

Hand blenders used for cooking can emit persistent chemicals

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Eight out of twelve tested models of hand blenders are leaking chlorinated paraffins when used according to the suppliers' instructions. This is revealed in a report from Stockholm University where researchers analyzed a selection of hand blenders which are available on the Swedish market. Chlorinated paraffins are included in the subject group of persistent organic pollutants which humans and animals should be protected from.

The tested hand blenders were bought in stores in Sweden and analyzed in order to determine if they leak chlorinated paraffins to food under normal use.

"The results showed that eight of the twelve tested hand blenders emit chlorinated paraffins during normal household use. In five of them, the levels are high in our opinion", says Åke Bergman, Professor at the Department of Materials and Environment Chemistry, Stockholm University, and Head of Swetox. We have reported the discovery to the Swedish Chemicals Agency and the Swedish National Food Administration and informed the suppliers of the tested hand blenders.

Chlorinated paraffins with short carbon chains (C8-C12) are highly toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment because they are stable, recalcitrant compounds that are stored in the environment. Short-chain chlorinated paraffins affect the liver, kidneys and thyroid and are possibly carcinogen. Leaks that were detected in the study include chlorinated paraffins with both short

and medium-long carbon chains.

"This means that the use of two-thirds of the tested hand blenders will lead to human exposure to materials stored in the body in the same way as, for example PCBs. A substance that is prohibited to use in products for more than 40 years", says Åke Bergman.

Chlorinated paraffins are used in cutting fluids in the metal industry and as plasticizers and / or fire retardants in plastics.

"Chlorinated paraffins appear to be in the hood just above the rotating blade in the hand blender. However, there are many questions to ask regarding how and why chlorinated paraffins are used in hand blenders", says Åke Bergman.

It was when the researchers analyzed [cat food](#) in a project on [organic pollutants](#) that they found clear traces of chlorinated paraffins in the tested cat food. Repeated analyzes showed that the cat food had been contaminated by a newly purchased hand blender used to homogenize the cat food. The researchers went further and tested another twelve hand blenders of different brands and models.

"The study needs to be followed up by more work for a comprehensive picture, but the result is unambiguous. People can be exposed to substances harmful by ingestion of food that has been mixed which is serious, especially if it affects small children", says Åke Bergman. "This discovery also shows once again that it is impossible with current Swedish law to keep track of what substances are used when it comes to chemicals."

Provided by Stockholm University

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