

Benefits

ECUVal provides a new solution for the treatment of wastewater that contains dyes and salts.

Electrochemical technique coupled to UV irradiation achieves the destruction of dyes and provides colourless effluents. The decoloured effluents can be reconstituted to be reused new dyeing processes.

The treatment is particularly efficient in the reactive dyeing process.

The implementation of ECUVal in the textile industry will achieve significant benefits:

- The reuse of effluents that contain high amount of salts implies lower consumption of water and salt in the dyeing process.
- The removal of colour improves the yield of wastewater treatment plants and reduces the use of chemicals.
- The reduction of wastewater salinity is also an additional economic and environmental benefit of the treatment, which results in lower wastewater taxes and improvement of the aquatic ecosystems.



CONSORTIUM



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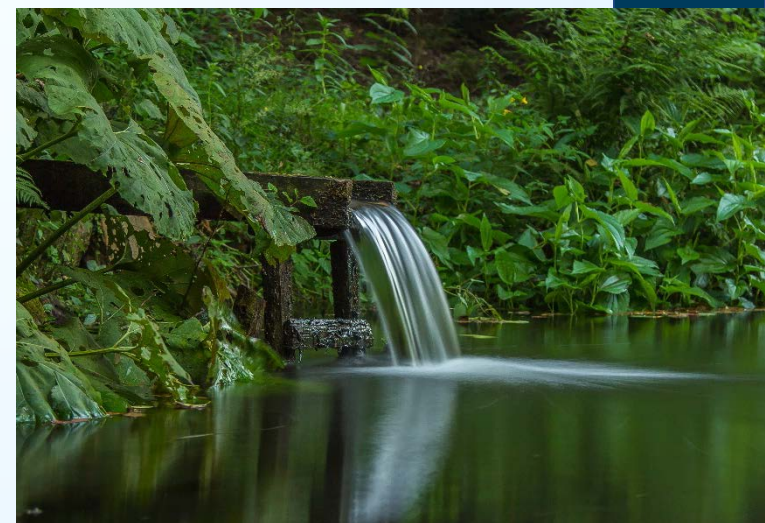


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Electrochemical techniques combined with UV irradiation for the treatment and reuse of textile dyeing wastewaters:
Industrial marketing

Water, treat to reuse



Project number: ECO/13/630452

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Aim

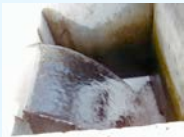
The ECUVal project aims to develop a green business based on an innovative wastewater treatment that combines electrochemistry with UV irradiation for the decolouration and reuse of textile effluents.

Coloured and saline effluents



Coupled EC + UV Treatment

Colourless effluent containing salts



Reuse of salt and water in new dyeing



Process

The textile dyeing produces a large volume of wastewater with high salinity and deep coloration. Residual dyes are generally not removed in conventional wastewater treatments and therefore specific treatments are required to remove colour.

Nowadays wastewater salinity is also another important issue to be solved. Sometimes textile mills are not able to accomplish water discharge regulations as salts cannot be removed in common wastewater treatments.

ECUVal faces both problems, salinity and colour of effluents. Based on a coupled electrochemical and UV system, ECUVal is a fast and simple treatment to achieve the colour removal. In addition, the wastewater salinity can also be reduced through the reuse of the treated effluents.

Environmental and economic benefits

- No chemicals are required to remove colour.
- Saving 70-100% dyeing water.
- Saving 15-60% dyeing electrolyte.
- Lower salinity of wastewater.
- Lower cost of the wastewater discharge.

Marked replication

- ECUVal system is designed for the textile industry. It is especially efficient in the reactive dyeing process.
- ECUVal is also transferable to other industries (chemical, pharmaceutical,...), which generate coloured and/or non-biodegradable effluents with high content of salts.



ECUVal is addressed to effluents containing salts and non biodegradable compounds.

ECUVal is particularly efficient in the treatment and reuse of reactive dyeing and washing effluents.

