



# HYDRAPRIME<sup>®</sup> HP-5640

*Organic coagulant for water treatment*

## Description

HYDRAPRIME<sup>®</sup> HP-5640 is a highly branched, high charge, medium molecular weight organic coagulant suitable for potable and wastewater clarification. It can be used as a primary coagulant for DAF and clarifier, as a filter aid for multimedia and ultrafiltration, and as a sludge conditioning agent to improve sludge dewaterability and provide a less turbid supernatant. HP-5640 flocculates as well as coagulates, thus using HP-5640 can negate the need for additional specialty polymers.

## Product Benefits

- » High charge, long chain for optimum performance
- » Forms a large, robust and tight floc
- » Performs at pH's between 4–11
- » High solids (concentrated for low dose rates)
- » Helps remove colour, colloidal and suspended solids, fats, oils & grease (FOG)
- » Dose up to 20 mg/L for potable water applications

## Product Use

HYDRAPRIME HP-5640 is characterised as being a highly branched, highly charged, medium molecular weight quaternary ammonium based organic coagulant.

HP-5640 has a range of uses in water treatment including:

- » potable water coagulant
- » primary coagulant
- » filter aid
- » thickening of sludges

HP-5640 is suitable as a coagulant for treating potable and non-potable water sources. HP-5640 acts in two ways; firstly to coagulate colloidal particles through charge destabilisation, and then using its chain length to flocculate these particles, HP-5640 binds them together in large tight flocs that settle well.

As a multimedia filter aid, small doses of HP-5640 will coagulate and flocculate colloidal particles improving filtration effectiveness and thus provide cleaner water to your next unit process.

As a sludge dewatering agent for a variety of sludge types, HP-5640 can in many cases, improve dewaterability and reduce supernatant turbidity.

HP-5640 is effective over a wide pH range (4–11) and can be used as a stand-alone treatment, or in combination with other chemicals.

## Properties

Form:	Liquid
Colour:	Light straw to amber
SG:	1.14 ± 0.05 @ 25 °C
pH:	4.5–7
Viscosity:	600–900 cP @ 20 °C

## Product Application

For optimum performance HP-5640 should be fed as a neat product. Dilution in a dosing or day tank is possible up to a 1 in 200 dilution ratio. Dilute solutions lose effectiveness over time. We recommend solutions more dilute than 1 in 50 should be changed every few days.

HP-5640 should be dosed to a well-mixed and highly turbulent location of the water circuit. For optimum results HP-5640 requires a short period of initial high mixing energy (a few seconds) followed by a longer period of lower energy mixing to allow particle or floc growth.

For most applications a typical addition point may be on the suction side of a water pump, or upstream of an in-line static mixer, or before pipework with elbows & bends and long straight runs. For sludge dewatering the dose point should be as far upstream as possible to allow good mixing between HP-5640 and the sludge. Using two separate dose points may reduce overall consumption.

Dose rates are best determined by jar testing as they can vary dependent on the type of application, feed water quality and final desired results. As a coagulant expect dose rates of 10–100 mg/L, as a filter aid 0.1–3 mg/L, and for sludge dewatering from 100–400 mg/L.