

# Design for sustainability (DfS) scorecard



With our DfS scorecard, we drive sustainability improvement during the product development process through multiple product sustainability criteria divided into seven impact areas.

## Capillary HPLC Chromatography Columns (50 x 1.0 mm and 150 x 1.0 mm Formats)

Purospher® STAR RP-18, Supel™ Carbon, ZIC®-HILIC and ZIC®-cHILIC chemistries



Capillary HPLC chromatography columns – same performance in a smaller form factor, consuming less solvents, leading to less waste

### Impact areas

### Results



#### MATERIALS

Capillary columns use up to 95% less solvent and generate less waste per run than the baseline—thanks to a smaller diameter and lower flow rate while maintaining the same linear velocity. Although two columns are needed for 1,000 runs (increasing steel use by 38%), the reduced solvent consumption cuts global warming potential by up to 94%.



#### SUPPLIERS & MANUFACTURING

No change compared to the baseline product in consideration of our DfS criteria



#### PACKAGING

No change compared to the baseline product in consideration of our DfS criteria



#### ENERGY & EMISSIONS

No change compared to the baseline product in consideration of our DfS criteria



#### WATER

Up to 95 % less water used per run thanks to the smaller diameter column



#### USABILITY & INNOVATION

Smaller column allows for reduced flow rates and smaller injection volumes, conserving materials and solvents without compromising signal and resolution



#### CIRCULAR ECONOMY

Decreased solvent required per column run will result in less waste by customers

Baseline product: 150 x 4.6 mm HPLC Columns