

CT-06 V6

This environmental assessment has been undertaken using site-specific data to quantify the potential "carry-over" of key chemical constituents to the environment resulting from the application of Clearflow Gel Flocculant in water treatment processes and silt control systems.

The calculation methodology incorporates estimated or known flow rates, together with forecast or actual application volumes of Gel Flocculant, and benchmarks these against the speed of expenditure of the Gel Flocculant materials. The expenditure rates are derived from long-term site trials, operational experience, and technical evaluations. The resulting carry-over values are assessed in relation to the most relevant Environmental Quality Standards (EQS).

A precautionary approach is applied throughout as such, reported carry-over values are expressed prior to consideration of dilution effects within the receiving waterbody and do not incorporate potential reductions through binding, capture, or removal within the water treatment and silt management systems.



Project Anwyl Homes, Mold

Water treatment process and silt control system overview for Anwyl Homes, Mold

The site intend to use 2 Pipe Reactors, each containing 5 Gel Flocculant block (3x 494 and 2x 360). The maximum pump rate through these systems is 1800L/min (30L/sec). The flocculated sediments are captured in attenuation features and water is released from site over a polishing channel that is comprised of sediment capture mats and Floc Mats that are treated with Gel Flocculant granules. The environmental carry over calculations show that the discharge water will not exceed the industry standards based on the worse case scenario of the treatment of clean water, with zero % binding to sediment and no dilution in the receiving environment.

Project specific water treatment information

Number and blend of Gel Flocculant blocks		Gel Flocculant system flow rate(s)		Floc Mat (FM1) system flow rate(s)	
360	4	Discharge Rate (L/min)	3,600	Discharge Rate (L/min)	3,600
494	6	Hours run per day	8	Hours run per day	8
394	0	Discharge per day (Litres)	1,728,000	Discharge per day (Litres)	1,728,000
398	0	Days until replacement of blocks	30	Days until replacement of mats	30
Total	10	Total discharge in litres	51,840,000	Total discharge in litres	51,840,000
Number of Floc Mat in system		20			

Project specific comparison : Carry over levels v Environmental Quality Standards (EQS). Worst case scenario based on treatment of clean water, zero % binding of sediment & no dilution in receiving water.

Discharge carry over aspect	EQS Value	Standard	Project Discharge Value	% below EQS
Aluminium	0.2 mg/l	Drinking Water Standard	0.007	2818.92%
Acrylamide	0.1 ug/l	Drinking Water Standard	0.068	32.02%
Polyelectrolyte	7.5 mg/l	Waste Water Treatment Standard	0.147	5015.79%

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Disclaimer

The use of flocculants on construction sites requires permission from the environmental regulator. Proceeding with deployment of a flocculant without regulatory permission is not advised.

Every construction site is different and whilst Frog Environmental provide site-specific proposals, Frog Environmental is not in control of the construction site or any portion thereof at any time.

Frog Environmental do not accept design liability for the efficacy of water treatment systems that are developed in conjunction with the client.

The quality and quantity of water discharged from site remains the sole responsibility of the client at all times. Please refer to our full terms and conditions.