

IV. Measures for computerization

138. AIST "Spectral Database System for Organic Compounds" (SDBS)

139. NITE "Chemical Risk Information Platform" (CHRIP)

140. NITE "Product Accident Information DB"

141. AIST "Thermophysical Property Database System" (TPDS)

142. NITE "Reference Materials Total Information Services of Japan" (RMinfo)

143. NIMS "Material Database" (MatNavi)

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145. New Glass Forum "International Glass Database System" (INTERGLAD)

138. AIST Spectral Database System for Organic Compounds (SDBS)

What is SDBS?

URL: riodb01.ibase.aist.go.jp/sdbs/

Integrated **S**pectral **D**ata **B**ase **S**ystem for Organic Compounds

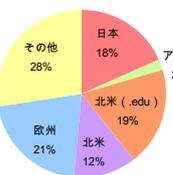
Number of annual accesses FY 2010 **50 million**

DB of research information of AIST (RIO-DB) Number of accesses **No. 1**

Percentage of accessing RIO-DB FY 2010 **87%**

Number of newly updated spectra: 1000 spectra/yr
Added after measurement/evaluation: team with 5 staffs

Regions of access origin



Transition in the number of accesses to SDBS



Widely used in chemical analysis, university education, material research, etc.

In addition to the fact that SDBS has become popular, more and more researchers etc. use the database repeatedly, increasing the number of accesses every year.

Using the database

- 01 Fully supplied with standard data which is reliable and traceable to national measurement standards.
- 02 Free research materials to be widely used in educational sites inside and outside Japan such as universities.

A rich set of 110,000 standard spectral data are used for comparative investigation of data measured by universities, research institutes or analysis companies.

6 permissions for use in textbooks (FY 2010). Widely used as a material to teach students about spectral analysis in universities inside and outside Japan.

139. NITE Chemical Risk Information Platform (CHRIP)

What is CHRIP?

URL: <http://www.safe.nite.go.jp/japan/db.html>

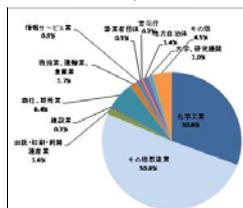
Chemical Risk Information Platform

Number of annual accesses **10.68 million**

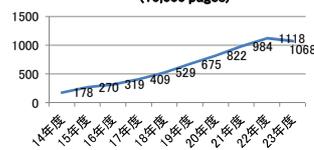
DB for managing chemical substances **No. 1 website**

High satisfaction of users **77%**

User composition



Number of annual accesses to CHRIP (10,000 pages)



The number increased due to efforts to maintain and gain users through promotion activities such as continuous enrichment of data and distribution of brochures.
The number of accesses increased significantly in 2010 due to increase in needs related to the revision of the Chemical Substance Control Law, and also due to the effect of being introduced in an information session of the revision of the Chemical Substance Control Law.

Widely used to confirm regulatory information to manage chemical substances, prepare MSDS/GHS, risk evaluation, etc.

Using the database

- 01 A portal website linked to information of chemical substances inside and outside Japan
- 02 Widely used for management of chemical substances inside and outside Japan.
- 03 Improve convenience

Provides information on total of approx. 200,000 chemical substances such as regulatory information, toxicity data, risk evaluation results provided by international organizations, etc.

Widely used especially in domestic enterprises, reducing burdens of chemical substances management such as creation of MSDS.

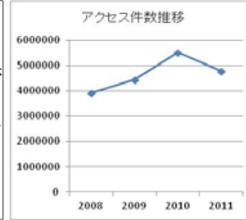
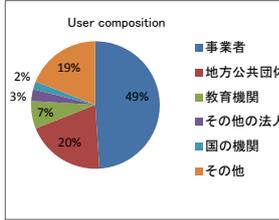
Improves convenience of users by one-stop information gathering service and user-friendly search/display functions.

140. NITE Product accident information DB

What is an accident information DB?

URL: <http://www.iiko.nite.go.jp/php/iiko/search/index.php>

- Number of annual accesses approx. **5 million**
- Number of data **36,808** (as of March 31, 2012)
- Records gathered and organized data about product accidents reported by manufacturers etc. to NITE Product Safety Technology Center.



The number of access has been increasing every year due to enrichment of various promotion activities and growing public interest in product accidents, triggered by carbon monoxide poisoning caused by the product accident of FF-type oil heater and water heater which took place in 2005 and 2006. The number of accesses protruded in 2010 since a press release for journalists was started that year.

