

**Title of Research:**

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**Probabilistic Exposure Evaluation Model for Relatively Small-scale Occupational Workplace**

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**Summary of Research:**

The purpose of this study is to develop an exposure assessment model that assists voluntary chemicals management by Japanese downstream industries for occupational exposure which seem to have relatively higher risk in the industrial supply chain. We have developed a probabilistic assessment tool for the occupational exposure in Japan based on the framework of Advanced REACH Tool (ART) constructed in European ART consortium. We named this tool as SWEEs (integrated Score-based Workplace Exposure system) and validated the exposure estimating algorithm by using limited amount of some available data of the organic solvent in Japanese industries. What we have done were model validation and building pathway of practical application by industrial sectors.

Improvement of function for combined exposure was added and also flexibility for data handling of user interface were improved, then SWEEs ver. 1.0 was developed.

**Timeline:**

July 2015 – May 2016

**Topics: N/A**

Poster presentation at 3<sup>rd</sup> LRI annual meeting for presenting research output, Tokyo.

**Publications:**

Haruko Yamaguchi, Asato Itoh and Akihiro Tokai (2015) Development of Occupational Exposure Assessment Tool Assisting Voluntary Risk Management of Industrial Sectors, World Congress of Risk, Singapore 2015/7/20.

Akihiro Tokai (2016) Exposure Evaluation Model for Relatively Small-scale Occupational Workplace for assisting voluntary action, 89<sup>th</sup> annual meeting Japan society of occupational health, Fukushima, 2016/5/25

Akihiro Tokai, Haruko Yamaguchi, and Liang Zhou (2016) Development of Occupational Exposure Assessment Tool Assisting Voluntary Risk Management of Industrial Sectors, Intl. Journal of Risk Theory, accepted.