

# ZERTIFIKAT · CERTIFICATE



## **DARTSCH SCIENTIFIC GMBH** Institute of Cell Biological Test Systems

herewith certifies that the basic liquid named

### **Valeo BioNic Liquid Nicotine Substitute 1.5 %**

manufactured and distributed by

### **valeo laboratories GmbH, D-25524 Itzehoe, Germany**

has been tested for its acute toxic effects by using in vitro tests  
with cultured human lung cells (cell line A549).

### **Results**

In the present study the vaping of liquid base according to the smoking of a tobacco cigarette was simulated and the vapour was passed into an aqueous buffered medium yielding the primary extract. For comparison, the same experimental conditions were applied to a usual tobacco cigarette of medium strength. The primary extracts were added to cultivated human lung cells at concentrations ranging from 100 vol% (undiluted primary extract) to 0 vol% (pure medium) for 24 hours. Thereafter, vitality of the cells was examined by morphological and enzymatical tests. The primary extract of the tested basic liquid did not cause any toxic effects at all concentrations. In contrast, the primary extract of tobacco smoke caused a decreased vitality and even death of cells at much lower concentrations.

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Prof. Dr. rer. nat. Peter C. Dartsch  
Diplom-Biochemiker