



Q4 2024: Did you know?

Automating SDS Translations with AI: Proceed with Caution

As regulatory demands and globalization drive the need for accurate, multilingual SDS documents, the temptation to leverage artificial intelligence (AI) for translation is understandable. However, the risks and challenges of developing an in-house AI system for this task should not be underestimated. While AI offers the promise of efficiency and cost savings, the consequences of errors in safety-critical SDS content could be catastrophic.

Careful consideration of the key requirements and limitations of current AI technology is essential before embarking on an internal SDS translation automation project. Thoroughly understanding the potential risks and taking proactive steps to mitigate them can mean the difference between a successful implementation and a costly failure.

Potential Risks:

- Losing proprietary data to a cloud-based AI solution that may access your training data
- Introducing copyrighted material or using inaccurate data from undocumented sources
- Trying to cover too many language pairs initially before having sufficient clean source content



Key Requirements:

- ✓ Use your own, self-contained AI platform to maintain control over data and process
- ✓ Carefully review and clean all source data before training the AI engine:
 - Ensure accuracy, consistency, and full regulatory compliance of SDS documents
 - Pay close attention to historical SDS data that may reflect different GHS versions
- ✓ Limit the initial number of language pairs based on the volume of high-quality source data available
- ✓ Ensure you have access to all necessary regulatory information in both source and target languages to properly train the AI
- ✓ Thoroughly review all AI-generated SDS outputs before publication to catch any errors

Limitations of Current AI Technology:

- Lacks fundamental understanding of chemical safety regulations, toxicology, and other domain knowledge
- Cannot reliably handle the inherent complexity and variability of natural language the way humans can
- Introduces a "black box" element that makes it difficult to audit if critical errors occur in the translation process

Recommendation:

Unless you can tightly constrain the scope of your AI project, the significant effort required to build a reliable SDS translation system may outweigh the potential benefits compared to using professional human translators. The serious consequences of errors in SDS documents demand an extremely high level of quality control, which current AI technology struggles to consistently deliver. Proceed with caution and careful planning if pursuing an in-house AI solution.