Using high-throughput literature mining to support read-across predictions of skin sensitization

Grace Patlewicz<sup>1</sup>, Nancy C. Baker<sup>2</sup>, Thomas Knudsen<sup>1</sup>, Kevin M. Crofton<sup>1</sup>,

<sup>1</sup>NCCT, ORD, US EPA, NC, USA

<sup>2</sup>Leidos, RTP, NC, USA

Read-across predictions require high quality measured data for source analogues. These data are typically retrieved from structured databases, but biomedical literature data are often untapped because current literature mining approaches are resource intensive. Our high-throughput (HT) literature mining methods use MeSH terms to convert unstructured literature to a structured format. Using these HT methods, we built a literature profile for skin sensitization. We selected a target chemical (2E-decenal) and searched for source analogues based on reaction chemistry. Literature data for the source analogues were visualized as LitToxPIs to read-across the sensitization potential of 2E-decenal. Applicable across endpoints, our HT methods provide data sources to improve scientific confidence in read-across.

EPA disclaimer: The views expressed in this abstract are those of the authors and do not necessarily reflect the views or policies of the U.S. Environmental Protection Agency.