

PPXRD Round Robin



International Centre for Diffraction Data

Fangling Needham, Cyrus Crowder, Timothy Fawcett

PPXRD-8 Round Robin - History



- **Who**
Interested in pharmaceutical materials
- **What**
API + Excipient + XRPD Standard
- **Where**
Powder Diffraction Laboratories (Synchrotron)
- **When**
Deadline – before PPXRD-8
- **Why**
Sample/instruments/analysis variables

Who



- PPXRD7: take home specimen attendees
- Post PPXRD7: mailed specimen attendees of past PPXRD organizing committee member
synchrotron facility
ICDD

What



PPXRD-8 Round Robin (MSDS)



Silicon

STABILITY

stable at normal temperatures and pressures

CONDITIONS TO AVOID

generating dust, heat, sparks, open flames

MATERIALS TO AVOID

halogens, metal carbide, metals, oxidizing materials, metal salts, acids

HAZARDOUS DECOMPOSITION PRODUCTS

toxic oxides of silicon

HAZARDOUS POLYMERIZATION

will not occur

Acetaminophen

STABILITY

stable

MATERIALS TO AVOID

oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

carbon monoxide, carbon dioxide, nitrogen oxides.

HAZARDOUS POLYMERIZATION

will not occur

Mannitol

STABILITY

stable when keep container tightly closed in a dry and well-ventilated place

MATERIALS TO AVOID

strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

formed under fire conditions
carbon oxides

PPXRD-8 Round Robin



Quantitative Results Specimen Preparation

Result

Acetaminophen/Mannitol/Silicon

Ratio = / /

Specimen Support

Specimen type and size of support
(Cavity, Zero Background...) =

PPXRD-8 Round Robin Instrument



Diffraction system

Goniometer, Spinner, Radiation type wavelength

Incident beam

Radius (mm) =

Voltage (kV) =

Current (mA) =

Soller slit size =

Divergence slit

Variable (Y/N) =

or Fixed (size) =

Diffraction beam

Radius (mm) =

Soller slit size =

Anti-scattering slit size =

Filter material thickness =

Detector name/type =

PPXRD-8 Round Robin



Data Collection Analysis

Data Collection Software =

Data Analysis Software =

Scan

Scan range ($^{\circ}$) =

Step size ($^{\circ}$) =

Count Time =

Additional Information

Where



- Laboratory Diffractometer, Synchrotron

Columbia

Mexico

France

Germany

Czech republic

Israel

Canada

USA

When



(A Few Surprises)

BEGINNING

Why

