



Ferric Chloride Anhydrous
98% KC100
Coagulant and Flocculent for Drinking Water
Treatment, Effluent Treatment and
Sewage Treatment.



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Ferric Chloride KC100

KC100 is a coagulant and flocculent which is used for converting raw water into clean and safe water for human consumption. KC100 is also used for recycling industrial wastewater, effluent treatment and sewage treatment.

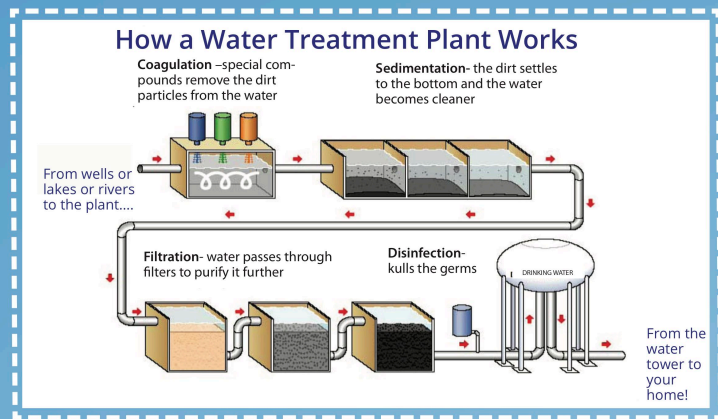
The Water Issue

70% of Earth is full of water, of which 97.5% is Sea/Salt water. This leaves only 2.5% of water as fresh and available for use. Of this 2.5%, nearly 70% is locked in icecaps. So actual usable Fresh Water for Human Consumption is only 1%.

Hence all available water needs treatment to

- ✓ To get rid of Turbidity
- ✓ To get rid of Bacteria and Viruses
- ✓ To get rid of Colour
- ✓ To get rid of Suspended Solids and Total Dissolved Solids
- ✓ To get rid of Odor
- ✓ To get rid of anything else that makes water unusable

The Treatment Process



FERRIC CHLORIDE - GLOBAL USAGE

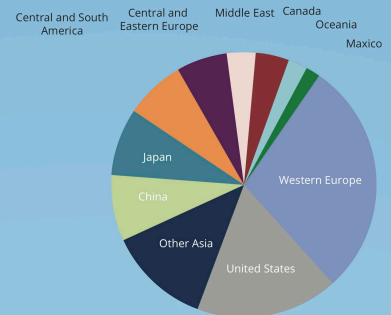
FERRIC CHLORIDE USAGE IS EXPECTED TO INCREASE BY 6.7% IN ASIAN COUNTRIES & ABOUT 3-4% GLOBALLY.

Due to increased awareness & research programs for higher removal of turbidity, phosphorous, arsenic and hydrogen sulphide, Ferric Chloride is gaining importance over other available coagulants.

Ferric Chloride is listed as a coagulant to be used for in water treatment by the World Health Organization (WHO), Bureau of Indian Standards (BIS), NSF and other such global regulating authorities.

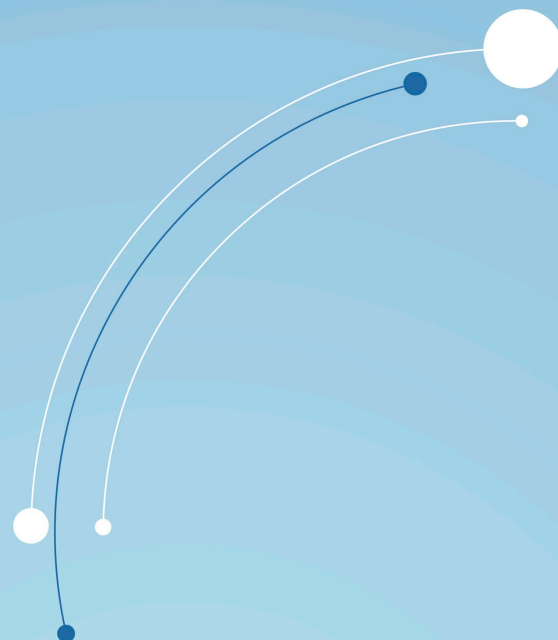
Ferric Chloride is currently being used by municipal corporations, Industrial units and other water treatment bodies in Europe, USA, Australia, South East Countries, West Indies, Gulf, South America and others.

