Powder Diffraction File™ Databases

PDF-5+
The Next-Level Database

PDF-4/Minerals
Comprehensive Mineral Collection

PDF-5+/Web
Data on the Go

ICDD Server Edition
Extend the Power of Your Database

PDF-4/Axiom
Quality + Value

PDF-2
Phase Identification + Value

JADE® Analysis Software

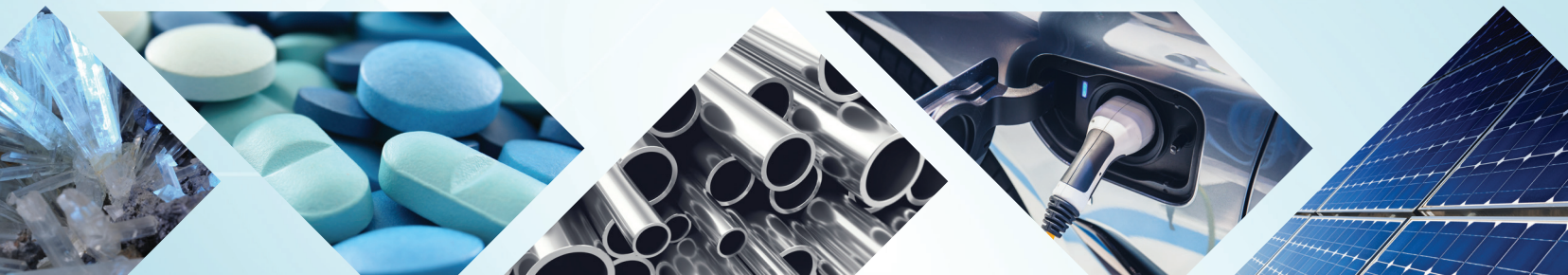
JADE Pro
All-Inclusive

ICDD®
International Centre for Diffraction Data

ISO 9001:2015 QUALITY MANAGEMENT SYSTEM CERTIFIED BY DEKRA CERT. NO. 110409.01

Quality Management System Certified to ISO 9001:2015 by DEKRA

MDI Materials Data™



JADE Pro

JADE Pro is all-inclusive!

JADE Pro includes all of the features of JADE Standard, plus batch processing Whole Pattern Fitting (WPF) and Rietveld refinement tools that go beyond what is available in JADE Standard. JADE's One-Click-Analysis™ and the JADE Toolkit are only found in JADE Pro. Additionally, JADE Pro features a unique floating network license that allows access on one concurrent system at a time, so when a license is not in use, it is available to someone else in your organization. Discounted additional seats create access to more concurrent shareable licenses that work together.

KEY POINTS

- All-inclusive - Everything in JADE Standard and so much more
- Phase ID (Search/Match)
- Batch processing Whole Pattern Fitting (WPF) and Rietveld
- One-Click-Analysis™ for Whole Pattern Fitting (WPF)
- Pattern Indexing (All Crystal Systems)
- Rietveld Structure Refinement (Atomic Parameters)
- Ab Initio Tools (Charge Flipping +)
- Cluster Analysis of Powder Patterns
- Hardware Independent - supports a wide range of diffractometers
- Floating Network License - can work as a shareable multi-seat license
- Discounted Additional Seats Available

JADE Standard

JADE Standard provides a more limited set of tools than JADE Pro but without the annual updates and renewal costs. Available in three levels -

1. Basic Level
2. Add either Phase ID (S/M) or WPF + Rietveld
3. Add both Phase ID (S/M) and WPF + Rietveld.

Simulation and Visualization - All levels of JADE Standard Simulate powder patterns to create your own custom database. Visualize a structure in 3D with motion. Visual cues throughout to better help you and your team understand the materials you are analyzing.

Phase ID (S/M) - JADE Standard Level 2A or Level 3 Profile-based Search/Match with minor and trace phase ID or search on a single peak. Ability to include chemistry filters and unit cell data as well as preferred-orientation.

WPF + RIETVELD - JADE Standard Level 2B or Level 3 Quantify weight percentages and identify minor phases quickly and easily.

