

Berlin, 26th July 2012

Public statement on the use of the BNN orientation value for DDAC and BAC detections in organic food products

Please note: This public statement is not valid for all products produced or processed after 31st of January 2014. Rationale and background for the expiry of validity can be found [here](#).

The BNN orientation value

Organic products are defined through the processes by which they are produced and processed, e.g. by the non-use of chemical synthetic plant protection agents and mineral fertilisers. The legal regulations for organic agriculture also refer to the production processes and their inspection/certification. Organic products are therefore not defined as pesticide free and the organic regulations consequently do not have maximum allowable residue limits for them.

Evidence of the presence of substances in organic products that are not permitted in organic agriculture could be proof that they have been used and so proof of illegal labelling as an organic product. Since organic agriculture is not practised under an impervious glass dome, pesticide contamination may also be tracked back to unavoidable or accidental contamination or background environmental pollution. Furthermore, substances may have differing areas in which they are used and besides being an active ingredient in a pesticide, may also be an ingredient in completely different products such as packaging materials, printing inks or disinfection agents.

BNN Herstellung und Handel e.V (BNN) has published an orientation value for pesticides in order to provide a practical and flexible means to differentiate cases of fraud and unintentional errors in the process of production and processing from accidental and unavoidable contamination.

The BNN orientation value is therefore not a maximum permitted limit, but rather describes a case by case assessment, in cooperation with the competent certification body, whenever a pesticide residue in the unprocessed raw material exceeding 0.01ppm has been found on. It shall decide whether the provisions of organic agriculture have been observed. If this is the case, BNN is of the opinion that the product can be traded.

Didecyl dimethyl ammonium chloride (DDAC) and benzalkonium chlorides (BAC)

Background

Through internal quality control by business and also by the official food monitoring authorities, residues of DDAC and BAC have been found on and in food products. Both conventional and organic food is affected. DDAC and BAC are biocidal active ingredients which belong to the group of quaternary ammonium compounds (abbreviated as QAV in German, QAC or QUAT in English). They are used as biocides in disinfection and cleaning agents. They are also used as an active ingredient in

pesticides and are regulated in the European regulation (EC) No. 396/2005. Use of DDAC and BAC as a pesticide is of course forbidden in organic agriculture.

In June and July 2012 plant strengthening agents were discovered with residues of DDAC and BAC. The agents contained these active ingredients even though this was prohibited and not declared by the manufacturer. The plant strengtheners have been used in both the conventional and organic agricultural production sectors. Their use has subsequently been forbidden and further application of these plant strengthening agents on fruit and vegetables no longer occurs.

DDAC and BAC are widely used in disinfection and cleaning agents and even items such as plastic bags or plastic gloves may contain DDAC without it being expressly declared. Disinfection and cleaning materials containing DDAC and BAC are permitted in almost all areas of food production and processing. That these materials posed a significant source of DDAC/BAC contamination in food was unrecognised until recently. Apparently the permitted use of disinfection and cleaning materials containing DDAC and BAC has led to residues in food which exceed the general maximum residue limit of 0.01mg/kg (as defined in Article 18 (1) b) of (EC) No. 396/2005). It can be assumed that this has arisen from the cumulative effect of usage in the various stages of production processing and trade.

The maximum residue limit of 0.01mg/kg for both DDAC and BAC is not founded on toxicological evidence. It is rather a general catch value that is valid for pesticide/product combinations for which there is no specific maximum residue level specified in (EC) No. 396/2005. The German Federal Institute for Risk Assessment (Bundesinstitut für Risikobewertung BfR) has assessed the health risk for consumers from DDAC and BAC in the light of the high residue levels in food. They state that both acute and chronic toxicological effects for the consumer are unlikely except in the case of very high BAC residues (some mg) in milk, which in terms of the following guidelines may not be traded.

Legal Opinion

Because the maximum residue limits as defined in (EC) No. 396/2005 of 0.01mg/kg have been so frequently exceeded, the Standing Committee on the food chain and animal health of the European Commission has issued guidelines for handling DDAC and BAC residue contaminations.

These guidelines propose a threshold of 0.5mg/kg for DDAC/BAC in all food. Products that exceed this value may not be traded. The decision is valid until the Standing Committee approves changes to the procedure for dealing with DDAC/BAC residues.

Statement concerning the orientation value

BNN is of the opinion that DDAC and BAC residues in food must be avoided. Residues from disinfectants and cleansers do not meet the aims and objectives of organic agriculture and food processing. Consumers rightfully expect that organic products are in their natural form as far as possible and that therefore no DDCA/BAC is in use during production.

Since the problem of these residues has just now come to light, one can assume that this group of substances is present almost ubiquitously. Therefore the BNN appreciates the introduction of the interim threshold from the Standing Committee and would like to propose to members that a responsible alignment of their hygiene management concept be introduced. The DDAC/BAC contents

in food should be reduced as far as possible while still meeting the hygiene requirements for food production and trade. During this period of adjustment, the BNN orientation value for pesticides will be seen as being complied with when DDAC or BAC is present as long as there is no evidence that the EC organic regulations are not met.

The knowledge that DDAC/BAC from disinfectants and cleansers is being found in food products caused the organic sector to initiate an intensive review of all steps in food production and processing. The aim is to ensure that all food meets the orientation value of 0.01mg/kg in the medium term. As soon as sufficient data is available it can be decided if processing factors should be part of the residue calculation. However, whether 0.01mg/kg is achievable for all food groups, and within what time period this objective should be reached cannot be determined at present. One difficulty is the wide usage, and background environmental contamination with DDAC and BAC.

Additional information

If evidence of DDAC/BAC residues above 0.01mg/kg (adjusted for expanded measurement uncertainty) is found, this information is to be passed along the value added chain so that all businesses involved can check for possible contamination sources and if possible eliminate or reduce them. By repeated residue determinations in products that at least partially occur inside the same value added chain (production, processing or trade) intensified research must be carried out e.g. by analysing individual links in the chain in order to identify the source of the contamination.

For a transition period, the BNN orientation value is seen as being met when DDAC or BAC is present as long as there is no evidence that the EC organic regulations are not met. The medium term objective is that all products meet the BNN orientation value of 0.01mg/kg for DDAC and BAC. Measures to reduce contamination along the value added chain are required.

The legal requirements arising from the regulations governing food in general apply also to organic products. They must of course be complied with.



Meinrad Schmitt, Chairman of the Board

Literature

Health assessments of didecyldimethylammonium chloride (DDAC) and benzalkonium chloride residues in food from the BfR

Guidelines for DDAC und BAC from the Standing Committee of the Food Chain and Animal Health (SCoFAH)