



The James
Hutton
Institute

SPRAY DRYING KIT

SPRAY
DRYING
OVEN

THERMAL
JACKET

NON
ASBESTOS
BASE STAND

DIGITAL HEATING
CONTROLLER

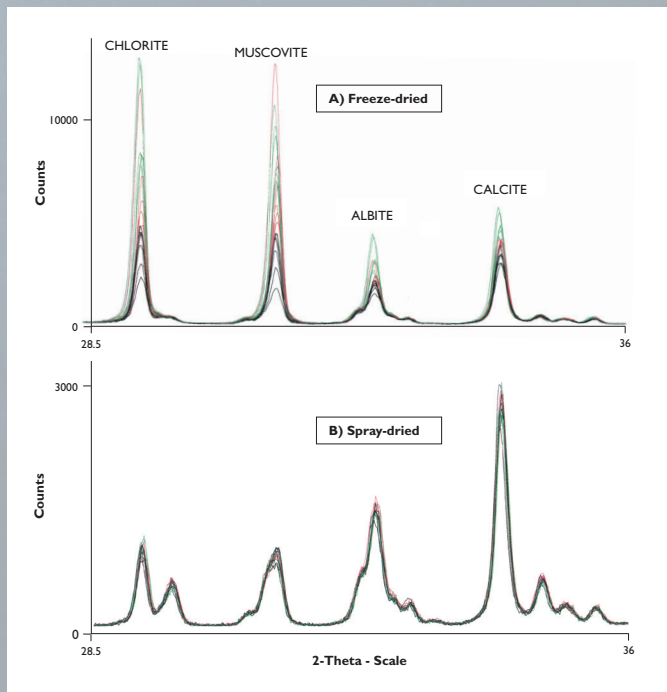
REAM OF
PAPER

AIR BRUSH
KIT

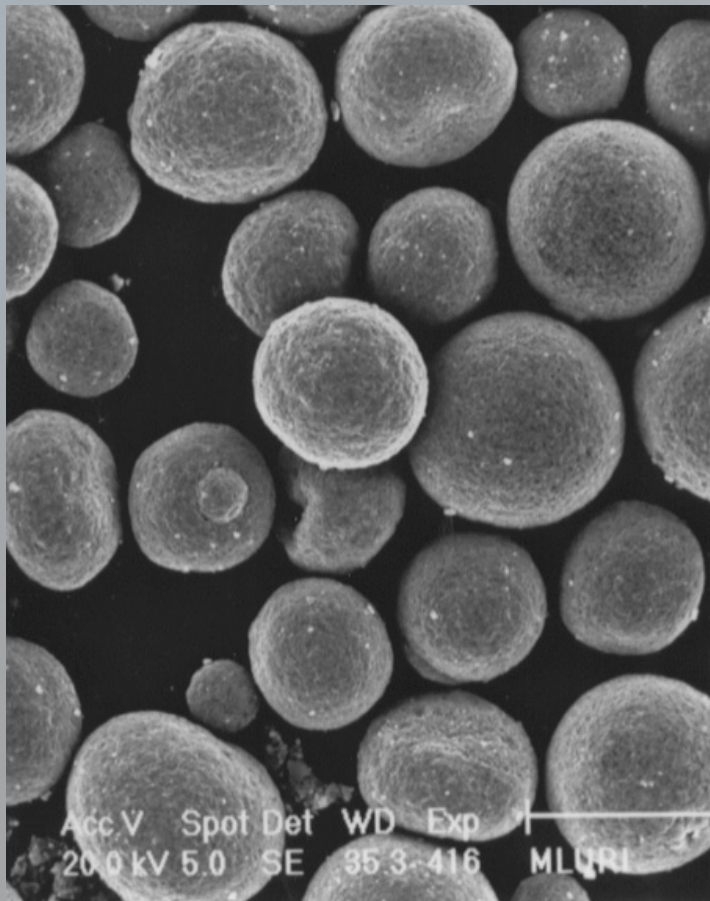
INSTRUCTION
MANUAL



Samples prepared for X-ray powder diffraction (XRPD) by spray drying give random, reproducible diffraction patterns. The James Hutton Institute Spray Drying Kit is specifically designed for sample preparation for XRPD.



XRPD patterns of a synthetic mixture of 25% chlorite, 25% muscovite, 25% albite and 25% calcite, all minerals which frequently exhibit preferred orientation. A) XRPD patterns from 18 separate loadings of a freeze-dried portion of the mixture by 3 different operators (red, green, blue, 6 patterns each). B) XRPD patterns from 18 different loadings of a spray-dried portion of the mixture by 3 different operators (red, green, blue, 6 patterns each).



Spray-dried kaolinite

A kit consists of the following items:

- a spray drying oven (3kW) and digital heating controller
- a thermal jacket to insulate the oven
- a modified air brush to spray the sample into the oven
- a heat resistant non-asbestos base stand
- a ream of paper suitable for sample collection
- a comprehensive manual which describes the use of the equipment in detail



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