

# Chemical Coagulants

Source  
ProtectionSafe  
Transportation**Sedimentation**

Filtration

Disinfection

Safe Storage

## What is it?

Chemical coagulants are substances added to water to cause particles to clump together and settle (sediment) more quickly. They are commonly used for community drinking water treatment, and occasionally for household water treatment. Chemicals used for coagulation include aluminium sulphate (alum), polyaluminium chloride (also known as PAC or liquid alum), and iron salts (ferric sulphate or ferric chloride).

## Performance

### Microbiological Effectiveness:

Parameter	Effectiveness
Bacteria	Somewhat Effective (>80%)
Viruses	No independent tests
Protozoa	Somewhat Effective*
Helminths	Somewhat Effective*

\*Assumption based on data for natural settling

### Other Parameters

Somewhat effective at removing turbidity and colour.

### Source Water Requirements

No specific limits.

### Capacity

Varies based on container size and manufacturer instructions.

### Lifespan

Varies; chemicals typically last for six months to one year.

## Ease of Use & Acceptability

### Operation & Maintenance

Users follow manufacturer's instructions to add a prepared dose of coagulant to water. They stir the water for a few minutes and then allow particles to clump and settle. Settled clumps are removed by filtering or gently pouring off the water.

### Repair & Replacement

Chemicals must be kept in a dry location, and typically last for 6–12 months. Must be replaced regularly.



### User Considerations & Preferences

Dosing is difficult to optimize without training and equipment. Using chemical coagulants requires an ongoing supply chain.

## Feasibility

### Availability

Products are made by many manufacturers around the world. Most chemical products are difficult and complex to manufacture; small-scale local production is usually not feasible.

### Cost

Variable

### Size & Weight

Products are easy to transport and can often be purchased in small packages.

## More Information

Details and references: [www.hwts.info/products-technologies/25154a7c/Chemical-Coagulants](http://www.hwts.info/products-technologies/25154a7c/Chemical-Coagulants)

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