

General Methodology for Thermoset-Resins' Dissolution

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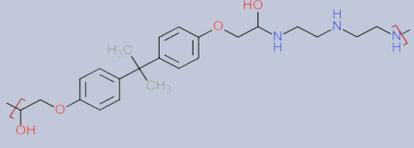
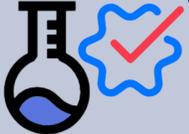
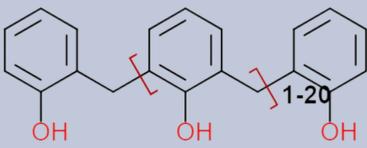
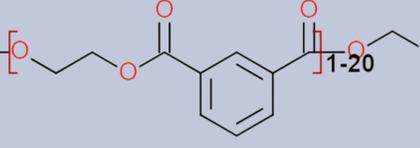
REDOL'S PROJECT OBJECTIVE

REDOL project is a European funded project towards the zero-waste goal in the municipality of Zaragoza. It aims to create Aragon's Circularity Hub and valorize solid urban waste (SUW) through industrial-urban symbiosis (I-US). To do so, it addresses 5 different value chains: Packaging, Plastics, Construction & Demolition Waste (CDW), Textile and Waste Electric and Electronic equipment (WEE).

The work developed here is regarding CDW and composite materials that are and will be discarded in the future.



RESINS SOLVOLYSIS STUDY

	EHS + BIO-BASED	EHS + NON-BIOBASED	NO EHS + NON-BIOBASED	NO EHS + BIO-BASED
EPOXY RESIN 	 No mix Solvents Boiling Temperature 24h 4 solvents tried	 No mix Solvents Boiling Temperature 24h 3 solvents tried	 No mix Solvents 60-120 °C 24h 2 solvents tried	 Solvents Mix 60-120 °C 24h 5 solvents tried
PHENOLIC RESIN 	 No mix Solvents Boiling Temperature 24h 4 solvents tried	 No mix Solvents Boiling Temperature 24h 3 solvents tried	 No mix Solvents 60-120 °C 24h 2 solvents tried	 Solvents Mix 60-120 °C 24h 5 solvents tried
POLYESTER RESIN 	 No mix Solvents Boiling Temperature 24h 4 solvents tried	 No mix Solvents Boiling Temperature 24h 3 solvents tried	 No mix Solvents 60-120 °C 24h 2 solvents tried	 Solvents Mix 60-120 °C 24h 5 solvents tried

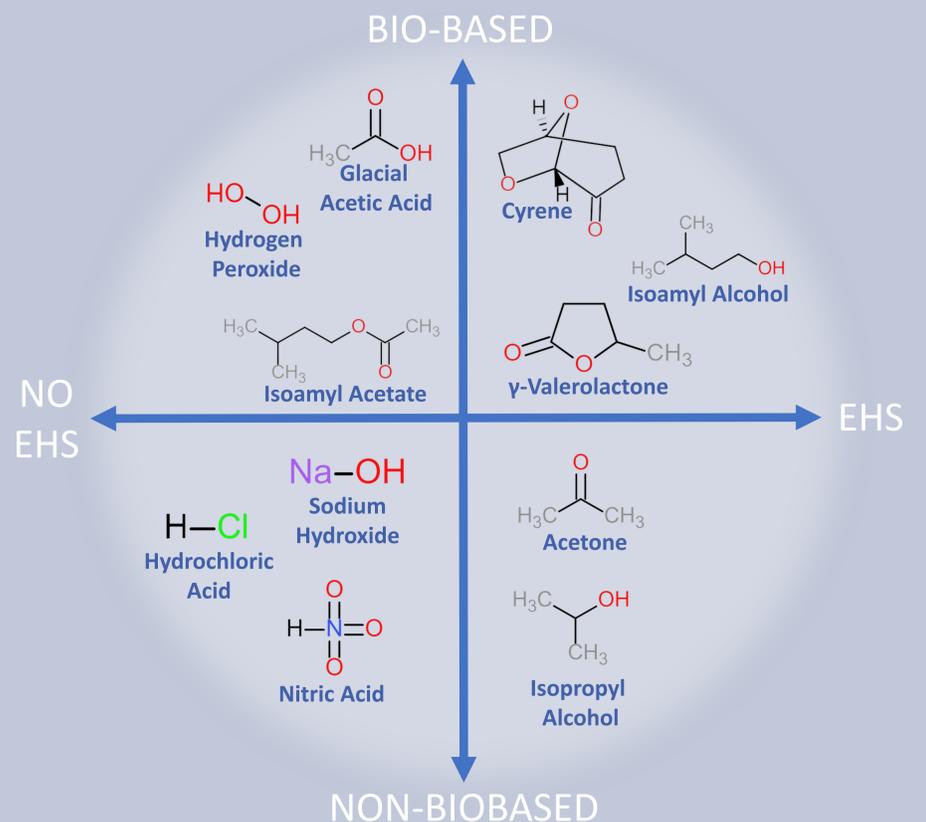
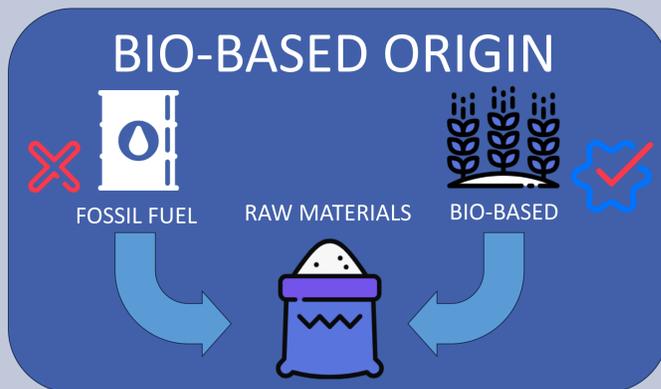
WHAT MAKES A SOLVENT A GREEN SOLVENT ?



There are different ways in which a solvent can be described as green. CO₂ production (LCA), Environmental Health and Safety Aspects (EHS), Raw materials from a renewable source (BIO-BASED)

ESH ENVIRONMENTAL, HEALTH & SAFETY

Maximum Reduction of Hazardous Conditions

Each of the distinct analysis can be used to identify what a green solvent is from different points of view. As the LCA, total emissions study, requires the knowledge of the whole life cycle, the efforts were centred into the bio-production availability and the health/environmental impact of the solvents.

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