SiToLub - Simulation Tools for the Design of Safe and Sustainable Lubricants

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Abstract

As part of the European Green Deal [1], the European Union introduced the Chemical Strategy for Sustainability (CSS) [2] to achieve a toxic-free environment by strengthening regulations, fostering the development and adoption of safer and more sustainable chemicals.
The SSbD framework [3] supports product developers in integrating safety and sustainability considerations into the design of novel chemicals through a more holistic and structured approach.
The SiToLub project aims to support product developers in applying the SSbD framework by providing computational tools for pre-assessment of lubricant components (base oils, additives, formulations). The developed models will predict safety (toxicity, biodegradability), performance aspects (properties, stability, tribology), and overall sustainability (LCSA) of the lubricant. The SiToLub modelling platform will be supported by Artificial Intelligence (AI) functionalities aiming to identify safer sustainable alternatives for the user's requirements and to support the multi parameter decision making process which this involves.

References

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