Embedding GreenSuite® Risk Assessments into LCAs

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The building product market (and, all market sectors for that matter) in the US and internationally are being increasingly obligated to provide transparency data related to both its environmental and human health impacts along the entire supply chain. Unfortunately for these product manufacturers, there are limited methodologies available to assess the risk to human health and safety, and the environment, and incorporate that information into a lifecycle assessment (LCA). Different organizations have attempted to fill this void by simply assessing individual constituent hazards derived from worst case exposures. This oversimplified and less scientific hazard-only approach results in manufacturers and consumers (product users) unable to make informed decisions regarding their potential risks from exposure under actual use conditions to individual ingredients or the overall product. By expanding standard LCAs to include risk assessments at the chemical, manufacturing, use, and disposal lifecycle stages, we have provided both manufacturers and other stakeholders with a science-based approach to assessing environmental safety and human health risks along the entire value chain. Utilizing iFu's Umberto LCA software and Chemical Compliance Systems' GreenSuite®, we successfully merged quantitative product and manufacturing human health and environmental risk assessment results across the entire product life cycle with standard LCA information. This merged capability is not only highly specific to the individual product and its specific manufacturing process, but significantly reduces uncertainties and generalities when compared to a standard LCA.