General consumers use the information to avoid accidents due to misuse or carelessness, and manufacturers use them to design product safety and improve contents of labels, contributing to reduction of product accidents

Using the database

- 01 Records details of product accidents and their causes. → Contributes to product safety education by being used in product safety seminars etc. attended by general consumers, manufacturers, etc.
- 02 Frequent data update → The risk of product accidents is greatly reduced due to quick provision of accidental information such as the cause of the accident.

141. AIST Thermophysical Property Database System (TPDS)

What is TPDS?

URL: <http://riodb.ibase.aist.go.jp/TPDB/DBGVsupport/>

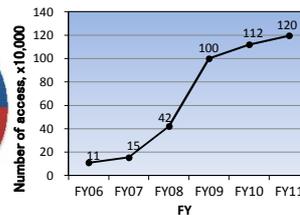
Thermophysical Property Database System

- Number of annual accesses **1.2 million**
- Thermophysical property database **No. 1 website**
- Accesses by manufacturers (in Japan) **230,000**

User composition



Number of accesses to TPDS



In addition to underlying needs for thermophysical DB use, the reason for the sudden rise between FY 2007 and 2008 is due to enrichment of the database by 6,000 additional data transferred from other organizations.

Intellectual infrastructure for product development/material development in the manufacturing industry and securing reliability of thermophysical measurement

Using the database

- 01 Widely used in material development and thermal designing in Japanese manufacturing industry. → Many accesses from major domestic manufacturers of electronics/electronic parts, materials/chemicals, and automobiles/parts
- 02 Standard thermophysical data which is reliable and traceable to the national measurement standards → Records standard data for thermal expansion coefficient, thermal conductivity, thermal diffusivity, specific heat capacity of solid materials and thin film-thin film interface thermal resistance.
- 03 A portal website of thermophysical information which acts as an intermediary between development and use of materials → A matching site which presents excellent thermal functions of materials to material users, and the needs of material users to the material developers

142. NITE Reference Materials Total Information Services of Japan (RMinfo)

What is RMinfo? URL: <http://www.rminfo.nite.go.jp/>

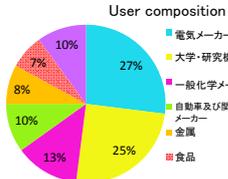
Reference Materials Total Information Services of Japan

Number of annual accesses **310,000**

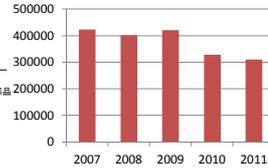
Reference material Information **7,558**
(of which certified reference materials*: 1,486)

Number of registered companies **52**

* A reference material of which one or more specified properties are certified in a metrologically adequate procedure, and is attached with a certificate containing values and uncertainty of the specified properties and also measurement traceability.



Transition in the number of accesses



The number of annual accesses reached approx. 400,000 in 2003 due to intensive promotion activities targeting to the measurement field, and the number stayed at the same level after that, mainly accessed by users from universities, research institutes and manufacturers which perform material analysis, environmental analysis etc. The counting method changed in 2010 due to server transfer, and after that the number stays around 300,000 per year.

Contributes to spreading and promoting reference materials by widely publicizing comprehensive information related to reference materials through the internet. (The only domestic database which transmits information on reference materials in an integrated way)

Using the database

- | | | |
|----|--|---|
| 01 | Provides a database for searching reference materials inside and outside Japan | Information of the producers, suppliers, prices, etc. of 7,558 reference materials available in Japan can be browsed. |
| 02 | Data for all registered companies are updated annually. (approx. 1,000 companies in FY 2011) | Contributes to promoting use in industry and securing measurement traceability by providing information of highly reliable reference materials. |
| 03 | Realizes the maximum cost performance within limited resources. | Aside from operation of the searching database, comprehensive information of reference materials such as administrative information, overseas information, etc. is provided by one personnel. |

143. NIMS Material Database (MatNavi)

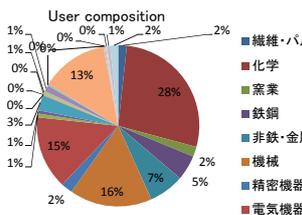
What is Material Database (MatNavi)?

