
Executive summary

Health Council of the Netherlands: Disinfectants in consumer products. The Hague: Health Council of the Netherlands, 2001; publication no 2001/05.

Over the last few years an increasing number of consumer products containing disinfectant substances, such as triclosan, chlorhexidine or quaternary ammonium compounds, have come onto the market. In particular, their inclusion in cleaning agents and in personal hygiene products, such as hand soap, shower gel, deodorant and toothpaste, has been on the increase. Producers claim that these supplemented products offer consumers increased protection against harmful micro-organisms. Because infections represent a considerable proportion of the burden of disease in our country, a greater use of disinfectant substances might yield benefits to health. At the same time, however, the disinfectant effect of the substances is due to the fact that they are toxic to certain organisms, with the corollary that they may be not entirely harmless. In the present report, the pros and cons are weighed against each other. Both the importance of disinfectants for public health and their effect on the environment are considered. Greater emphasis is placed on the former.

There is no scientific evidence that the routine use of disinfectants in the home is beneficial. This applies in particular to disinfectant and so-called 'hygienic' cleaning agents and to antibacterial (hand) soap and other skin care products. If the instructions on good hygiene are followed, such as regularly washing one's hands, cleaning and drying the work top and keeping raw and cooked food separate, the risk of contracting an infection at home is small. Disinfection in most cases will help little in reducing the

risk. Antibacterial substances in toothpaste and deodorant, however, do contribute to the efficacy of the product.

It is not possible to answer the question of whether (large-scale) domestic use of disinfectant substances is associated with risks to public health and the quality of the environment. On theoretical grounds and on the basis of results from laboratory investigations, it cannot be ruled out that there will be problems as a result of toxicity to humans (for example skin irritation), changes in the normal microbial flora of the skin and mucous membranes (with the associated increase in the risk of infections from pathogens), resistance development and contamination of the environment. In particular, the possibility of micro-organisms becoming increasingly resistant to disinfectants, and perhaps also to antibiotics, is a cause for concern. There is indeed no firm evidence that serious problems occur in practice, but few practical studies have been undertaken to date. Moreover, the use of disinfectants can instil a(n) (unjustified) sense of security, which may encourage the neglect of normal hygiene.

In view of the unproven benefit to health and the possible risks of large-scale domestic use of disinfectants, restraint in adding these substances to consumer products and in using these supplemented products is advisable. In particular, cleaning agents and skin care products with an antibacterial or 'hygienic' effect should only be used on a doctor's advice on the basis of medical indications. It is recommended that these indications should be specified further. Proper instruction of the user by an expert is necessary.

There is a need to gain insight into the extent to which, under practical conditions, micro-organisms become resistant to disinfectants and into the effects of large-scale and long-term use of these substances by consumers on antibiotic resistance. More knowledge is also required about the effect of the use of disinfectants on the normal microflora and the possible consequences for human health. There is also a need to gain insight into the extent to which disinfectants enter the environment, into their fate there and into the ecological consequences.

The legal options for restricting the marketing of consumer products containing disinfectants are limited. Under the Pesticides Act and the Drug Supply Act it is not possible to keep products of the market just because there are good alternatives available, in this case 'ordinary' cleaning. Under the Commodities Act registration is not required, which makes it not feasible as a management tool. Even so, there are plans and initiatives, both on a national and an international level, to get a firmer grip on the addition of disinfectants to consumer products by changing legislation or changing the interpretation of the law. Voluntary agreements with the industry and public information represent other policy instruments. The message to the consumer should be that good household and personal hygiene is the best way of limiting the risk

of infection and that for many antibacterial and hygienic products there is no evidence that they actually help to reduce the burden of disease. Furthermore, it is important to stress that most micro-organisms are harmless or even beneficial and that only a few are pathogenic.