World Consumption of Ferric Chloride



Uses of KC100

- ✓ TOC removal
- ✓ DOC Removal
- ✓ BOD removal
- ✓ COD removal
- ✓ Hydrogen Sulfide control
- ✓ Colour removal
- ✓ Arsenic removal
- ✓ Chromium removal
- ✓ Heavy Metal reduction
- ✓ Phosphorous removal
- ✓ Turbidity Removal / Suspended Solids removal



KC100 Certifications and Quality Control

KC100 is manufactured with strict quality control. Our in house laboratory is equipped with modern state of the art testing equipment's that guarantee effective quality control as well as product development.

Our quality and management systems are compliant with requirements of ISO 9001:2015 and ISO 14001:2015, and product manufactured is compliant to the requirements of BIS (Lic no 8200063308 ISI Marked).

NEERI Approval

CSIR – National Environmental Engineering Research Institute (NEERI)

Nagpur has conducted a study on KC100 to determine its suitability for use in drinking water treatment. The results obtained found Ferric Chloride KC100 to be suitable for drinking water treatment over a wide range of turbidities. Moreover when results obtained were compared with similar research conducted by NEERI for Alum and PAC it was observed that coagulant dose when using KC100 instead of PAC is reduced by 50% and when using KC100 instead of Alum is reduced by 62.5%.

KC100 vs the competition

The main competitors of KC100 are PAC and Alum

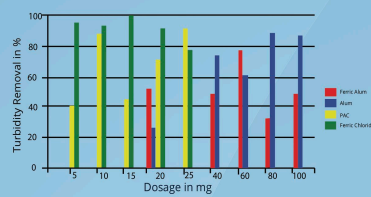
Coagulant Dose comparison (Based on research by NEERI Nagpur)

Below is a comparison of coagulant dose required to bring down the initial turbidity of water to 4 NTU. Limit as per IS 10500:2012 is set at 5 NTU.

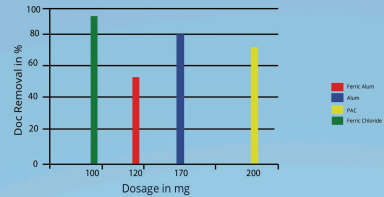
Raw Water Turbidity	KC100 Dose	PAC 30 Dose	Alum Dose	% Reduction over PAC	% Reduction over Alum
20	4 mg/L	30 mg/L	30 mg/L	86.67 %	86.67 %
50	12 mg/L	30 mg/L	30 mg/L	60.00 %	60.00 %
100	15 mg/L	30 mg/L	40 mg/L	50.00 %	62.50 %
500	18 mg/L	50 mg/L	55 mg/L	64.00 %	67.27 %

Over a wide range of turbidities using KC100 over PAC 30 powder will reduce the coagulant dose by at least 50 percent, and using KC100 over Alum will reduce coagulant dose by at least 60 percent.

