



**NOT TESTED  
ON ANIMALS**

**IN-VITRO TOXICOLOGY TESTING**  
SGS PROVIDES ALTERNATIVE METHODS TO ANIMAL  
TESTING TO SUPPORT THE COSMETICS INDUSTRY

# ASSESS THE SAFETY AND EFFICACY OF COSMETIC RAW MATERIALS AND FINISHED PRODUCTS

The safety of cosmetic and personal care products is key for manufacturers, importers, retailers and consumers. Nobody wants to hurt people, or be hurt, by rogue products and ingredients.

Partner with SGS to mitigate the risk of adverse effects on human health from cosmetic and personal care products using in-vitro (non-animal) toxicology testing methods.

Toxicology testing is designed to identify the potential of a substance to damage an organism. In-vitro (non-animal) toxicology testing is employed by the cosmetic industry to identify potentially hazardous chemicals and/or to confirm the lack of certain toxic properties in cosmetic and personal care products, as well as their ingredients.



## DID YOU KNOW?

- Part A of the Cosmetic Product Safety Report (CPSR) under Cosmetics Regulation (EC 1223/2009) requires the toxicological profile of the ingredients.
- For cosmetics destined for the EU, in-vitro testing replaces animal testing completely. In other areas, it can be used to reduce the number of animals and tests required, or refine procedures to limit animal impacts.
- Under REACH, skin corrosion tests are key parameters in the assessment of a chemical for registration with the European Agency (ECHA).

## EU BAN ON ANIMAL TESTING

In 2013, EU Cosmetic Regulation (1223/2009) introduced a ban on animal testing for all new cosmetics and their ingredients sold in Europe. The ban also applies to products, or ingredients, which have been subject to animal testing outside Europe.

In-vitro toxicology testing offers a non-animal alternative to the cosmetics and personal care industry. It allows the effective evaluation of the potential of end products and ingredients to cause skin (dermal) or eye (ocular) irritation, skin corrosion and other adverse side effects when they are used by consumers.

## IN-VITRO TOXICOLOGY TESTING CAN BE USED BOTH TO TEST THE EFFICACY OF PRODUCTS AND TO ACHIEVE REGULATORY APPROVAL

For instance, data on skin irritation effects are required by the following legislation:

- EU Regulation on Cosmetics Products (EC 1223/2009)
- Classification, Labelling and Packaging (CLP) Regulation (EC 1272/2008)
- REACH Regulation (EC 1907/2006)

## US ANIMAL TESTING & COSMETICS

Regulated by the US Federal Food, Drug & Cosmetic Act (FD&C Act), cosmetics in the USA must undergo appropriate and effective testing to substantiate the safety of both the ingredients and the finished product – before they are marketed. Testing on animals is not banned, however, manufacturers are advised to consider the use of scientifically validated alternatives. The US Food and Drug Administration (FDA) strongly advocates the development and use of testing methods that do not employ the use of animals.

## WHY PARTNER WITH SGS?

SGS offers comprehensive in-vitro toxicology solutions, real alternatives to animal testing as well as claim support/performance testing for skin and hair care products.

SGS is a trusted, independent third party service provider. We provide a single consolidated source for tailored testing, safety assessment, inspection, audit and verification services, as well as consulting solutions and technical assistance to reduce risk, improve both efficiency and quality.

With a global network of cosmetics and personal care experts we have laboratories in Europe, Asia and the Americas. SGS is the perfect partner to help you develop cosmetic and personal care products and bring them to market with confidence.

# IN-VITRO TESTING SERVICES

With extensive experience in non-animal testing methods, our scientists conduct a broad range of in-vitro testing services for cosmetic products. These address the issues of skin and eye irritation, skin corrosion, cytotoxicity, phototoxicity and mutagenicity. Using state-of-the-art testing equipment, our in-vitro toxicology testing labs deliver testing services that comply with international standards, under both GLP and accredited conditions.

## ACUTE TOXICITY – CYTOTOXICITY TESTS

**Cytotoxicity tests** assess the skin irritation potential on cultured human or mammalian cell lines. Cytotoxicity is the first test to provide reliable insight into the safety of cosmetics. Toxic effects on the cellular level could be identified by different viability tests including:

- Neutral Red Uptake/ Release (NRU, NRR)
- MTT Assay
- Epifluorescent microscopical LiveDead test

**Skin corrosion tests** assess the potential of a substance/mixture to cause irreversible damage to the skin, such as:

- Epidermal skin test (OECD 431)

**Skin irritation tests** assess the potential for chemically induced skin damage that is reversible (irritation) or irreversible, for example:

- Reconstructed human epidermis (RhE) test method (OECD 439)

**Eye irritation/corrosion tests** assess the potential for chemically induced damage to the eye that is reversible (irritation) or irreversible (corrosion), for example:

- Bovine corneal opacity and permeability (BCOP) test
- Determination on haemolytic activity, red blood cell (RBC) test
- Hen's Egg test (HET-CAM)
- EpiOcular
- Skin Sensitization

## PHOTOTOXICITY

**Phototoxicity tests** (OECD 432) assess the potential for chemically induced skin irritation, it is known as photoirritation, including for example:

- 3T3 Neutral Red Uptake (NRU, NRR)
- Reconstructed human epidermis (RhE)

## MUTAGENICITY

**Mutagenicity tests** increase understanding of the potential for genotoxic hazard (DNA changes/damage), for example:

- Ames test in accordance with OECD 471/ISO 11350: fluctuation and contact plate methods
- Comet Assay
- Micronucleus test OECD 487

## SPECIFIC TESTS

SGS offers specific tests such as:

- Wound healing test
- Proliferation tests
- Oxidative Stress (eg. LPO, DNA/8-OHdG, DPPH- or ORAC method), apoptosis/necrosis, inflammatory markers
- Histology/immunohistology
- Mycoplasma detection
- Changes in metabolic pathways, Cell characterisation, mitochondrial toxicity, phenotypic fingerprinting using microarray technologies
- Ex-vivo studies on udder model, bovine udder skin (BUS)
- In-vitro skin permeation/penetration with the Franz cell



## CONTACT US

For more information please contact your local SGS representative or contact our global team at

[consumer.products@sgs.com](mailto:consumer.products@sgs.com) and visit [www.sgs.com/cosmetics](http://www.sgs.com/cosmetics)

[WWW.SGS.COM](http://WWW.SGS.COM)

WHEN YOU NEED TO BE SURE

