



IRON MINING

Plant Application Successful Experience

An iron mining company located in South America produces 16 million tons/year of iron ore pellets. The iron ore is extracted from the mines and concentrated in water media. After the separation process, the water goes to the wastewater treatment plant.

CURRENT TREATMENT

- High cost in the wastewater treatment using alum salts, polymers and lime;
- Very low efficiency process using alum salt, polymer and lime;
- High ecotoxicity and toxicity in the current treatment process;
- The red color remained in the wastewater is a huge environmental problem;
- The treated wastewater still contains high levels of iron residual;
- The red color of the treated water discharged in the sea coast results in a negative ecosystem change;
- Huge smelling problem in the current treatment, caused from byproduct made in the combination of iron and alum salts during the treatment process;
- The large amounts of the alum salts and polymers will be accumulated in the surrounding ecosystem, negatively affecting wildlife and the ecosystem.



REDUCES TREATMENT COST

- Acquapol is a metal-free vegetable organic coagulant/floculant with the special characteristic to immobilize metals chelates.
- No need to use polymer and lime;
- Very low cost of the treatment compared with the current treatment process;
- High performance of the Acquapol in the wastewater treatment process;
- The red color is 100% removed from the treated water;
- No need to use alkalinizing agents during the treatment process;
- Does not dispose any alum salts in the surrounding ecosystem, protecting wildlife and the ecosystem;
- Non-harmful sludge;
- No more smell issue;
- Easy handling;
- Reuse of the treated water;
- This “green technology” will highlight the company’s image due to its attention and care for the environment, positioning the company above the competition.

	Dosage mg/L	PAM mg/L	Lime - pH 11	COD (in flow 1,187 mg/L)	Soluble Solid (in flow 752 mg/L)	Dissolved iron (in flow 4.78 mg/L)
Alum Salt Treatment	55 mg/L	2	1	550 mg/L	178 mg/L	1.60 mg/L
ACQUAPOL Treatment	3 mg/L	1	1	120 mg/L	8 mg/L	0.22 mg/L
Reduction	94.5 %	50.0 %	100.0 %	89.9 %	98.9 %	95.4 %



Cost reduction



No lime



Reduction in chemical handling



Biodegradable product with no interference in the surrounding ecosystem, protecting wildlife and the ecosystem



No iron residue after treatment



Colorless treated water



Odorless treated water



High efficiency