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In chemical product design one tries to find a product which exhibits the desired (target) behavior specified a priori. The identity of the ingredients of chemical-based products maybe unknown at the start, but some of their desired qualities and functions are usually known. A systematic model-based computer-aided methodology for design and verification of a class of chemical-based products (liquid formulations) is presented. This methodology is part of an integrated three-stage approach for design/verification of liquid formulations where stage-1 generates a list of feasible product candidates and/or verifies a specified set through a sequence of predefined activities (work-flow). Stage-2 and stage-3 (not presented here) deal with the planning and execution of experiments, for product validation. Four case studies have been developed to test the methodology. The computer-aided design (stage-1) of a paint formulation and an insect repellent lotion are presented.

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