

CIGARETTE BUTTS = POLLUTION

The harmful effects of smoking on humans are well-known and are shown on cigarette packages by explicit photos. Yet today, millions of people are nevertheless still “voluntary slaves” of this “silent killer”.

Scientific research has shown that cigarette smoke contains over 4500 chemicals and that many of these are **very toxic and some even **carcinogenic**.**

Most types of cigarettes are now provided with a filter which – at least according to the producers – adsorbs the “dangerous” compounds present in cigarette smoke, as shown by the yellow-brownish color of smoked cigarette filters.



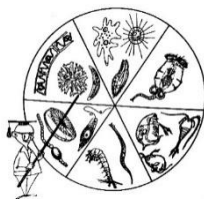
After smoking, cigarette butts should “in principle” be disposed of in an ashtray, but by far the largest part is thrown away and hence wind up in the environment !



In fact, scientific literature clearly shows that the number of cigarette butts which are (in) directly discharged to the environment is staggering. This should be no surprise as information on smoking indicates that **more than 5000 billion (5000.000.000.000) cigarettes are smoked yearly worldwide !!**

Besides the deleterious effects of smoking on humans, a seldom asked question is whether the cigarette butts released in the environment don't also have a negative effect on the plants and the small animals living in soil or in water. This is a crucial question to answer as these organisms collectively play a key role to ensure the ecological health of soil and water.

OBJECTIVE OF THE ANTI-SMOKING EDUKIT



The objective of the ANTI-SMOKING EDUKIT seeks to demonstrate with the aid of simple and practical tests that the chemicals which leach out of cigarette butts (which actually occurs each time it rains) have harmful effects on the plants and the tiny animals in soil and water.

Plants are well-known for their production of seeds which “hibernate” (= overwinter) in soil. When environmental conditions (e.g. temperature and light) become again favorable, seeds germinate and give rise to new plants.

Likewise a number of tiny **animals** also produce “(over)wintering” forms (= resting stages) to overcome unfavorable environmental conditions.

The experiments that can be performed with the ANTI-SMOKING EDUKIT consist in exposing “resting stages” of tiny animals and plants to the chemicals which leach out from cigarette butts. Afterwards, analysis of the results will reveal if these chemicals have had an influence on the “survival” of the exposed plants and tiny animals which are representative of the organisms living in soil and water.

ANTI-SMOKING EDUKIT EXPERIMENTS

To mimic what happens in the environment when cigarette butts are thrown away and from which chemicals leach out when it rains, butts are simply inserted in a tube with water. Resting stages of tiny animals and plants are then exposed to the leachates from the cigarette butts.

The ANTI-SMOKING EDUKIT contains all the materials required to perform tests on :

- a) a small freshwater animal (which also occurs in moist soil)
- b) a small marine animal
- c) seeds of plants

In view of its substantial educational importance for youngsters, the kit is manufactured and is available at a very low price.

Because the tiny organisms used for the experiments are very small in size, a microscope is hence needed for the observations.



NB : this should not be considered as a problem since “pocket” microscopes are now available and marketed at a very low price (e.g. the Mini-Microscope from Pffikus sells for 10-12 €). Pocket microscopes are well-suited for undertaking the ANTI-SMOKING EDUKIT experiments and they are additionally useful for many other interesting observations.

The 3 ANTI-SMOKING EDUKIT tests can easily be performed by youngsters, either at school or in a youth club, or even at home.

CONCLUSIONS OF THE EXPERIMENTS

Each experiment clearly reveals that chemicals leaching out from cigarette butts have an undeniable harmful effect on life in soil and water.

The key message conveyed by all ANTI-SMOKING EDUKIT experiments is that smoking is not only “directly” harmful for humans, but also “indirectly” damaging as concerns “the health” of organisms living in water and soil.

www.antismokingedukit.be

For more information and order of the ANTI-SMOKING EDUKIT :

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