



The electronic cigarette

Latest information on laws and health



Introduced in 2011, the electronic cigarette or e-cigarette is an electronic device which produces vapour by heating a flavoured liquid gently, without combustion. This vapour is then inhaled by the user in the same way as smoke from a tobacco cigarette.



E-cigarette and legislation



The law of 13 June 2017 (<http://legilux.public.lu/eli/etat/leg/loi/2017/06/13/a560/jo>) entered into force on 1 August 2017. This law amends and strengthens the amended law of 11 August 2006 concerning the control of tobacco use. It transposes European Directive 2014/40/EU into Luxembourg law.

The main aim of the changes is to protect the health of non-smokers and more particularly that of children to prevent young people from becoming addicted to tobacco and to better control the use of e-cigarettes and vaping which had not been covered by the 2006 law.

To strengthen the control of tobacco use, the following national provisions have been embodied in this law:

- * Prohibition of smoking in playgrounds.
- * Prohibition of smoking in private vehicles when children under the age of 12 are on board.
- * Prohibition of the sale of tobacco products and electronic cigarettes to persons under the age of 18.
- * **Prohibition of vaping (e-cigarette use) at the places where smoking is banned.**

E-cigarettes present a potential risk to the health of users and other persons because they contain irritant substances classed as toxic.

- * Alignment of the regime applicable to e-cigarettes on the provisions governing conventional cigarettes (art 4 bis to 4 decies, <http://legilux.public.lu/eli/etat/leg/loi/2017/06/13/a560/jo>) particular in respect of the following aspects:

- placing on the market
- content of the e-liquid, nicotine concentration
- volume of refill units
- information for the consumer
- ban on advertising

This strengthening of the law is motivated by the fact that tobacco is currently the foremost cause of avoidable deaths. At least one smoker out of two will die prematurely from an illness linked to tobacco. Moreover, contrary to the view held in some quarters, e-cigarettes are not without risk to health as shown by a recent study which is summarized below.

E-cigarette and health

The subject of the consumption of electronic cigarettes is highly controversial. Although they have been on the market since 2011, fewer than 30 studies were published before 2014, followed by some 1800 further studies.

E-liquide and health

The liquid contained in an electronic cigarette consists of propylene glycol, glycerol, flavouring substances, and more often than not nicotine.

A good many liquids used in e-cigarettes have been proved to contain or lie at the origin of the production of potentially toxic substances such as metals or potentially carcinogenic compounds. These substances include acrolein, which is produced by the dehydration of glycerine at high temperature. Formaldehyde which has been shown to be carcinogenic to human beings may also be present.

However, the number and quantity of such substances are heavily dependent on the type of electronic cigarette that is used, the way in which it is used and also on the characteristics of the e-liquids.

Note: the quantity of nicotine inhaled with an electronic cigarette is comparable to that from a conventional cigarette.

Evidence has been produced to the effect that an electronic cigarette may alter the short-term function of the cells, but the long-term consequences of these changes remain to be determined.

E-cigarettes, cancers and cardiovascular illnesses:

Moreover, no study has as yet ever produced formal evidence of the existence of a link between these changes and the onset of cancers, either in human beings or in animals.

The latest such study, published in January 2018 in the American PNAS journal by researchers at the Faculty of Medicine of New York University, suggested that e-cigarette use might cause damage to the DNA, potentially increasing the risk of developing cancer of the lungs or bladder and cardiovascular illnesses; however, this study has many limitations and does not provide evidence as to whether the damage observed to the DNA of mice might have led to the development of a cancer.

As yet no link has been demonstrated in these studies between the use of electronic cigarettes and the development of cardiovascular illnesses.



E-cigarettes and giving up smoking

Studies have effectively shown that electronic cigarettes make it easier to give up tobacco use.

*In France, the **National Cancer Institute and the High Council of Public Health** take the view that electronic cigarettes can be regarded as a help to stop smoking or reduce tobacco consumption in the same way as nicotine patches or other devices.*

*The **UK Public Health Agency** for its part believes that electronic cigarettes are 95% less harmful than tobacco.*

*A report by the **US Academies of Sciences and Medicine**, published on 23 January, concluded that the nicotine contained in electronic cigarettes might create habituation among young people, making it more likely that they will take up tobacco smoking.*

The authors who analysed 800 scientific studies also concluded that vaping could be less harmful than smoking conventional cigarettes and might help users to give up tobacco smoking. They therefore concluded that “at this stage, we do not know whether electronic cigarettes have a positive or a negative impact on public health”.

Complete substitution of e-cigarettes for cigarettes containing tobacco reduces the user’s exposure to a great many toxic and carcinogenic substances. With good reason: because tobacco smoke contains over 4000 substances, 80 of which are carcinogenic.

The electronic cigarette is a good nicotine substitute which assures better absorption of nicotine than gums or lozenges because the vapour descends into the lungs. On the other hand, we have no data about potential undesirable effects for the simple reason that electronic cigarettes are regarded as a consumer product and not as a medical device; the manufacturers are therefore not obliged to study the risk-benefit ratio as the pharmaceutical or healthcare product industries are required to do.

Be that as it may, the best solution to avoid the risks associated with tobacco consumption is of course to refrain from smoking and vaping!