Pharmaceutical Amorphous Solid Dispersions

Role of Excipients in Design of Solid Amorphous Dispersions - Thomas Durig - Role of Excipients in Design of Solid Amorphous Dispersions - Thomas Durig 26 minutes - For more information, please visit us at: http://www.ashland.com/**pharmaceutical**,/learning-center.

Miscible Glass Transition

Solid Dispersion Technology for Pharmaceutical Formulations - Solid Dispersion Technology for Pharmaceutical Formulations 16 minutes - Solid Dispersion, Technology for **Pharmaceutical**, Formulations.

Graphical Representation of Thermodynamic Model Seray Drying Operating / Design Space

Spray Dried **Amorphous Solid Dispersions**, (SDDs) The ...

Summary of Spray Drying Process Parameters Thermodynamic and Atomization Parameters

Challenges

Presentation Outline

What are solid amorphous dispersions

Principle of Solid Solutions

What are the benefits of formulating SEDDS vs Amorphous Solid Dispersions (ASD)? | Gattefossé - What are the benefits of formulating SEDDS vs Amorphous Solid Dispersions (ASD)? | Gattefossé 2 minutes, 24 seconds - Our Gattefossé Group Director, **Pharmaceuticals**,, Alexandre Gil, talks about the benefits of formulating Self-Emulsifying **Drug**, ...

Dissolution Stability, 40°C/75%RH

Physical State of Amorphous Solid Dispersion Two Fundamental Issues: Initial state and state at \"infinitetime\" Thermodynamically stabilized

Defining the Appropriate Formulation Based on API Physical and Chemical Properties

Characterization of Amorphous Pharmaceuticals by DSC Analysis - Characterization of Amorphous Pharmaceuticals by DSC Analysis 1 hour, 3 minutes - To view more TA webinars, please visit http://www.tainstruments.com The glass transition temperature of an **amorphous**, ...

Typical Stress Strain Behavior for Common Materials

CAPSUGEL Dosage Form Solutions

Extrudate Quench Rate May Impact the Drug Domain Size of the Solid Dispersion

Additional Characterization of Colloids

Flux Rank Orders Ketoconazole Formulations

Example Thermodynamic Operating Space

Poorly Soluble Compounds Binning Compounds in the DCS Classification System Increasing Solubility

In Vitro Determination Of Drug Speciation • Complementary or orthogonal tests are ideal

Prototype Formulation Characterization: Gastric Buffer Intestinal Buffer Transfer Microcentrifuge Dissolution Test

Design Space - General Approach Based on Fundamental, Empirical, and Semi-empirical Modeline

Spherical Videos

Extrusion Equipment: Ancillary and Milling Equipment

Rapid, Phase-Appropriate Physical Stability Screening • Physical changes possible for SDs stored at or near the T. + Qualitative prediction of long-term stability • Data used to identify appropriate storage conditions for long term stability tests and to rises need for protective packaging Prefer T of SOD 20*C relative to storage condition

Optimizing Drug Loading in Amorphous Solid Dispersions - Optimizing Drug Loading in Amorphous Solid Dispersions 1 hour, 2 minutes - Amorphous solid dispersions, (ASDs) have revolutionized **drug**, delivery by enhancing the bioavailability of poorly soluble drugs.

Intro

Important Considerations for Pre-formulation Assessment

Particle Engineering by Spray Drying is a Combination of Thermodynamics and Atomization

Ketoconazole has 35x Amorphous Enhancement

SDD Particle Engineering is a Multidimensional Optimization Problem

Technology Selection

Correlation Of Process Parameters To SDD Particle Attributes Example: 25%A HPMCAS SDD From PSD-1 To PSD-5 Scale

Subtitles and closed captions

Conceptual Bioavailability-Enhancement Technology Applicability Map

Flux of Itraconazole from SDD is Enhanced by Colloids

Extrusion Equipment: Ancillary \u0026 Milling Equipment

Kinetisol Amorphous Solid Dispersions | AustinPx - Kinetisol Amorphous Solid Dispersions | AustinPx 2 minutes, 37 seconds - For more information, visit www.austinpx.com/kinetisol The KinetiSol™ Technology generates **amorphous solid dispersions**,, ...

Twin Screw Co-rotating Fully Intermeshing Extruder

Intro

Pion UV Probe Dissolution

An Amorphous Form is More Soluble than the Corresponding Crystal

Spray-Dried **Amorphous Solid Dispersion**, Formulations ...

