



PROTECTING MAN AND ENVIRONMENT

Recycling of surfactant from sheepskin aqueous degreasing

Abstract

A Catalan technology centre based in Spain has developed a system for recycling the surfactant of the aqueous degreasing of sheepskins, consisting in a thermal emulsion breaking of the main and first wash float, and the selective separation of surfactant and fat by a two phase liquid extraction and evaporation of the solvents used. Partners, such as tanneries, are sought for further development of process and materials. Acceptance license and installation of the procedure are also of interest.

Description

The float coming from a non-ionic surfactant aqueous degreasing of sheepskins is one of the main COD (Chemical Oxygen Demand) sources for the wastewater stream to be treated in the tannery. This system allows the reduction of the pollutant load in the waste water and the valorisation of the solid waste generated in the separation of fat and surfactant, by means of recovering the surfactant to the process and obtaining a purified fat that can find use in lubrication industry.

Emulsion breaking is carried out by heating into a decantation tank operating during few hours, with discontinuous shaking. Then, rest during some hours for the following decantation of the two-formed phases:

- Lower phase composed by water and salts is discharged to the treatment plant.
- The top phase composed by fat, surfactant, part of water and salts is recovered.

Surfactant and fat are recovered by extraction process with heptane and ethanol and following solvents distillation.

Through a conventional distillation the solvents are recovered and the fat and surfactant are separated. The global advantages of the process are that 75% of the surfactant used for sheepskins degreasing can be recovered, and the wastewater pollution is reduced in COD values around 90%. Solid waste generation is reduced and the energy linked with its incineration

process is also reduced.

Innovations and advantages of the offer

The innovative aspects of the current technology are:

- Fat recovery from degreasing float
- Recovery of surfactant to be used in further degreasing processes

The main advantages of the technology compared with the existing ones are:

- Avoid COD load in waste water
- Valorisation of a waste
- Lower cost of degreasing process
- Possible industrial use of the obtained fat

Current and Potential Domain of Application

Tanneries or tannery consortiums producing sheepskin leather involving the aqueous degreasing process.

For further information (including IPR status) please contact:

Susanna Chericoni
Phone: 39 050 931620
Fax: 39 050 931640
Email: s.chericoni@cpr.it