Vitic®

The chemical database and information management system, offering researchers and scientists rapid access to searchable toxicological information.
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The data held within Vitic comes from a wide variety of sources, both public and proprietary, and is used by scientists in many industries.

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Vitic provides the infrastructure for a variety of data sharing initiatives, including pre-competitive sharing of aromatic amines, elemental impurities and AI/PDE data.

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Including benefits such as access to current data for a variety of toxicological endpoints, overall calls and expertly-curated proprietary data.

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Lhasa has been creating scientifically robust expert software to improve efficiency and aid regulatory submission for over 35 years.

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Lhasa develops software for toxicity, metabolic fate, purge factor calculation and chemical degradation.
Introduction to Vitic

Developed by Lhasa scientists, Vitic is a chemical database and information management system containing expert curated, high-quality, peer-reviewed toxicity data from both published and unpublished sources. Vitic provides more than 526,000* toxicity data records for over 21,800* structures and is updated annually with the latest data.

With such extensive coverage of chemical space and toxicological data, Vitic is well placed to provide the data needed to support submissions to regulators or, more specifically, the expert review required under ICH M7. Vitic can also assist with assessment of the skin sensitisation of compounds without the need for animal testing.

Lhasa’s “honest broker” and trusted partner status, established as a result of its not-for-profit position, ensures that Vitic is the preferred system for data sharing consortia.

As well as curated data, the flexibility of the Vitic schema with customisable querying across multiple database instances, makes it easy to store and retrieve data, enabling searching across multiple datasets to generate relevant results.

*Vitic 2020.1 database
Vitic is used in many different industries in a variety of workflows, including for ICH M7 submissions, skin sensitisation assessment, and REACH® chemical safety assessments.
Committed to Collaboration

With a philosophy that shared knowledge leads to shared progress, Lhasa facilitates collaborative projects with industry, academia and regulatory bodies for the benefit of its members, the wider scientific community and the public.

Vitic is the core component of many of Lhasa’s collaborative projects, acting as the repository for shared data. With a reputation as the original “honest broker”, Lhasa is ideally suited to play a key role in these data sharing consortia.
Features and benefits

**Fast Performance**
Due to advancements in available technology, Vitic has been redeveloped to provide a faster, more efficient searching experience. Results are delivered quickly and, as the query is built, instantaneous updates of the structure and record counts are provided.

**Summary Calls**
Published data for compounds is often inconclusive, unspecified or conflicted. Expert Lhasa scientists have developed a framework to make a Lhasa toxicity* summary call for compounds, assisting in the derivation of conclusions for structures with complex or uncertain data. This has been applied to over 16,700 structures in Vitic 2020.1.

*Ames, Chromosome Aberration in vitro, LLNA, Micronucleus in vitro and Mouse Lymphoma Assay.

**Meeting Regulatory Requirements**
The ICH M7 guideline stipulates that hazard assessment should involve initial analysis of actual and potential impurities by conducting database and literature searches across carcinogenicity and material mutagenicity data. Vitic is the leading source for information of this type.

**Expert ICH M7 Support**
Rapidly find relevant supporting examples for your impurities by structure, substructure or similarity searching thereby adding weight to expert review*. Vitic enables identification of class 1, 2 and 5 impurities directly, and provides relevant examples to assist in dealing with class 3 and 4 impurities.

**Access to Proprietary Data**
With more than 35 years of successful experience in knowledge and data sharing, continued development of Vitic provides the opportunity to access high-quality and expertly-curated proprietary data to further enhance your decision making and reduce the duplication of effort*.
Streamlined Workflow
Using the Vitic link functionality within the Nexus platform allows immediate access to real data to support toxicity predictions made by Derek or Sarah Nexus, or to provide toxicity data for metabolites and degradants predicted by Meteor Nexus and Zeneth respectively.

Features and benefits

Skin Sensitisation Assessment
With increasing pressure to reduce and refine the number of animal tests when assessing the skin sensitisation potential of chemicals, extensive coverage of skin sensitisation data in Vitic supports read-across as a means of reducing the need for such tests.

One Search, Multiple Datasets
Searches can be carried out across multiple datasets to ensure all relevant results are returned within one interactive interface. This saves time by eradicating the need to duplicate searches.

Streamlined Workflow
Using the Vitic link functionality within the Nexus platform allows immediate access to real data to support toxicity predictions made by Derek or Sarah Nexus, or to provide toxicity data for metabolites and degradants predicted by Meteor Nexus and Zeneth respectively.

Intuitive Searching
Complex queries are easy to build and modify using drag and drop functionality, with the ability to nest parameters. It is possible to query at the folder level or select all databases for querying in one action. This allows for the retrieval of specific information, aiding decision support and improving productivity.

Current Toxicological Data
Regular updates by Lhasa's dedicated, expert data team ensures access to the latest toxicity data. The curation process provides direct access to relevant and usefully structured information, whilst still providing the reference to the original source.

Lhasa, a Trusted Data Source
All Vitic data is curated and added by expert Lhasa scientists and then thoroughly peer reviewed.

Rapid Access to your Data
Intuitive data entry tools are provided, enabling you to store your in-house data and access it when needed in your workflow.
When asked why people choose to work with Lhasa Limited, the common responses are:

1. Over 35 years of experience in developing state-of-the-art in silico prediction and database systems.
2. Transparency of Lhasa systems allows trust and confidence in the science presented.
3. All science is developed in-house, providing the opportunity to discuss directly with Lhasa expert scientists.
4. Software is easy to use and well supported.
An expert rule-based system for the prediction of toxicology.

An expert rule-based system for the prediction of metabolic fate.

A tool for assessing the relative purging of mutagenic impurities.

A statistical-based system for the prediction of mutagenicity.

A project-centric database for storage of toxicity knowledge.

An expert rule-based system for the prediction of degradation pathways.

References