

# THE DOZN™ SCALE

Based on the 12 Principles of Green Chemistry\*, DOZN helps researchers, scientists, and manufacturers increase performance and efficiency while reducing human and environmental impact.

\*Paul T. Anastas and John C. Warner, 1991.

**MILLIPORE  
SIGMA**

## L-Phenylalanine-1-<sup>13</sup>C (490091)

	12 Principles of Green Chemistry	Percentage of Improvement	Results
Resource Used	Atom Economy	N/A	
	Waste Prevention	N/A	
	Reduce Derivatives	31%	Reduced derivative steps
	Renewable Feedstocks Use	24%	Decreased amount of raw materials
	Real-Time Pollution Prevention	N/A	
	Catalyst	N/A	
Human & Environmental Hazards Reduction	Energy Efficiency Design	N/A	
	Less Hazardous Chemical Synthesis	45%	Minimized the use of toxic chemicals
	Safer Chemical Design	No change	
	Safer Solvents and Auxiliaries	69%	Reduced the use of auxiliary solvents
	Design for Degradation	No change	
	Inherently Safer Chemical for Accident Prevention	45%	Reduced flammability and reactivity hazard

**TOTAL PERCENT IMPROVEMENT**

**22%**

**AGGREGATE SCORE**

0 = Most Desirable

Re-engineered Score



Previous Score

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