



PERSONA CIÈNCIA EMPRESA
UNIVERSITAT RAMON LLULL

Title: New recovery processes to mitigate the impact of fluorinated gases from a circular economy perspective

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Summary: The stricter regulation regarding the use of fluorinated gases (F-gases), as a consequence of their high Global Warming Potential (GWP), represents a challenge for the refrigeration industry. The design of alternatives requires the recycling of the low to moderate GWP compounds from current refrigerant blends. However, there is not a developed and standardized technology available to recover them, and once the life cycle of the refrigeration equipment has ended, most gases are incinerated. Advanced liquid absorbents such as Deep Eutectic Solvents (DESs) or Ionic Liquids or solid adsorbents such as zeolites or metallic organic frameworks (MOFs) can offer an effective response to the challenging separation of F-gases mixtures from a circular economy perspective. This project has an experimental part where the student will study different absorbents to separate F-gases blends in order to predesign with ASPEN an industrial separation process. The project also will give to the student competences in thermodynamical modelling, process simulation and life cycle assessment. This project is in the framework of a research project funded by the Spanish Ministry of Science, Innovation and Universities led by IQS and University Rovira I Virgili.

