

New Recommendations from the German Environmental Protection Agency (UBA) for Monitoring the Hygiene Requirements of Public Swimming Pools

By Carsten Schaffors, GBA Laboratory Group

Based on the revisions of the DIN 19643 standards for "Processing swimming pool water" in November 2012, it became necessary to update the 2006 recommendations issued by the UBA concerning swimming pool hygiene monitoring. For that reason, the UBA published new recommendations in December 2013.^[1] In addition to hygienic and microbiological requirements, chemical and chemical-physical requirements have also been set in order to protect the health of the swimming pool visitors according to §37 Sec. 2 of the Infection Protection Act (IfSG).^[2]

Water processing is required according the current engineering standards and it should reduce and/or eliminate the amount of foreign substances and microorganisms. An optimized pool hydraulic system should ensure that disinfectants are distributed well. On average, 30L of fresh water per guest per week should prevent the undesired accumulation of substances that cannot be removed through processing.

Due to the numerous potential pathogens, routine microbiological testing is limited only to the indicator parameters colony count (36°C) and *Escherichia coli*, which can indicate potential pathogenic contamination. Further coliform bacteria, which can be detected along with the termination of the fecal bacterium *E. coli*, should be reported by the laboratory as a secondary finding. In addition, *Legionella* species and *Pseudomonas aeruginosa* are analyzed as they are potential pathogens relevant for swimming pool water.^[2]

Since microbiological testing is always only a snapshot of the situation at the time of sampling, there should also be continual analyses of the chemical parameters related to hygiene, i.e. free chlorine, the pH value, and the redox potential, in order to enable a comprehensive assessment of the microbial and hygienic condition of swimming pool water.^[2] Further parameters to be investigated include discoloration, cloudiness, aluminum, iron, acidic capacity, nitrate, and oxidizability, the limit values of which are defined by DIN 19643:2012-11.

In order to minimize the concentration of potentially hazardous byproducts of disinfecting swimming pool water, testing should include trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane, and tribromomethane) as well as the free chlorine and bound chlorine. The chemical parameters for inorganic disinfection byproducts newly named in DIN 19643:2012-11 are chlorite, chlorate, and bromate, which also have been given limit values. If water containing arsenic has been added to the pool (e.g. for curative waters), then arsenic must also be analyzed and it must not exceed a concentration of 0.2 mg/L.



In the new recommendations from the UBA, they have also defined the testing intervals for the individual parameter groups, the measures that must be taken if the limit values are exceeded, as well as the hygienic requirements for additional facilities at swimming halls. In order to access the UBA's official announcement, please click on the following link: ([UBA Hygieneanforderungen an Badewässer 2013](#)). (This publication is currently only available in German.)

The GBA Laboratory Group will gladly support you in this field of inquiry and offer skilled, competent sampling and analysis.

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Literature:

- ^[1] „Empfehlung: Hygieneanforderungen an Bäder und deren Überwachung“ *UBA Homepage*: <<http://www.umweltbundesamt.de/en>> Accessed Dec 04, 2013
- ^[2] „Hygieneanforderungen an Bäder und deren Überwachung“ *Bundesgesundheitsblatt - Gesundheitsforschung – Gesundheitsschutz* 2, 2014, 57: 258-279; Springer-Verlag Berlin Heidelberg

Pesticide "Goldor Bait" Approved for Use in Potatoes

By Carsten Schaffors, GBA Laboratory Group

In November 2013, the application for the usage of the pesticide "Goldor Bait" was initially rejected by the German Federal Office of Consumer Protection and Food Safety (BVL) due to the anticipated decline in the maximum residual content of its active agent fipronil, as we reported in our [Newsletter No. 4, December 2013](#). However, on January 28th 2014, it was in fact approved.

This involves a limited approval for "emergency situations" within the timeframe of January 27th 2014 to May 26th 2014. It is valid for strongly affected areas and after an appeal is made to the warning service of the plant safety commission.^[1]

The maximum residual content of fipronil in potatoes is expected to be reduced from 0.01 mg/kg to 0.005 mg/kg throughout the European Union. After using "Goldor Bait," it would not be possible to adhere to these limits. The BVL is still proceeding upon the assumption that the limit values will be reduced in Europe, however, not in the current year. Thus, potatoes that are produced this year will not be affected.

Fipronil, the active agent contained within "Goldor Bait," is used as an insecticide in potato farming in order to protect their tubers from wireworms (larvae from a variety of beetles in the *Elateridae* family). The granules are strewn into the furrows while planting the potatoes.



