

Multi-Component Substances (MCS) and UVCBs



Our Mission

The committee's mission is to develop a tiered approach for MCS/UVCB identification, characterization, and ecological assessment.

Chairs

Public Chair

Dr. Marc Fernandez (Environment and Climate Change Canada)

Private Chair

To be determined

HESI Staff

Dr. Sandrine E. Deglin (sdeglin@hesiglobal.org)

Dr. Michelle R. Embry (membry@hesiglobal.org)

2020 Committee Highlights



Participating Organizations

6 government/regulatory agencies, **6** academic/research institutes, and **5** industry



Publications

1 published and **1** in progress



Scientific Meetings and Trainings

1 meeting

- Committee Meeting (Toronto, Ontario, Canada; 10 attendees): initiated a discussion on a tiered evaluation of UVCB exposure and prepared the grounds for the next phase of committee activities consisting of ground-truthing the first part of the framework previously developed



Outreach

2 oral presentations

- Toronto, Ontario, Canada: presented the first part of the UVCB risk assessment framework developed for substance identification and characterization
- American Chemistry Council presentation (virtual): presented the committee's mission, and provided an overview of ongoing work, including the risk assessment framework, as well as next steps



Geographic Representation

Canada, Denmark, Finland, France, Netherlands, Sweden, United Kingdom, and United States

Working Groups



The committee is currently working on the development of case studies on the following four topics through which they aim to test and ground-truth the tiered risk assessment framework developed over the past 2 years:

- **Team Resins** (resin acids and rosin acids, hydrogenated esters with glycerol)
- **Team Kerosene**
- **Team Cedarwood Oil**
- **Team Quaternary Ammonium Compounds** (alkyldimethylbenzylammonium chlorides, ADBACs)

Areas of Focus for 2021

- **Case Studies.** Complete and publish the case studies.
- **Outreach.** Present the case studies at professional meetings such as SETAC.
- **Workshop.** Organize a hands-on workshop convening various stakeholders to present the framework and demonstrate its applications.

Strategic Impact Areas

Enhanced Efficiency and Accuracy in Safety Assessment Practice

The framework will help streamline UVCB risk assessments by making them more fit for purpose. It will use an evidence-based approach and will move away from hazard-based assessments requiring full substance characterization.



Catalysis of New Science

This project is initiating a novel conversation on UVCB risk assessment methods by which a new, more practical, evidence-based and robust approach will be developed.



Publications

Published

Salvito D, Fernandez M, Jenner K, Lyon DY, de Knecht J, Mayer P, MacLeod M, Eisenreich K, Leonards P, Cesnaitis R, León Paumen M (2020) Improving the environmental risk assessment of substances of unknown or variable composition, complex reaction products, or biological materials (UVCBs). *Environmental Toxicology and Chemistry*. In press. doi: [10.1002/etc.4846](https://doi.org/10.1002/etc.4846).

In Progress

The path to UVCB risk assessment: grappling with substance identification.

Participating Organizations

Government/Regulatory Agencies

Centre for Environment, Fisheries and Aquaculture Science (UK)
 Environment and Climate Change Canada
 European Chemicals Agency
 National Institute for Public Health and the Environment (RIVM, The Netherlands)
 Organisation for Economic Co-operation and Development
 US Environmental Protection Agency

Academic/Research Institutes

Research Institute of Fragrance Materials
 Technical University of Denmark
 Trent University
 University of Nantes
 University of Stockholm
 Vrije Universiteit Amsterdam

Industry

Angus Chemical Company
 DuPont
 ExxonMobil Biomedical Sciences, Inc.
 Givaudan
 Shell Chemicals, Ltd.