Level 1	Level 2 (A or B)		Level 3
Base	Base	Base	Base
	Phase ID (S/M)		Phase ID (S/M)
		WPF + Rietveld	WPF + Rietveld

KEY POINTS - ALL LEVELS

- Reads all vendor pattern files
- Handles variable/fixed-slit data
- Auto peak search and multi-filter search
- Simulate powder patterns from crystal structures
- No annual renewal fee
- Individually licensed for workstations
- Hardware Independent - supports a wide range of diffractometers

PHASE ID (SEARCH/MATCH)

- Found in Levels
  2A: Search/Match
  3: Search/Match and Whole Pattern Fitting
- Phase Identification (S/M)
- Minor and Trace Phase ID

WPF + RIETVELD

- Found in Levels
  2B: Whole Pattern Fitting (WPF)
  3: Search/Match and WPF
- WPF & Rietveld Refinement

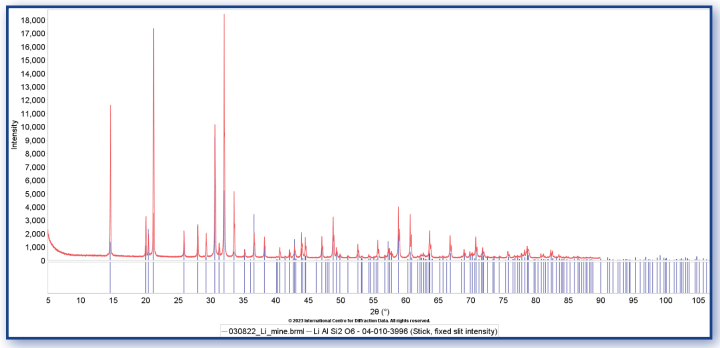
JADE QA

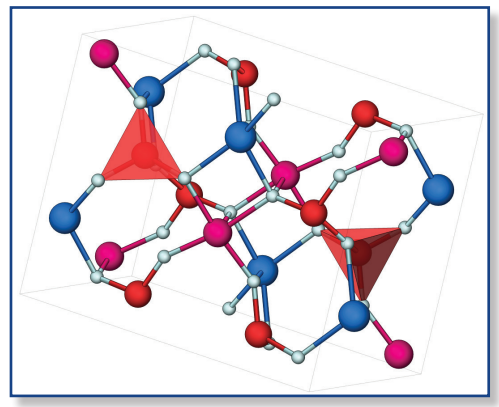
Built for production line Quantitative Analysis (QA) typically carried out by a technician. Requires a setup file created by an analytical scientist using JADE Pro. JADE QA runs independently of JADE Pro and was designed to extend the power of Rietveld Quantitative Analysis (QA) to those in your organization responsible for overseeing consistencies in production who may or may not have a background in XRD.

NEW: PDF-5+ 2024

The Next-Level Database

Featuring 1,061,800+ entries
586,700+ entries with atomic coordinates





- Features 442,600+ entries for inorganic materials and 623,000+ entries for organic materials
- All entries have digital patterns for use in total pattern analysis
- 956,600+ entries have I/I_c values for quantitative analysis by Reference Intensity Ratio
- All entries are stored in a standardized format for easy search and interpretation
- All entries go through a rigorous editorial process to ensure quality

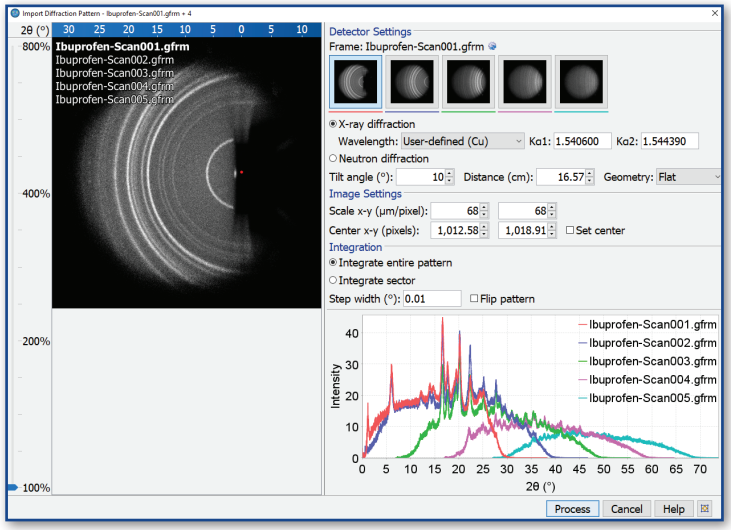
Need "Data on the Go"?
Ask ICDD about PDF-5+/Web

SIEVE/SIEVE+ 2024

Search and Identify

New for 2024:
All PDF databases now include Sieve/Sieve+ at no additional cost!

ICDD's search identification programs, Sieve for PDF-2 and Sieve+ for PDF-5+ and PDF-4, are designed to search and identify unknown materials. Sieve/Sieve+ are integrated into the ICDD databases to allow the use of the extensive data mining interfaces, searches, and sorts available to improve the accuracy and precision of the phase identification process.



Sieve+ importation of five 2D diffraction patterns, integrated for phase identification analysis, ibuprofen API. (Data provided by S. Zdzieszynski and S. Misture, Alfred University).

