



# *In vitro* Eye Irritation

Eye irritation is a common side-effect of exposure to some hazardous chemical compounds. The effects of exposure to these compounds can range from temporary, mild corneal irritation to permanent blindness. Therefore, ocular irritation testing is an important testing requirement for several regulatory authorities across the world.

**JRF currently offers BCOP test for eye irritation, while other two models are under validation:**

## **Bovine Corneal Opacity & Permeability Test (OECD 437)**

This organotypic test utilizes bovine corneal tissue as a matrix, which is normally produced as a waste by-product in abattoirs. The tissue is then exposed to the test item, and the resulting changes in opacity and permeability of the corneal tissue is measured using the dye fluorescein.

## **EpiOcular™ Eye Irritation Test (OECD 492)**

In this test, the test chemical is applied topically to a minimum of two three-dimensional RhCE tissues and tissue viability is measured following exposure and a post-treatment incubation period. The measurement of viability of the EpiOcular™ RhCE tissue after topical exposure to a test chemical to discriminate chemicals not requiring classification for serious eye damage/eye irritancy (UN GHS No Category) from those requiring classification and labelling (UN GHS Categories 1 and 2) is based on the assumption that all chemicals inducing serious eye damage or eye irritation will induce cytotoxicity in the corneal epithelium. RhCE tissue viability in EpiOcular™ EIT is measured by enzymatic conversion of the vital dye MTT into a blue MTT formazan salt that is quantitatively measured after extraction from tissues.