

Guidance for Exposure and Risk Evaluation for Bystanders and Residents exposed to Plant Protection Products during and after Application (Martin, S.; Westphal, D.; Erdtmann-Vourliotis, M.; Dechet, F.; Schulze-Rosario, C.; Stauber, F.; Wicke, H. and Chester, G. (2008); J. Verbr. Lebensm. 3, 272 – 281) and Bundesanzeiger (BAnz), 06 January 2012, Issue No. 4, pp. 75-76

The authorisation procedure of plant protection products is regulated by Regulation (EC) No 1107/2009 as well as by Plant Protection Act – PflSchG, 2012 in Germany. Thus, authorisation of a plant protection product will only be granted if examination of its toxicological properties shows that this product does not have any harmful effects on human and animal health under conditions of conventional and proper use.

Plant protection products are applied in agriculture and horticulture in areas that may be accessible to the public. This means that individuals who are not actively involved in the application of these products might be exposed accidentally. An individual may be temporarily located in the vicinity of the application site (the so-called 'bystander'), or work or live adjacent to the application site (the so-called 'resident').

Therefore, the possibility of bystanders' and residents' exposure (including children) has to be evaluated during the authorisation procedure of plant protection products.

For both groups exposure can occur dermally and/or by inhalation. In addition, potentially oral exposure has to be considered as well for a specific subgroup of residents, i.e. toddlers, since they deserve additional attention as their behaviour and thus exposure pattern is different compared to adults (e.g. they lick their hands or put things in their mouths and thus might swallow contaminated parts of treated plants).

Exposure estimations are carried out according to the above mentioned model which accounts for all three possible paths of residue uptake (see EXCEL-spreadsheet for more details). Resulting potential total exposure is compared with the relevant reference dose (Acceptable Operator Exposure Level, AOEL). If the AOEL is not exceeded by the totally absorbed dose of the active substance bystanders' and residents' exposure due to intended uses of a particular plant protection product will be considered acceptable.