540a Traci Version 2.0 Increases Scientific Defensibility within Sustainability Metrics
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Showing continuous environmental improvement or increasing sustainability requires the formulation of environmental metrics and tracking the stressors which affect these metrics. While there is not now, nor is there expected to be any global consensus on how these metrics should be structured and measured, various tools and methodologies exist to assist in these analyses.

The Tool for the Reduction and Assessment of Chemical and other environmental Impacts (TRACI) was developed to allow the quantification of environmental impacts for a variety of impact categories which are necessary for a comprehensive impact assessment. TRACI is consistent with U.S. EPA regulations and policies, and assumptions and value choices have been minimized. During the development of TRACI, the U.S. EPA decided not to aggregate between environmental impact categories, so many of the impact assessment methodologies within TRACI are based on the relative potency of the stressors at a common midpoint within the cause-effect chain. Characterization could take place at midpoint level, in the case of ozone depletion potential or at the endpoint levels (e.g., skin cancer, crop damage, immune system suppression). Analysis at a midpoint minimizes the amount of forecasting and effects modeling incorporated into the LCIA, thereby reducing the complexity of the modeling. Midpoint analysis also is more inclusive of all of the endpoint effects, and therefore increases the comprehensiveness of impacts. The technical approach underlying several impact categories will be presented.

TRACI can be used in a number of ways. For corporations, TRACI can be used to show continuous improvement by comparing the stressors (e.g., emissions) on a periodic (e.g., annual basis). These emissions could simply be an added analysis at the time TRI data is collected, and/or could include electricity requirements and/or direct suppliers. Alternatively, TRACI could be used for the full life cycle assessment (LCA) of a single product when compared to an industry average or a profile from a previous timeframe.

Analyses will be presented using TRI data of selected chemicals to show the direction of chemical emissions in several manners: on individual chemical pounds released basis, on a simple summation of mass released basis, and on a TRACI-weighted basis within each of the chemical emission categories.