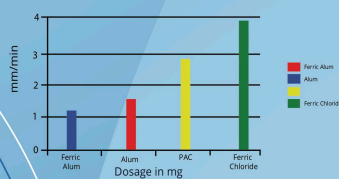
Turbidity Removal Comparison



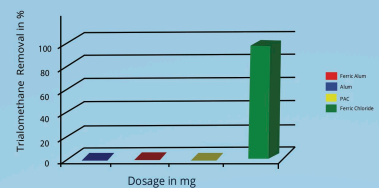
DOC Removal Comparison



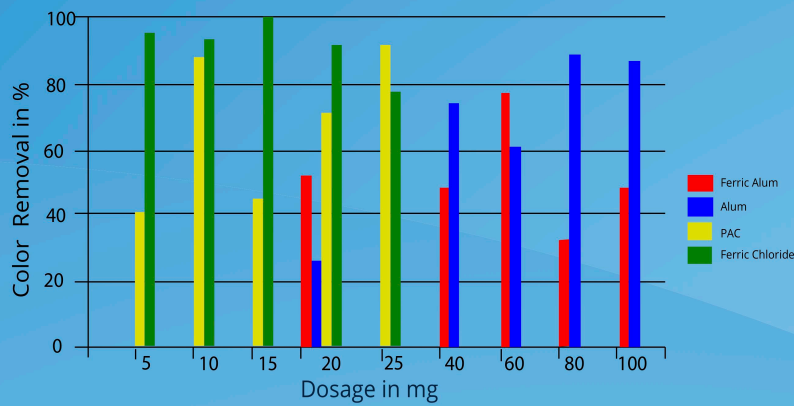
Sludge Settlement Rate Comparison



Trihalomethane Removal Comparison



Colour Removal



Other Factors

Quality of Material

Both Alum and PAC are available in multiple grades. Alum comes in 5 different grades, with grade 4 being used for water treatment. PAC comes in both liquid and powder forms and each form has at least three different versions and each version comes in medium or high basicity variants. Availability of so many different variants creates a problem in the actual quality of material being supplied. In contrast KC100 comes in only one grade ensuring complete control over the quality of material being supplied.

Availability of coagulants

In modern times with the presence of dams and reservoirs the raw water quality in lean season is generally very good as most of the turbidity has settled down. Thus in rainy seasons there is a huge demand for coagulants. It's a widely established fact that PAC is better than Alum for water treatment, however during rainy seasons there is a shortage of supply of PAC due to excessive demands and plants have to use Alum instead. Hence there is a genuine need for alternative coagulant to bridge this gap.

KC100 - How to use

KC100 is highly soluble and is easily dissolved in filtered water. KC100 can be easily used in existing water treatment plant setup that use PAC and Alum without any major modifications.

Other Uses of KC100

- ✓ Used as Etchant in manufacturing PCB's.
- ✓ As an etching agent for photoXengraving
- ✓ To produce decorative surface effects on ceramics
- ✓ In the manufacturing of glycerin
- ✓ As a catalyst, mordant, oxidizing, chlorination, and condensing agent
- ✓ As disinfectant, pigment, and cattle feed additive
- ✓ Food industry – slaughter houses, Margarine, Fish meal factories etc
- ✓ Thermal power stations
- ✓ Making of Persian blue pigment
- ✓ Alkylation of Benzene
- ✓ For making Ethylene dichloride, which is used for industrial production of vinyl chloride, the monomer for making PVC.
- ✓ Off shore drilling



KC100 Technical Specification

KC100 meets the requirements of IS 711, see details below

SNo	Tests	Requirement	Observation
1	Ferric Chloride (as FeCl_3 % by wt)	Min 98 %	99.05%
2	Ferrous Salts (as FeCl_2 % by wt)	Max .10 %	<0.1
3	Insoluble matter (% by wt)	Max 0.5 %	0.13%
4	Free Chlorine (as Cl % by wt)	Max 0.01 %	<0.01
5	Sulphates (as SO_4 % by wt)	Max 0.3 %	Not detected
6	Nitrates (as NO_3 % by wt)	Max 0.05 %	Not detected
7	Alkalis and alkaline earths (as SO_4 % by wt)	Max 0.3 %	Not detected
8	Copper (as Cu % by wt)	Max 0.015 %	Not detected
9	Zinc (as Zn % by wt)	Max 0.01 %	Not detected
10	Arsenic (as As_2O_3 % by wt)	Max 0.0005 %	Not detected

*Tests Conducted by QMTL, Govt. of MP, NABL approved laboratory, Indore

KC100 Packaging

25KG HDPE LAMINATED WOVEN
SACKS WITH INNER LINER



50KG OPEN TOP
HMHDPE DRUMS



Apart from these standard packaging options other packing modes like jumbo bags and others can be done as per clients requests.

KC100 Shelf Life

KC100 can be stored over two years without effecting quality of material, as long as kept in original packaging.

Chemfusion chemical realizes that each treatment facility must be approached individually. While the basis of water treatment remains constant, differences in water quality, treatment requirement, facility capabilities and staff expertise require solutions to treatment that are custom designed for the facility. Contact us for a knowledgeable, insightful, and fully committed assistance in developing solid solutions to your treatment needs.



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