

The University of Hertfordshire Pesticide Properties DataBase - Questions & Answers

This document seeks to provide information regarding the PPDB and to answer a number of common questions regarding the terms and conditions of use. Information on the management and data acquisition of the database can be found in a document 'PPDB Background and Support' that is available on the PPDB website. A simple guide to using the database 'PPDB Instructions for use' is also available.

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What is the Pesticide Properties Database?

The Pesticide Properties Database (PPDB) is a comprehensive relational database of pesticide physicochemical, toxicological, ecotoxicological and other related data.

The database has been developed by the Agriculture & Environment Research Unit (AERU) based at the University of Hertfordshire, UK. It has developed from a database that originally accompanied the EMA (Environmental Management for Agriculture) software (also developed by AERU), with additional input from the EU-funded FOOTPRINT project (<http://www.eu-footprint.org>).

What data is held in the database?

The database holds data for around 1150 pesticides, 700 metabolites and 100 other related substances. Biopesticides and veterinary substances are held in separate databases. Data can be broadly divided into the following areas:

1. General data including a range of identity codes, structural descriptors, chemical names, synonyms, language translations, classification systems and country registration information.
2. Chemical and physical properties which can influence the environmental fate and transport of pesticides. Also included are a number of pre-calculated fate indices.
3. Ecotoxicological data for a range of taxa both acute and chronic.
4. Human health information including risk and safety information, toxicity endpoints, exposure limits, health issues, ADI, ARfD, AOEL and drinking water MACs.
5. Layperson interpretations based on regulatory thresholds and commonly used rules-of-thumb. These parameters are only available on the website and NOT in the ACCESS database format as data is calculated automatically by the code generating the webpages.
6. Information on commercial products including brand names, companies using or selling the active substance, associated substances (other actives, parent compounds, adjuvants and inert materials used within the products) and information on formulations and application.

How is it different from other existing databases?

In contrast to other databases, the PPDB is rather extensive in the number of compounds it covers (ca. 2000 records). The need for this has been three-fold. Firstly, in order to be utilised by pesticide risk systems used across the EU (e.g. FOOTPRINT, MACRO) it has been necessary to include all active substances used in the EU and, secondly, due to considerable interest from further afield, including developing countries, we have broadened the data further. Finally, metabolites and adjuvants added to product formulations might also cause environmental issues but very few pesticide databases include them - we have tried to fill a data gap.

Researchers and other users of pesticide data will recognise the problems of finding useful, quality data. Data are often scattered across many sources on- and off-line and data identification is often a frustrating

and time consuming activity. The PPDB seeks to solve this problem by bringing the best data together in a single dataset. Also, the PPDB is being updated on a very regular basis. It is not unusual for us to update daily.

Previous databases tend to have been developed with specific goals in mind (e.g. a particular model, a specific discipline (e.g. aquatic risk or human health) or to support use or registration within a specific country. Therefore they have tended to cover a small number of substances in detail or have a restricted number of properties for a wide range of substances. As a result they often have limited applications. In contrast the PPDB has adopted a 'broad' and 'deep' approach ensuring application to many modelling, risk and decision support systems thus ensuring a consistent data set.

Where does the data originate?

The best sources of information currently available for pesticide properties are the monographs produced as part of the EU review process and published by EFSA. These documents have been used in priority for putting together the PPDB. Where EFSA documents are not available, alternative sources are used. These include:

- Public domain databases and documents from various national government departments including the databases from the European Commission's DG Health & Consumers, UK's Chemical Safety Directorate, Germany's Federal Environment Agency, Health Canada and the US Environmental Protection Agency.
- Peer reviewed scientific publications and data derived from research projects and reports.
- We have also used databases such as ESIS (European Chemical Substances Information System), TOXNET and other health related databases.
- Manufacturers safety datasheets, technical information and environmental fact sheets, on- and off-line.

In a very limited number of instances, data had to be retrieved from miscellaneous on-line sources. Consequently, all data within the PPDB is 'tagged' with a code so that its source and quality can be identified (see below).

What is the quality of the database?

We have taken the utmost care in selecting data and transferring it correctly to the database. We have also cross-checked different datasets against each other as a means of ensuring data integrity. Several of our end users have undertaken independent quality assessments and peer reviews and we are delighted to say few issues have been reported. Still, we would be most grateful if you could let us know if you identify an error.

Please note that the PPDB team cannot be held responsible for any loss or action resulting from the use of the data held in the PPDB.

Pesticide data by its very nature can be highly variable. Just because two separate references quote different values does not mean that one is incorrect. Where different sources of data have given widely

different values, we have attempted to validate them at source, going back to original publications where possible.

As mentioned previously, each data item is tagged with a code that allows the source of the data to be identified. The tag also includes a confidence score, ranging from 1 (low) to 5 (high), which reflects the faith we have in the quality of the data. If the information is unreferenced, it will have a low score. If a data item can be verified then its quality score is increased. For EU data and those derived from national regulators, the quality score will normally be 5. In some instances, the quality score may be downgraded to 4 where there is an element of doubt such as in cases where the endpoint reported is different from our first choice. It should be remembered that the quality assessment process is a subjective process.

The database is actively updated as additional information is identified and new / higher quality data becomes available. You will find the date of the last update of the database on the PPDB website <http://www.herts.ac.uk/aeru/footprint>. It is normally displayed in the top left-hand corner of the A-Z Index page and at the bottom of each individual record. There is also an 'information' ticker on the home page of the database that will provide the latest news and update information.

