TRICLOSAN AND ANTIMICROBIAL RESISTANCE

Triclosan is added to many consumer goods to kill microorganisms or inhibit their growth. There is concern that this widespread use may lead to the emergence or proliferation of harmful bacteria that are resistant to both biocides and antibiotics.

→ WHAT EXACTLY IS TRICLOSAN?

Triclosan is a substance that kills microbes or inhibits their growth – a biocide. It is added to many consumer goods such as **cosmetics** and detergents to stop bacteria from growing on them. In **hospitals and clinics**, it is used to disinfect the surgeon's hands, operating rooms etc. to protect patients from infections. When **raising animals** it is used to clean them and their surroundings to prevent diseases.

→ COULD TRICLOSAN IN THE ENVIRONMENT POSE A PROBLEM?

Triclosan has been found in water, sediments and soil in many parts of the world, but very little is known about the exact amounts that end up in the environment or about its effect on bacteria living there.

One possibility that raises concern is that bacteria exposed to triclosan in the environment might develop a resistance to it and that this resistance might in turn lead to the emergence and proliferation of antibiotic resistant bacteria. This could become a health concern by making some diseases more difficult to treat.

→ IS THERE EVIDENCE THAT TRICLOSAN COULD CAUSE BACTERIAL RESISTANCE?

So far this possibility has only been shown under laboratory conditions, which may be very different from real life.

After 40 years of intensive use of triclosan, there is no evidence of a resistance developing in homes, in hospitals or in the environment, but studies are few.

More research is needed to rule out or confirm whether bacteria can develop resistance to triclosan in real life conditions, and whether this can lead to the emergence and proliferation of antibiotic resistant bacteria.

→ WHAT IS BACTERIAL RESISTANCE?

- ▷ Bacteria are said to be "resistant" to a product intended to kill them – antibiotic or biocide – if they survive concentrations that would normally kill most bacteria of the same species.
- ▷ Some bacteria are naturally unaffected and others may develop resistance to certain biocides over time.
- ▷ When different strains of bacteria are exposed to a product intended to kill them, those that have resistance genes survive while the others are killed. Over time, this can lead to the selective survival of resistant strains, and to an increase of resistance.
- ▷ In some cases, resistance to a biocide, such as triclosan, can lead to resistance to antibiotics. This is a health concern, as diseases caused by bacteria that are resistant to one or several antibiotics are more difficult to treat.

This fact sheet is based on the scientific opinion "Triclosan - Antimicrobial Resistance", an opinion adopted on 22 June 2010 by the Scientific Committee on Consumer Safety (SCCS) of the European Commission.

Scientific Committees
on consumer safety
on health and environmental risks
on emerging and newly identified health risks

The detailed and nuanced view of the European Scientific Committee on Consumer Safety on this issue is available at:
http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_023.pdf

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