Problem Statement identification and formulation Selection

Membrane Flux

Typical Polymeric Solid Dispersion Carriers

Twin Screw Co-rotating Fully Intermeshing Extruder is preferred for Hot-Melt Extrusion

Why Solid Dispersion is the Future of Pharma Formulation! - Why Solid Dispersion is the Future of Pharma Formulation! 6 minutes, 22 seconds - Why **Solid Dispersion**, is the Future of **Pharma**, Formulation | EduDose by Dr. Satish Polshettiwar Struggling with poor solubility of ...

Industry Trends: The Problem Statement Binning Compounds In The Developability Classification System

Formulation and Process

Tablet Weight Based on Dose and SDD Loading in the Tablet 25% and 50% API in SDD

Introduction

Amorphous Solubility Test

Formulation and Process Development Flowchart for Amorphous Solid Dispersions by Hot-Melt Extrusion

Graphical Representation of Thermodynamic Operating Space

Webinar: Amorphous Solid Dispersions: Overcoming Scale Up Challenges with Next Generation Technology - Webinar: Amorphous Solid Dispersions: Overcoming Scale Up Challenges with Next Generation Technology 52 minutes - As the number of poorly soluble molecules entering the pipeline has increased, the application of **amorphous solid dispersions**, ...

Design Space - General Approach Based on Fundamental, Empirical, and Semi-empirical Modeling SPRAY DRYING PROCESS SPACE

Heat Flow vs Temperature

Amorphous Dispersions Have Precedence for Success

Amorphous Solid Dispersion Formulations Using The Spray Dry Process - Amorphous Solid Dispersion Formulations Using The Spray Dry Process 1 hour, 7 minutes - Amorphous solid dispersion, technology has been developed to be a preferred formulation option to improve solubility and ...

How high can you go? - compound dependence

Tablet Compression Related Risks for SDD Tablets

Formulation and Process Development Flowchart for Amorphous Solid Dispersions by Hot Melt Extrusion

Improving drug solubility

Glass Transition Guidelines

Hot-Melt Extrusion: Defining Processing Operating

Erlotinib supersaturation is sustained by polymer

Summary

Engineering the Mechanical Properties of Amorphous Spray-Dried Dispersions - Engineering the Mechanical Properties of Amorphous Spray-Dried Dispersions 59 minutes - Drug, candidates with low oral absorption potential in the **crystalline**, state are frequently converted to the **amorphous**, form to ...

Water Sorption and Glass Transition Temperature For Selected Dispersion Polymers

Excipients selection for amorphous solid dispersions - Excipients selection for amorphous solid dispersions 2 minutes, 47 seconds - For Dr. Frank Romanski, it is important to understand that **solid amorphous dispersions**, are an “unique and elegant type of system” ...

Intro

Analytical Tools For Monitoring Physical State or Stability Examples

Spray-Dried Dispersion - What Is It?

Model of Dispersion Species: Dissolution/Disintegration Timecourse and Pathways to Absorption • Free and micelle-based drug species we of prime importance to absorption • Nanostructures with drug rapidly replenish free and micelle-based drug as absorption

Solid State Stability

Role of Excipients in Amorphous Solid Dispersions - Role of Excipients in Amorphous Solid Dispersions 28 minutes - Dr. Frank Romanski speaks about the the role of excipient selection and key characteristics in **amorphous solid dispersions**, at the ...

Solid suspensions vs particles

Effect of HPMC Grade

Pharmaceutical Technology Platforms

Case Study: Primary Mechanism of Compaction is Plastic Deformation + Goal of this study was to screen the sensitivity of surface area, drug loading, and dispersion polymer to the mechanical properties of ketoconazole SDDs

Graphical Representation of Thermodynamic Operating Space Five key parameters plotted

Example Of SDD Physical Stability Mapping • A best-fit line through the TAM conditions represents the predicted point at which the SDD will be 5% crystalline for a given measure of mobility

Particle size reduction

How an amorphous material is formed

Spray Drying Scale-up - Atomization \u0026 Droplet Size

Storage Stability

Atomization: Common Atomization Techniques and Measurements

Thermal Analysis Tools

Key HPMCAS SDD Attributes for Formulating into Immediate-Release Tablets

Amorphous Solid Dispersions, Can Phase Separate ...

