

BioBreak®

Biopolymer Technology

Reverse Emulsion Breaker • Water Clarifier • Hydrocarbon Recovery • Solids Control • Iron Flocculant

BIOPOLYMER TECHNOLOGY FOR: PRODUCED WATER
FLOWBACK WATER
OIL-WATER SEPARATION

Recover More Oil. Improve Oil-Water Separation. Produce Cleaner Water.

< 5 ppm

Residual hydrocarbon
content

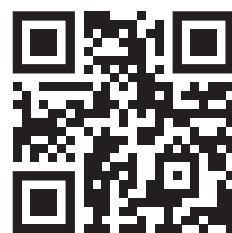
< 1 ppm

Total soluble iron
content

100%

Water-based • Non-DG
Biodegradable

NX Chemical
Chemical Technologies & Solutions





PRODUCT LINE

BioBreak® Technology is a suite of biopolymer-based products engineered to improve oil-water separation efficiency, recover hydrocarbons, and control solids and iron across onshore and offshore operations.

NX OilFloc REB-30 PRIMARY TREATMENT High Cationic Charge Density for bulk oil removal from water	NX WaterFloc REB-36 SECONDARY TREATMENT High mixed charge density. Used as a polisher.	NX WaterFloc REB-37 SECONDARY TREATMENT & FLOCCULATION High polar density. Used as a polisher and iron flocculant.
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BioBreak® FEATURES

-  Lowers hydrocarbon content in water to < 5 ppm and soluble iron < 1 ppm
-  Usable in primary or secondary oil-water separation
-  Water-based, safe, and non-DG (not Dangerous Goods) for shipping purposes
-  Excellent for produced water, frac water, and flowback water reuse
-  Superior cost/performance versus other products
-  Not toxic, flammable, or corrosive
-  Green Chemistry - biopolymer-based, sustainable materials
-  Compatible with other chemical additives
-  Produces no sludge, solids, or deposits in process equipment
-  Does not affect downhole performance
-  Simple to apply and use
-  Biodegradable

INDUSTRIES SERVED

**Oil & Gas
Operations**

**Municipal
Waste**

**Water
Treatment**

**Manufacturing
Facilities**



FREQUENTLY ASKED QUESTIONS

What is BioBreak Biopolymer technology?

Is a suite of products based on naturally occurring polymer materials: NX OilFloc REB-30, NX WaterFloc REB-36, and REB-37. Water-based and not regulated for transport (not Dangerous Goods).

How do BioBreak biopolymers function?

The highly charged BioBreak biopolymers neutralize and destabilize emulsion interfaces and at the same time promotes coalescence.

What are the differences between the products?

Different molecular weights and architectures. REB-30 is used for bulk oil removal; REB-36 and REB-37 serve as secondary-stage polishers.

How low can hydrocarbon content go?

Residual hydrocarbon (oil) content in treated water can be reduced to as low as 5-10 ppm.

Where can the biopolymers be applied?

REB-30: wellhead, manifold, 3-Phase Separator/FWKO inlets, Gun Barrels, and Desalter wash water.

REB-36/REB-37: Skimming Tank, Flotation Unit, or Filter inlets, generally at 1-10 ppm.

Are sample kits available, and what quantity?

Standard kits contain 15 mL/sample (1–20 ppm dosing) - enough for months of lab testing. Lab work uses a diluted 1% solution; process use is undiluted, as received.

How do I request a sample kit?

Send a request to info@nxchemical.com.

How do I run a bottle / jar test?

Make a 1% dilution in water of each BioBreak, dose at 2-12 ppm to each sample and include a blank. Record turbidity, and oil-in water levels v/s chemical dosage.

PRODUCT APPLICATIONS

BioBreak® PRODUCT LINE

Feature	REB-30	REB-36	REB-37
Primary Treatment	✓		
Secondary Treatment		✓	✓
Secondary Treatment & Flocculation			✓
High Cationic Charge Density	✓		
High Mixed Charge Density		✓	
High Polar Density			✓

NX OilFloc REB-30

Bulk Oil Removal

High cationic charge density biopolymer for **primary oil-water separation**.

NX Waterfloc REB-36

Produced Water Polishing

High mixed charge density biopolymer for **secondary oil-water separation**.

NX Waterfloc REB-37

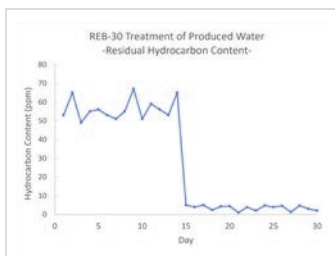
Iron Flocculation & Water Polishing

High polar density biopolymer for **secondary oil-water separation and iron removal**.





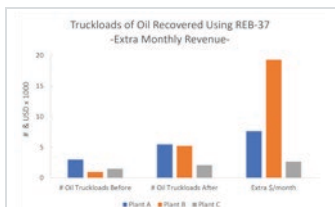
PROVEN FIELD RESULTS



CASE 1 — Oil Carryover Minimization in Produced Water

50 ppm → < 5 ppm residual oil, within minutes

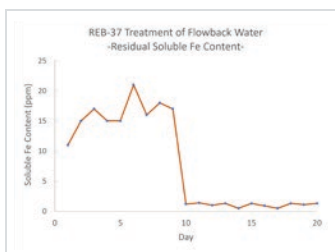
Produced water with 50 ppm average dispersed hydrocarbons at the outlet of primary separators was treated with NX Chemical BioBreak Biopolymer REB-30. At dosages below 8 ppm, REB-30 enhanced separation rate, reducing residual oil to below 5 ppm within minutes while maintaining stable interfaces.



CASE 2 — Oil Recovery in Salt Water Disposal Plants (SWD)

+40% / +85% / +450% oil recovery and +\$3K / +\$8K / +\$19K monthly revenue

Oily water sent to SWD plants contained significant hydrocarbon levels. NX Chemical BioBreak Biopolymer REB-37 at dosages below 10 ppm enabled significantly more oil recovery, increasing revenues while reducing plugging impacts on injection water wells.



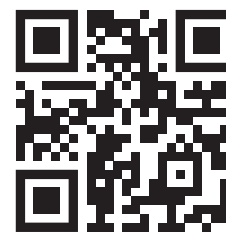
CASE 3 — Soluble Iron Removal in Flowback Water

15 ppm → ~1 ppm dissolved iron

Flowback water from fracking operations containing 15 ppm of dissolved iron was treated with NX Chemical BioBreak Biopolymer REB-37. At dosages of 10–15 ppm, soluble iron was reduced to nearly 1 ppm, enabling reuse for fracking operations.

CONTACT NX CHEMICAL TO KNOW MORE ABOUT BioBreak®

- Discuss specific applications for your operation
- Learn details about BioBreak and its many uses
- Request BioBreak sample kits and test protocols
- Request pricing and commercial details
- Ask how to become a distributor



OTHER NX CHEMICAL PRODUCTS

Emulsion Breakers | Flow Improvers | Inhibitors | Scavengers | Cleaners | Dispersants | Biocides

NX Chemical - Chemical Technologies & Solutions
A Nexo Solutions Division

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