

7.0 ICCVAM RECOMMENDATIONS ON SUBSTANCES FOR VALIDATION OF *IN VITRO* OCULAR TOXICITY TEST METHODS FOR THE EVALUATION OF OCULAR CORROSIVES AND SEVERE IRRITANTS

In addition to evaluating the validation status of four *in vitro* ocular toxicity test methods for their ability to identify ocular corrosives and severe irritants, ICCVAM developed a list of reference substances for the optimization and/or validation of *in vitro* tests to identify ocular corrosives and severe irritants. This section provides ICCVAM's recommendations on these reference substances.

ICCVAM reviewed the Expert Panel's report and addendum (provided in **Appendix A**), the results of the analysis in the BRDs, and the public comments received to both. Based on these sources, ICCVAM makes the following recommendations with relation to the list of reference substances for the optimization and/or validation of *in vitro* ocular toxicity test methods for identification of ocular corrosives and severe irritants.²¹

ICCVAM endorses the reference substances list of 122 substances. The list of substances (see **Appendix H**) includes:

- 79 GHS Category 1 substances (UN 2003); 10 of which the Category 1 classification is based solely on human data
- 28 GHS Category 2 substances (UN 2003)
 - 15 GHS Category 2A substances (moderate irritants)
 - 13 GHS Category 2B substances (mild irritants)
- 15 GHS nonirritant substances (UN 2003)
- 34 chemical classes
- 24 product classes
- 79 liquids
- 43 solids

ICCVAM further endorses the use of the reference substance list as a source for generating a subset of substances to be used for evaluating *in vitro* ocular toxicity test methods on a scientifically sound case-by-case basis. It is recommended that the subset of substances that are developed from the reference substance list comprise a scientifically sound distribution of substances among various properties including, but not limited to, chemical class, product class, physical form, irritancy severity classification, mechanism of action, physical and chemical characteristics, and molecular weight. In situations where a listed substance is not available, other substances of the same class for which there is high quality *in vivo* reference data may be used. Following completion of optimization and/or validation studies, substances from this list can be selected for inclusion in performance standards and proficiency testing (ICCVAM 2003).

²¹The recommendations discussed here are based on the ability of the *in vitro* test method to identify *in vivo* classifications based on the GHS classification system.