Summary of Public Comments received on the Science Approach Document for the Ecological Risk Classification of Organic Substances

Comments on the Science Approach Document for the Ecological Risk Classification of organic substances (ERC) as part of Canada's Chemicals Management Plan were provided by Elementis Specialties, Silicones Environmental Health and Safety Center (SEHSC) of the American Chemistry Council (ACC), the Methanol Institute, and the Methanex Corporation.

A summary of comments and responses is included below, organized by topic:

Topic	Comment	Response
Methodology	The ERC methodology characterizing hazard for substances applies a variety of metrics including: mode of action, chemical reactivity, internal toxicity thresholds, bioavailability, chemical action and bioactivity. This is a sound and pragmatic way to summarize hazard information.	Noted
	Emission rates, overall persistence, and long-range transport potential in air are reasonable factors to apply when evaluating potential risks of exposures in aquatic and terrestrial environments.	Noted

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	Clarify how the hazard and exposure metrics were obtained by adding model input values and empirical data (from the spreadsheet), along with how these values were calculated, why they were chosen, and a description of how each metric was applied when determining the hazard and exposure classification for each compound.	The ERC is based on available empirical scientific information and data, results of Quantitative Structure-Activity Relationship (QSAR), structural profiling, mass balance and bioaccumulation models. A large amount of data regarding specific values is not included in the document due to publication limits. Specific information and supporting spreadsheets containing data points applied in the classification of hazard and exposure potential for each compound are available upon request at: eccc.substances.eccc@canada.ca.

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New data and information and refinement of some ERC classifications	Additional data and references were provided regarding classification.	Refinements were made to some of the ERC classifications based on the new information and data received during the public comment period. While this led to changes to some hazard and exposure classifications, these refinements did not result in a change in risk potential for any of the individual substances. Although not associated with the data submitted during the public comment period, additional refinements were applied to ERC classification of some substances. Most refinements did not result in a change in the estimate of risk potential. However, these refinements did result in lower risk classifications for the following CAS RNs: 68527-01-5, 68527-02-6, 85-42-7, 26544-38-7, 28777-98-2, 32072-96-1, and 68784-12-3. Based on this additional evaluation, these seven substances are not expected to pose an ecological risk based on current information, and further assessment work on them is not required at this time. An updated table containing data that assigns risk classifications for substance-specific profiles for hazard and exposure may be obtained from: eccc.substances.eccc@canada.ca.

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	Improve robustness of the ERC by expanding the training sets of models to cover substances that are not yet included in the model, and explore opportunities for developing empirical data to validate the models. To avoid errors in the screening assessment conclusions, include all classes of materials that are part of the evaluation.	Research partners and model developers are routinely engaged to expand model domains. Model domains for individual substances were reviewed throughout the ERC process. Given that numerous chemicals are profiled, and chemical specific models are not used for each substance, empirical data was preferred over modelled data. Stakeholder feedback regarding potential errors in modelled data and compound classes is welcomed.
	Apply empirical data or estimates, rather than using the Soil Organic Carbon-Water Partitioning Coefficient (Koc) values for silicone materials. To improve accuracy regarding fate of the silicon-based materials, apply the values provided by stakeholders for half-life in soil, water, and sediment.	Multi-media and wastewater treatment modelling was updated taking the new data into consideration, and exposure and hazard classifications were updated accordingly. This resulted in a lower hazard classification for most siloxane substances; the overall risk classifications for the substances remained low.
Environmental fate and exposure	Estimated wastewater treatment plant (WWTP) removal is underestimated due to input values for the partition coefficients, and application of inappropriate water solubility data. Based on the properties of silicone materials, air would be expected to be the primary compartment of release. Removal estimates using the SimpleTreat model didn't consider removal by volatilization.	Following review and consideration of the additional physical-chemical property data, the multimedia modelling in ERC, including the WWTP modelling, were updated. The impact of the revised modeling on exposure classification in the ERC was examined and reported in a revised data table for the ERC. Partitioning to air in the WWTP modeling scenario is not considered removed from the total loading to the environment for all substances in the ERC. Reduced ecological exposure from partitioning to air is accounted for in the RAIDAR multimedia modelling.
Classification	Environment and Climate Change Canada's classification of methanol as a substance "posing a lower relative risk to the environment" is acceptable and aligns with similar findings under the European Union's evaluation of methanol under the Registration,	Noted

Topic	Comment	Response
	Evaluation, Authorization and Restriction of Chemicals (REACH).	
	It should be recognized that organoclays containing quaternary ammonium moieties are very different from other substances commonly known as "quats". It is misleading to group them with "Quaternary ammonium compounds" (QACs). Empirical data, in contrast to hazard classification based on regression or classification modeling, indicates that aquatic toxicity is minimal for similar clays. Additional references were provided with the comments.	Since organoclays contain the quaternary ammonium moiety, they were included in the QAC group. It is recognized that organoclays are distinct from the other QACs because they contain smectite clay. Therefore, these substances will be assessed as a subgroup within the QAC grouping. Comments and materials provided, as well as international evaluations, will be taken into consideration during the screening assessment of the subgroup.