Wireworm: Larva stage of a variety of beetles (*Elateridae* family)

Certain usage regulations and restrictions are connected to the current approval in order to protect bees. Beekeepers with beehives within a 60 m radius of the planned area of application must be informed at least 48 hours before usage. Due to this, the BVL has rated the risk for bees as "very low."^[1] Similarly, the BVL sees no health risk for consumers if the residual amounts in potatoes are kept within 0.01 mg/kg.

The usage and approval of pesticides are a subject that is continuously monitored at the GBA Laboratory Group due to the wide variety of active agents and substances. Because the regulations demand proof within a wide variety of matrices, and limits of quantification are always decreasing, comprehensive knowledge of the topic is necessary. If you have any questions about fipronil or other pesticides, we will gladly be of assistance.

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Literature:

[1] Fachmeldung des Bundesamtes für Verbraucherschutz und Lebensmittelsicherheit (BVL): „Genehmigung zur Anwendung des Pflanzenschutzmittels „Goldor Bait“ in Kartoffeln“ (January 28th, 2014)

16th Amendment to the Pharmaceutical Products Act (16th "AMG-Novelle")

By Dr. Sven Steinhauer, GBA Laboratory Group

As announced on October 16th 2013, the 16th amendment to the Pharmaceutical Products Act will go into effect on April 1st 2014. The short-term and long-term goal is to minimize the usage of antibiotics in livestock farming.

Since 2006, there has been an EU-wide ban on the use of antibiotics as a performance-enhancing additive in livestock feed. With the regulations stipulated in the 16th amendment, yet another step has been taken to support the systematic and comprehensive reduction of the use of antibiotics in livestock farming and to prevent resistance to antibiotics.^{[1] [2]} Thus, the 16th amendment to the Pharmaceutical Products Act can be classified as part of the German antibiotics resistance strategy (DART). It contains an extensive catalogue of measures, not only for animal owners, but also for veterinarians and for federal authorities as well. Wherever possible, existing data should be drawn upon and reporting requirements are delegated to veterinarians or other organizations. In doing so, the main focus for the individual states is the expansion of shared interfaces for the governmental databases. The goal is to obtain critical information, based on secure data and compiled from nationwide research, which can be used to calculate the prevalence of commercial antibiotic therapy.^{[1] [2]} That would allow the frequency of antibiotic usage in individual companies to be compared with the nationwide numbers and subsequently enable corresponding measures for optimizing and minimizing the use of antibiotics to be implemented. In businesses with elevated antibiotic usage, authorities can enact tangible measures to improve the hygiene, health care, and other livestock conditions in order to reduce antibiotics.^[3]

These are only a few of the important excerpts from the 16th amendment that broadly relate to the prevention of any potential human resistance to antibiotics caused by the intake of residual amounts of antibiotics in food products of animal origin. Concerning this topic, the maximum residue limits (MRLs) for individual substances were specified in the regulations (EC) No. 470/2009 and No. 37/2010.^[3] The GBA Laboratory Group also offers the corresponding residue analysis for veterinary antibiotics using state-of-the-art analytical equipment.

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Literature:

- [1] „Weniger Antibiotika in der Tierhaltung: Novelliertes Arzneimittelgesetz verkündet“ *Pressemitteilung Nr. 278 des Bundesministeriums für Ernährung und Landwirtschaft*, (Press Release 278 from the Federal Ministry of Food and Agriculture) 16/10/2013
- [2] „Die 16.AMG-Novelle“ *Presseinformation des Bundesamtes für Verbraucherschutz und Lebensmittelsicherheit*, (Press Release from the Federal Office of Consumer Protection and Food Safety) 10/02/1014
- [3] „Neues Arzneimittelgesetz für mehr Schutz vor Antibiotika-Resistenzen“ Bundesministerium für Ernährung und Landwirtschaft, (Federal Ministry of Food and Agriculture) 16/10/2013
- [4] „Deutsche Antibiotika-Resistenzstrategie (DART) - Veterinärteil“ Bundesministerium für Ernährung und Landwirtschaft, (Federal Ministry of Food and Agriculture) 12/12/2013

New Expansions to the Offices at the GBA Headquarters

After we reported in our October newsletter that our Hamburg headquarters had expanded, once again we have accommodated our increased demand for laboratory space. Three hundred square meters of additional office space were built and made available for various departments on February 1st, in order to plan and structure the laboratory more efficiently. Here, renovations are taking place in order to allow additional devices to be installed and new laboratories to be set up.

These measures are also part of GBA's reaction to changes in the market and reflect our commitment to the goal of continually improving our ability to satisfy customer demands.

Inquiries or orders can be directly placed at this or any other of our locations:

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