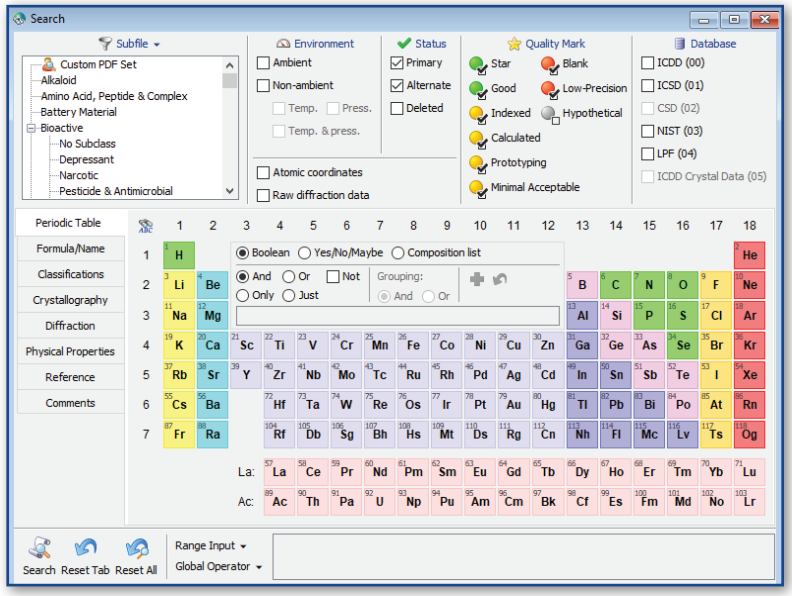
- Designed to search and identify unknown materials
- Complementary with most commercial software programs
- Match filter algorithms - better results, more accuracy
- Identify non-crystalline materials and complex multi-phase specimens
- Strength of Sieve/Sieve+ is evident in the analysis of minor and trace phases

Sieve+ offers a variety of algorithms and options that allow users to optimize results for particular chemistries for both standard and non-standard diffraction systems.

PDF-4/Axiom 2024

Quality Plus Value

Featuring over 108,000+ entries
78,500+ entries with atomic coordinates



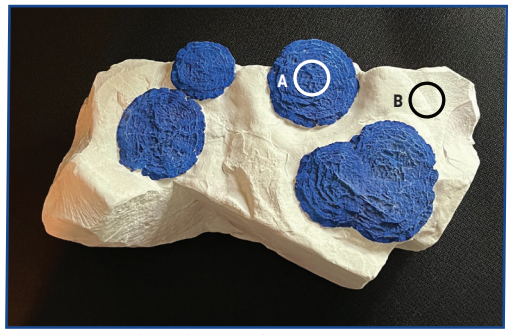
- Data focused on ambient entries
- Fundamental mineral entries
- (3) year license term
- Low cost additional license
- 6-year and 9-year prepaid packages

ICDD's Data Mining Software Included

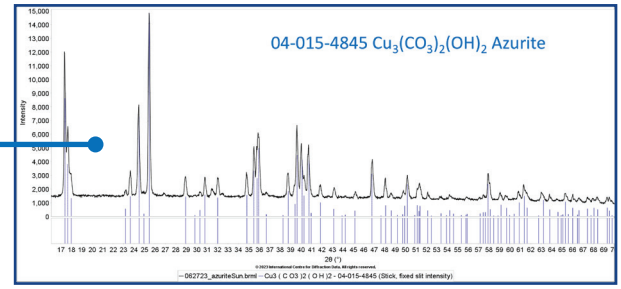
PDF-4/Minerals 2024

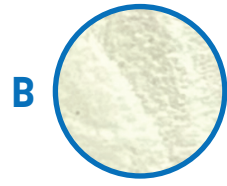
Comprehensive Mineral Collection

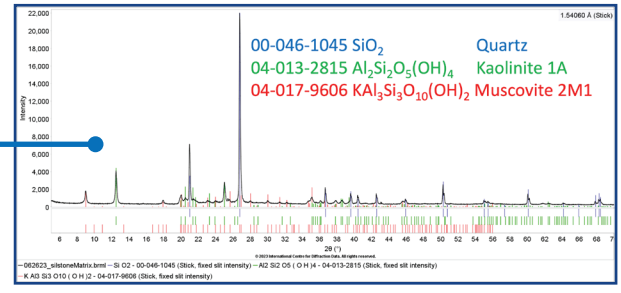
Featuring 51,900+ entries
42,700+ entries with atomic coordinates



Azurite suns on kaolinitic siltstone, Malbunka copper mine, Northern Territory, Australia.







- All entries have digital patterns for use in total pattern analysis
- 40,100+ entries have I/I_c values for quantitative analysis by Reference Intensity Ratio
- Classified by IMA designations
- A subset of the PDF-5+ database with all of the features and capabilities, targeted toward minerals and mineral related compounds