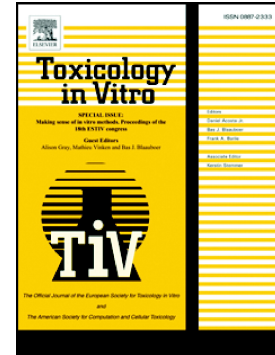


## Accepted Manuscript

Usefulness of the EpiSkin™ reconstructed human epidermis model within Integrated Approaches on Testing and Assessment (IATA) for skin corrosion and irritation

Nathalie Alépée, Marie-Hélène Grandidier, José Cotovio



PII: S0887-2333(18)30336-9  
DOI: doi:[10.1016/j.tiv.2018.09.015](https://doi.org/10.1016/j.tiv.2018.09.015)  
Reference: TIV 4370  
To appear in: *Toxicology in Vitro*  
Received date: 3 July 2018  
Revised date: 20 September 2018  
Accepted date: 23 September 2018

Please cite this article as: Nathalie Alépée, Marie-Hélène Grandidier, José Cotovio , Usefulness of the EpiSkin™ reconstructed human epidermis model within Integrated Approaches on Testing and Assessment (IATA) for skin corrosion and irritation. *Tiv* (2018), doi:[10.1016/j.tiv.2018.09.015](https://doi.org/10.1016/j.tiv.2018.09.015)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Usefulness of the EpiSkin™ Reconstructed human Epidermis model within Integrated Approaches on Testing and Assessment (IATA) for Skin Corrosion and Irritation

Nathalie ALÉPÉE\* nalepee@rd.loreal.com, Marie-Hélène GRANDIDIER, José Cotovio

L'Oréal Research & Innovation, Aulnay sous-Bois, France

\* Corresponding author at: L'Oréal Research & Innovation, 1 Avenue Eugène Schueller, 93600 Aulnay-sous-bois, France

### **Abstract**

Predictive capacity of the EpiSkin™ model was evaluated on 87 chemicals using the Bottom-Up and the Top-Down testing approaches recommended within Integrated Approach on Testing and Assessment for the identification of both skin irritation and corrosion hazards. Classified (UN GHS Cat. 1 and Cat. 2) chemicals were identified with a very high sensitivity ( $\geq 94\%$ ) and the non-classified (UN GHS Cat. 3 and No Cat.) chemicals with an appropriate specificity (70%). Very high sensitivities were obtained for the identification of Cat. 1 chemicals ( $\geq 98\%$ ), very high specificities for non-Cat. 1 chemicals (93%), and accuracies of -95% for the identification of skin corrosives vs. non-corrosives by both approaches. Overall accuracies of 72% were found for predicting the single (sub)categories: non-classified, Cat. 2, Subcat. 1B/1C and Subcat. 1A. Results indicated the testing strategies to be more predictive than the individual assays on a conservative safety approach. Finally, no extreme misclassifications (no under-prediction of *in vivo* Subcat. 1A as non-Cat. 1, and no over-prediction of non-classified chemical as Subcat. 1A) occur. These findings, independently of the approach used, confirm the usefulness of the EpiSkin™ *in vitro* model for a safe prediction of the skin irritant and corrosive hazards of chemicals.

Download English Version:

<https://daneshyari.com/en/article/11025655>

Download Persian Version:

<https://daneshyari.com/article/11025655>

[Daneshyari.com](https://daneshyari.com)