

Active substances in pesticides: ADI values and guide values for drinking water

Updated BfR opinion No. 047/2011, 7 September 2011*

In Germany, pesticides pass through a national authorisation procedure. They must be effective and may not harm either the user or the environment when applied properly. Furthermore pesticide residues in foods and especially in drinking water may not cause harm to consumer health. The Federal Institute for Risk Assessment (BfR) is responsible for the health assessment of pesticides. The Federal Office of Consumer Protection and Food Safety (BVL) is responsible for the authorisation of pesticides.

Since the 1990s, active substances in pesticides have been assessed in the European Union (EU) by a community procedure according to Council Directive 91/414/EEC and, more recently, also on the basis of EU Regulation 1107/2009. The BfR is involved in this community procedure. Acceptable Daily Intake (ADI) values are determined as part of the health assessment of this procedure. The BfR incorporates these in regard to national authorisation procedures of pesticides.

ADI values, the so-called acceptable daily intake, identify, on the basis of the body mass or body weight, the maximum amount of an active substance that consumers could take in daily over the course of a lifetime without assuming damage to their health. Based on these values, the BfR also determines a drinking water guide value (*Trinkwasser-Leitwert* – LW_{TW}) for different active substances. The LW_{TW} indicates the highest concentration of a substance in drinking water that that could be consumed in a lifetime without causing health concerns.

The Federal Environment Agency (UBA) uses these drinking water guide values as a reference when defining its typically much lower Action Values (AV) for drinking water (*Trinkwasser-Maßnahmewerte* MW_{TW} , previously TW_{MW}). If in a sample of drinking water the limit value for Parameter 11 (active substances from pesticides and biocide products) in Appendix 2, Part I Drinking Water Directive 2001/ä¹ is exceeded, the UBA recommends to the Ministry of Health (cf. § 3, Section. 2, Item 5 of Drinking Water Directive 2001/ä), to permit temporary deviations from the valid limit value in accordance with § 10 of the Drinking Water Directive 2001/ä only up to the level of the MW_{TW} published here. The reason for this recommendation is that they are safe not only in terms of health risks but, in the opinion of the UBA, also *temporarily* acceptable in terms of drinking water hygiene

In the following publication, the BfR provides, in coordination with the UBA, a table of the ADI, LW_{TW} and MW_{TW} values of active substances released by the UBA that are authorised in the Federal Republic of Germany as active substances of pesticides.

The full version of the BfR Information in German is available on <http://www.bfr.bund.de/cm/343/pflanzenschutzmittel-wirkstoffe-adi-werte-und-gesundheitliche-trinkwasser-leitwerte.pdf>

* the updated opinion replaces the BfR information No. 040/2010 from 1. September 2010

¹ TrinkwV 2001/ä = TrinkwV 2001 in der Fassung gemäß Artikel 2 der Verordnung vom 03. Mai 2011 (BGBl I, 748)