URL: <http://mits.nims.go.jp/>

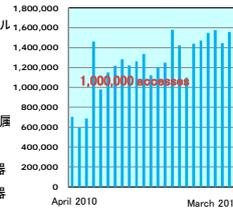
Number of annual accesses **17 million**

Database of material field **No. 1 website**

Metal/inorganic materials and high polymer materials



Transition in the number of accesses to MatNavi



Unitary management of data ranging from electronic structure and crystal structure data of materials to creep and fatigue data of structural materials. Number of registered users: 66,569 users (48,224 Japanese users, 18,345 overseas users)

Using the database

- | | | |
|----|--|---|
| 01 | Releasing crystal structure/phase diagram and properties with mutual links AtomWork DB | Mainly used in educational institutes as fundamental data for development of new materials, improvement of properties and for simulation. |
| 02 | The world's only polymer database with IUPAC-based naming function PollyInfo DB | Used to name newly developed materials and identify raw material basic names, structural basic names, etc. which cause property variation of the same material. |
| 03 | Creep rupture data of high temperature structural materials for over 300,000 hours | Used to prepare design standard of power plants and select materials for product design in enterprises. |

144. NITE Database of the Genomes Analyzed at NITE (DOGAN)

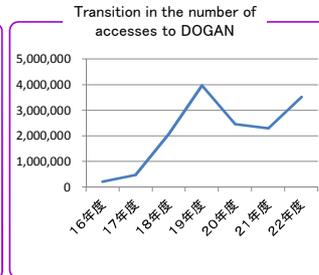
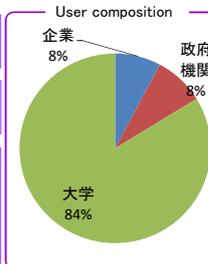
What is DOGAN? URL: <http://www.bio.nite.go.jp/dogan/top>

Database of the Genomes Analyzed at NITE

Number of annual accesses FY 2010 **3.52 million**

Domestically **top-level** data accuracy

Among the strains stored at NBRC, genome analysis of strains useful in industries and taxonomic type strains as an index for safety evaluation is performed and the data are released.



* After the release of data for Aspergillus in FY 2005, data for related species have been released successively, and the number of accesses to the data for Aspergillus increased for data comparison and eventually the number of total accesses temporarily increased.

Widely used for development of new bio-products and promotion of research

Using the database

01 Highly accurate genome information of industrially useful strains and strains related to safety evaluation

02 Genome information can be referred along with microorganism strains and DNA clones.

• After the data release of analyzed microorganisms, the number of related articles and researches increased. **Leads to patent application and commercialization.**
 • **Promotes genome analysis in enterprises** by providing information on type strains.
 • **Significantly contributes to research activities** such as establishing testing methods and researching drug resistance by providing highly accurate genome information of *Staphylococcus aureus*. Widely used in analysis of other pathogens with drug resistance, etc.

• Analytical data related to characteristics of microorganisms and functions of genes are available, and related microorganism strains and DNA clones can be obtained from NITE based on the information.

145. NGF International Glass Database System (INTERGLAD)

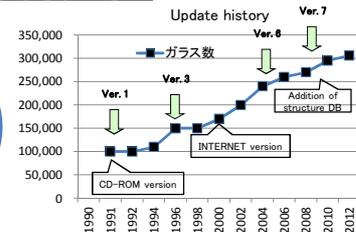
What is INTERGLAD? URL: http://www.newglass.jp/interglad/n/gaiyo/info_j.html

International Glass Database System

Database available on annual contract (with fee).
 2 types of users [Via internet (approx. 30,000 accesses/yr) Using the CD version]

Number of data (types of glass) **306,000 types**
 (Numerical data: approx. 800,000)

Number of subscribers **88 users/**
 for annual use as of March 2012



Enables analysis, property prediction, and compositional design of glass materials through various searches, and is used as a tool to widely support users and developers of materials.
 (After released in 1991, data and functions were added to fulfill needs)

Using the database

01 Includes properties and structural data drawn from academic journals, patents, catalogs, etc. with relative information.

02 Provides functions to predict property from the composition and to design glass composition with target properties.

03 Original database can be created by registering data owned by the user.

Various searches for composition, appearance, use, manufacturing method, etc. are available with an easy search tool. Analysis by visualizing the result as a chart or a graph is also easy. Used for training and education of developers and technicians.

In addition to prediction using property prediction formula, highly precise prediction based on multiple regression analysis with a multi-order formula, composition designing and composition optimization are possible. Contributes to development of new products.

Can be customized as an original DB for each user which can analyze, predict, etc. with data recorded in INTERGLAD. Used as a common database shared in laboratories and development department.

