OQEMA GROUP

Water Treatment

Q-FLOQ

Turning suspended particles
into clear results

OQEMA is one of the leading full-line distributors in Europe for commodities and specialties combining deep market expertise with technical support from specialised labs to deliver tailored solutions that meet the unique needs of our partners.

Always reliable. Always responsive. Always on-site.

OQEMA Water Solutions offers innovative, eco-friendly solutions that are as diverse as our customers' needs. Specialising in wastewater and process water treatment, we deliver tailored, reliable, and innovative solutions that prioritise efficiency and sustainability. Beyond supplying high-quality products to tackle water challenges across different industries, OQEMA also brings technical expertise directly to your site, supported by mobile labs and on-the-go experts.

KEY FIGURES 2025

BN. € TURNOVER

1.5

PRODUCTS

15,000

EMPLOYEES

1,600

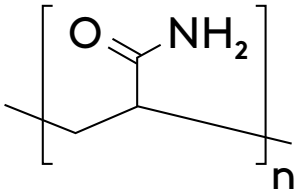
COUNTRIES

26

What are Flocculants?

Flocculants are polymeric substances that promote the aggregation of fine suspended solids in liquid media. By converting dispersed particles into larger flocs, they enable efficient clarification, thickening, and dewatering processes.

Most flocculants are based on polyacrylamide chemistry. Their performance can be precisely tailored by modifying the chemical structure of the polymer to suit specific applications and process conditions.



Polyacrylamide
chemical structure

How to use flocculants?

Q-FLOQ flocculants are available in different physical forms, each designed to suit specific operational requirements and process conditions. Selecting the appropriate form depends on handling preferences, activation time and system compatibility.

GRANULAR FLOCCULANTS (Q-FLOQ G)

Granular flocculants are solid products containing close to 100 % active matter. Prior to application, they must be prepared as aqueous solutions. Typical dissolution time ranges from 15 to 30 minutes. Including maturation, which generally requires an additional 30 minutes, total activation time usually reaches 45 to 60 minutes, depending on molecular weight and mixing conditions.

EMULSION FLOCCULANTS (Q-FLOQ E)

Emulsion flocculants contain up to roughly 50 % active matter, 25 to 30 % mineral oil and surfactants, with the remainder being water. The polymer is dispersed within a continuous oil phase and must undergo phase inversion upon dilution. During inversion, polymer molecules are transferred into the aqueous phase. Inversion and initial dissolution typically occurs within approximately 15 minutes, while total activation time generally ranges from 20 to 40 minutes.

WATER-BASED DISPERSION FLOCCULANTS (Q-FLOQ W)

Water-based dispersions contain approximately 25 % active polyacrylamide, 25 % stabilisers and the remainder being water. As the polymer particles are already suspended in an aqueous phase, activation is significantly faster. Dissolution typically occurs within 5 to 10 minutes, after which the product is ready to use. Under suitable conditions, these dispersions may even be dosed without prior activation making them quite unique in this regard.

What defines flocculant performance?

Flocculant performance is governed by three key parameters, listed in order of importance: charge characteristics, molecular weight and polymer structure.

CHARGE CHARACTERISTICS:
Flocculants are classified as anionic or cationic. Polyacrylamide in its natural state is non-ionic. Through copolymerisation, monomers are introduced to create positive sites (cationic), negative sites (anionic) or both (amphoteric), enabling a broad range of application-specific solutions. Within this classification, charge density further differentiates products. Charge density describes the level of ionic functionality incorporated during copolymerisation and is typically expressed as the percentage of ionic monomer relative to acrylamide units.

MOLECULAR WEIGHT:
The length of the polymer chains, referred to as molecular weight, can vary from short to very long. Higher molecular weight flocculants have longer chains that enhance particle bridging, resulting in flocs with greater shear resistance, although the polymer may move less easily within the medium. Lower molecular weight flocculants are more agile in the system, but the flocs formed are less resistant to physical forces. In addition, lower molecular weight flocculants generally require shorter activation times compared to higher molecular weight products.

POLYMER STRUCTURE:
Unmodified polyacrylamide forms a linear polymer chain. During manufacturing, structural modifications can introduce branching and/or crosslinking. Branching refers to a linear chain with additional side chains, creating a degree of ramification. Crosslinking connects two or more linear chains together, forming a more interconnected polymer network.

Where Q-FLOQ is used?

Flocculants are used wherever solid–liquid separation is required. Whilst this can occur in pretty much any industry, they are widely used in municipal and industrial wastewater treatment, sludge processing, mining, Oil&Gas, mineral processing and paper manufacturing.

Regardless of industry, we can split up the uses of flocculants into three main categories:

- **Primary wastewater treatment:** Reducing turbidity and suspend solids from waste water
- **Sludge dewatering:** Removing water from liquid sludge
- **Solids removal:** Facilitate the sedimentation or removal of suspended particles

Q-FLOQ portfolio

Our Q-FLOQ portfolio covers a wide range of combinations based on the key parameters explained above. Not sure which flocculant is right for your process? Our experts are here to guide you. Below is a quick overview of the portfolio.

		Polymer Structure			Charge Characteristic		
Q-FLOQ PORTOFLIO	**Activation time**	**Linear**	**Branched**	**Crosslinked**	**Anionic**	**Cationic**	**Amphoteric**
Q-FLOQ G series		o			o	o	
Q-FLOQ E series		o	o	o	o	o	
Q-FLOQ W series		o	o	o	o	o	o

Contact us.

OQEMA Water Solutions
oqema.com/de/en/contact

May 2026