Hot-Melt Extrusion Fundamentals: Processing of Amorphous Solid Dispersions for Poorly Soluble Drugs - Hot-Melt Extrusion Fundamentals: Processing of Amorphous Solid Dispersions for Poorly Soluble Drugs 58 minutes - Bend Research is the leader in **drug**, delivery technologies and formulation development. We're known for enhancing the ...

Amorphous Solubility and MAD Data Gons Here

Example Thermodynamic Operating Space Relative Saturation (KRS) Constraint

Mary Enabling Technologies Are Available

Solubilization-Technology Applicability Maps Know What Problem You are Solving

Physical State of Amorphous Solid Dispersion Two Fundamental Issues: Initial state and state at \"infinite time\" Thermodynamically stabilized

Typical HPMCAS SDD IR Tablet Formulation 25%A SDD, 100mg Dose, 600-800mg tablet weight

Case 1: Itraconazole (Sporanox)

SDD Mechanical Properties for a Single Compression Cycle

Approach to Formulating Amorphous Solid Dispersions by HME

Product Characteristics The SDD Process

Intro

Common Strategies to Address Low Drug Solubility

Solubility Parameters can Aid in Polymer Selection for Binary Systems

Summary

Rule Of Thumb: Analysis Of SDD Stability Pulls

DSC Thermograms for Ezetimibe After 65 hrs at 40°C/75% RH

Introduction to Solid dispersions - Introduction to Solid dispersions 34 minutes - Amorphous solid dispersion,, crystalline, BCS class II, Solubility, Solubilization, insoluble **drug**,, Permeability, HPMCAS, Polymer, ...

Keyboard shortcuts

Summary of Spray Drying Process Parameters Thermodynamic and Atomization Parameters

Effect of Drug Loading

Boundary Layer Limited Membrane Test

SDD Physical Stability Two Fundamental Issues

Molecules vs particles

Solid State Stability: Glass Transition Temperature Map for Drug Loading and Relative Humidity

Droplet to Particle Drying History Phase Diagram and Process Impact Final SDD State

Case Study: Primary Mechanism of Compaction is Brittle Fracture

Conceptual Bioavailability-Enhancement Technology Applicability Map

Thermodynamics of Homogeneous Drug-Polymer Dispersions

Tabletabilty is a Nonlinear Function of Surface Area for Brittle SDDs

Water Sorption \u0026 Glass Transition Temperature For Selected Dispersion Polymers

Spray Drying Scalability Preclinical Process Development

How Solid Dispersions Solubilize Drugs: Spring and Parachute

DSC Heat Flow Equation

Modulated DSC

Solubilization Technology Applicability Maps

Multiple Problem Statement-specific Bioperformance In Vitro Tools

Atomization and Droplet Formation Pressure Swirl Nozzle Example

Effect of Temperature and Feed Rate on Residence Time Distribution of PVP-VA

Two Common Models For Dissolution Of Dispersions Appropriate dissolution test should be selected based on API challenges: dissolution rate, sustainment, activity of nano structures

Fraction Absorbed Classification System (FACS) Three Dimensionless Numbers

Intro

Common Drug-Speciation And Absorption Model For HPMCAS SDDS Basis for In Vitro Method Definition

A Mature Technology: SDD Manufacturing Process and Product Characteristics

Formulation Selection Criteria

Controlled Transfer Dissolution

Physical Stability Mapping Accelerated Aging Using Thermal Activity Monitoring (TAM) at Aggressive Stability Conditions

Plasticizers

Amorphous Solid Dispersion — Ideal Approach to Improve Developability of Poorly Soluble Molecules - Amorphous Solid Dispersion — Ideal Approach to Improve Developability of Poorly Soluble Molecules 6 minutes, 29 seconds - Register for this webinar: ...

Solubalization

Optimal Heating Rate

Hot-Melt Extrusion: Defining Processing Operating Space

Introduction

Particle Properties Defined By Operating Space Thermodynamic Drying Parameters

Summary of SDD Particle Morphology Impact on Mechanical Properties

Modulation DSC

Hang - Glider Effect

Formulation Guidance Leveraging Our Experience

Atomization and Droplet Formation Pressure Swirl Nozzle Example

Formulation Selection Criteria

Three Core Areas

Glass Transition Analysis

Functional Excipients Commonly Formulated in an SDD

Erlotinib Summary

Glass Transition

Speciation Summary for Ketoconazole SDD in FaSSIF (0.23%)

What is the DSC

Maximum Absorbable Dose (MAD) Estimation

Summary

What processes can make a material amorphous

Hot Melt Extrusion: Scaling from Development to Pilot Scale

Hot Melt Extrusion: Scaling from Development to Pilot Scale

Design of CR formulation Based on Solid Dispersions

Example Dispersion Polymers Methacrylic acid copolymer

Best Practices for Spray-Dried Dispersion Formulation Selection and Early Development - Best Practices for Spray-Dried Dispersion Formulation Selection and Early Development 1 hour, 1 minute - Product development lead, Ian Yates, discusses Spray-dried **dispersions**, (SDD) technologies in terms of stability, ...

