

Exercise background story

“GreenPoly Solutions” is an innovative company at the forefront of sustainable materials development. With a growing commitment to environmental responsibility and safety, GreenPoly has embarked on a mission to revolutionize the plastic industry by creating *safe-and-sustainable-by-design* plastic additives. These additives are crucial to enhancing the performance of plastics used in a wide range of industries, including packaging, automotive, and consumer products. However, the company is determined to minimize the negative environmental and health impacts often associated with traditional plastic additives.

As part of this initiative, GreenPoly has tasked you, its research and development teams, to explore and evaluate different types of additives with varying functionalities (see Slides “Week 1_Intro_Hazard Assessment_Exercise 1”). Each group is to select a specific type of plastic additive, such as stabilizers or flame retardants.

The goal of this semester's exercise is to assess the safety and sustainability aspects of the chosen chemicals (at least 3 out of 5 chemicals for assessment). Each group will research, evaluate and compare the potential risks and environmental impacts of their selected additives.

At the end of the semester, each group will present their findings, proposing recommendations for the development of safer, more eco-friendly additives, noting the structure differences of selected chemicals. GreenPoly believes that by addressing these critical concerns early in the development process, they can make significant strides toward offering more sustainable solutions to the plastic industry and driving positive change for the environment and public health.