than a year)
8. Easy to operate.

\* Triple effect evaporator with steam economy 0.6 and Steam cost Rs 1/Kg

\*\* Separation cost & Cost of equipments is case specific and may vary with the concentration of Potassium Nitrate, stream quantity, availability of waste heat and other impurities present.

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