How are pesticide property values selected?

The data quoted for physico-chemical properties is usually a mean value of the various studies identified. Where data is particularly sensitive to climate or soil, a text field providing the data range has been added. Where data is just naturally very variable, we have attempted to select that most appropriate for EU conditions. (See also 'PPDB Background & Support Information' document available as a pdf download on the website).

What are the interpretation thresholds and where did these originate?

A full description of the interpretation thresholds and where they originated is available on the 'Data Interpretation' page of the online database. Alternatively the same information is given in the 'PPDB Background and Support' document available as a pdf download on the website.

How can I obtain a copy of the MS Access database?

The database can also be obtained as an MS Access file on request. This is useful for persons working off-line or for direct linking to third-party software. Please contact us if you wish to **integrate the PPDB into your computerised tools** as this will be subject to a modest licence fee to cover the production and updating costs. Details of this can be found in the Goods and services document on the database website. The actual cost will depend upon the intended use of the data and the amount of data required. When contacting us please provide the following information:

- Intended purpose of the data (e.g. in-house proposes, research project, commercial application, etc.).
- What data is required (all or specific sub-set?)

- Whether or not regular updates are required.
- Your contact details.

You will be required to sign a licence agreement and, in some cases, the licence may be time limited. The licence will prohibit the transfer of the data to third parties and use of the database must be acknowledged (see below). Please look at our Terms and Conditions of Use document which is also available on the database website. Using our databases implies acceptance of these Terms and Conditions.

We also offer an updating service. We can provide updates on demand at a one-off cost or we can set up updating agreements whereby a new version of the database is provided at regular intervals over a one or two year period at a fixed and pre-agreed price.

Contact Dr Andrew Green

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Can I use the information in the database?

The information contained in the PPDB web pages can be used free of charge provided proper reference to the database is given. This reference should also be included when linking to the database from other websites. The general reference that should be used to refer to the database is as follows:

Lewis, K.A., Tzilivakis, J., Warner, D. and Green, A. (2016). An international database for pesticide risk assessments and management. *Human and Ecological Risk Assessment: An International Journal*, **22**(4): 1050-1064. DOI: 10.1080/10807039.2015.1133242

If you are using and so referencing pesticide dissipation on or in plant matrices then the following reference may be appropriate:

Lewis, K. & Tzilivakis, J. (2017). Development of a data set of pesticide dissipation rates in/on various plant matrices for the Pesticide Properties DataBase (PPDB). *Data*, **2**(3), 28. DOI: 10.3390/data2030028

When referring to wild bee toxicity data, the below may be more appropriate:

Lewis, K.A. & Tzilivakis, J. (2019). Wild bee toxicity data for pesticide risk assessments. *Data*, **4**(3): 98. DOI: 10.3390/data4030098

The data on this website and in the standalone MS Access database should be referred to as the 'Pesticide properties database (PPDB)' and not the 'FOOTPRINT' database. The FOOTPRINT database was a subset of data specifically used to support the EU Framework Programme FOOTPRINT project. The FOOTPRINT database is no longer available.

We do not permit extraction of the data in order to populate other databases without a licence.

Can I link directly to the PPDB web pages?

If you would like to link to the PPDB, you may only do so on the basis that you comply with the following conditions otherwise we will consider it a breach of IPR/Copyright:

- a. You do not replicate either the PPDB Home page or A-Z page of this website without our express written permission.
- b. You do not remove, distort or otherwise alter the size or appearance of the logos.
- c. You do not rename or replace the headings or other content such that you imply wrongful ownership.
- d. You email us and inform us that you have made the link - (a.green@herts.ac.uk).
- e. You do not create a frame or any other browser or border environment around this Website or any page within.
- f. You do not in any way imply that we are endorsing any products or services other than our own.
- g. You do not misrepresent your relationship with us nor present any other false information about us.
- h. You do not otherwise use any PPDB content displayed on this Website without our express written permission.
- i. Your website does not contain content that is distasteful, offensive or controversial, infringes any intellectual property rights or other rights of any other person or otherwise does not comply with all applicable laws and regulations.
- j. PPDB owners cannot be held responsible for any loss or action resulting from the use of the data held in the PPDB.

We expressly reserve the right to revoke the right granted by this statement and take any action we deem appropriate.

Third party links from the PPDB?

Links to third party websites from this Website are provided solely for your convenience. If you use these links, you leave the PPDB. We have not reviewed these third party websites, we do not control them, nor are we responsible for their content or availability. We do not endorse or make any representations about them or their content.

What to do if you disagree with our data or think something is missing

If you think a data item is incorrect, by all means email us (aeru@herts.ac.uk) with the value you believe to be correct (preferably with a reference or supporting documentation), and we will investigate it for you.

If you think we should include other information or other substances please let us know and we will consider your request. Ideally email us a copy of relevant information or provide us with the reference.

Other related services

- Provision of the database in alternative formats - e.g. MS Excel or MS Access.
- Customised / branded portals to the database. The PPDB/IUPAC site is an example of this see: <http://sitem.herts.ac.uk/aeru/iupac/index.htm>.
- Specialised software for interfacing to the database e.g. to allow desktop off-line interrogation or customised formatting.
- Database updates and licence renewals.
- Data analysis.

Please contact us with your requirements.

Contact details:

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