Intro

Two Major Solid Dispersion Manufacturing Technologies Technology

Summary

General

Comparison of Amorphous Solid Dispersions

Soluble Icers

Contact Information

Analytical Tools

Thermodynamics / Drying Kinetics: Operating Space for Spray Drying SDDs

Spray-Dried Dispersion Equipment and Process

Webcast Notes

Formulation \u0026 Process Development Flowchart for Amorphous Solid Dispersions by Hot Melt Extrusion

Industry Trends: The Developability Classification System

Dissolution Profiles for Ezetimibe

Lids

Case Study: Design of Solid Dispersion based on HPMCAS for Enhanced Solubility

Modulating DSC

Solid dispersion

Thermodynamics of Homogeneous Drug-Polymer Dispersions

Search filters

Determining Drug Species

Erlotinib Tarceva

A revision guide for amorphous pharmaceuticals to help you score top marks (MPharm or PharmD) - A revision guide for amorphous pharmaceuticals to help you score top marks (MPharm or PharmD) 20 minutes - What are **amorphous**, materials and why are they useful in medicines? Here we run through the main concepts, from definition to ...

EUDRATEC® SoluFlow: Free-flowing amorphous solid dispersions for enhanced drug solubility | Evonik - EUDRATEC® SoluFlow: Free-flowing amorphous solid dispersions for enhanced drug solubility | Evonik 1 minute, 52 seconds - Could there be a new way to improve the solubility of poorly soluble APIs? Our newly launched microparticle technology ...

Excipient Selection

SDD Erosion

Rapid, Phase-Appropriate Physical Stability Screening . Physical changes possible for Soos stored at or near the T, . Qualitative prediction of long-term stability Data used to identify appropriate storage conditions for long-term stability tests and to

Physical Stability of the Drug Intermediate Based on Relative Mobility at Storage Conditions

Powder Prep Tool

Polymer Selection from Phys-Chem Property Perspective

Part1:Particle size reduction, Solid dispersion \u0026 Improving solubility of poorly-water soluble drugs - Part1:Particle size reduction, Solid dispersion \u0026 Improving solubility of poorly-water soluble drugs 13 minutes, 2 seconds - Welcome to Poorly water-soluble drugs advanced delivery part 1. Where we discuss Particle size reduction, **Solid dispersion**, ...

Prototype Formulations for Amorphous Solid Dispersions

Physical Stability Mapping Accelerated Aging Using Thermal Activity Monitoring (TAM) at Agressive Stability Conditions

SDD Particle Properties are a Function of Formulation and Spray Dry Process Parameters

Poorly Soluble Compounds

Is there an overlap

Comparison of Amorphous Solid Dispersions made by Hot-Melt Extrusion and Spray Drying

dissolution rate enhancement of poor soluble drugs by solid dispersion system - dissolution rate enhancement of poor soluble drugs by solid dispersion system 10 minutes, 9 seconds

Measuring a Materials Deformation Characteristics

Introduction

Question \u0026 Answer Session

Speciation of Dissolved and Suspended Drug Species

Webcast Notes

Correlation of Process Parameters To SDD Particle Attributes

Amorphous solid dispersion - Amorphous solid dispersion 43 minutes - Role of HPMCAS in stabilizing the **amorphous solid dispersion**, via hot melt extrusion was explained with suitable examples.

Using Amorphous Spray-Dried Dispersions to Develop Oral Solid Dosage Forms - Using Amorphous Spray-Dried Dispersions to Develop Oral Solid Dosage Forms 1 hour, 4 minutes - Presented by Randy Wald, Ph.D. and Chris Craig. September 19, 2012 Current estimates are that more than 30% of orally ...

Conceptual Bioavailability-Enhancement Technology Applicability Map

Thermodynamics of Homogeneous Drug-Polymer Dispersions Flory-Huggins theory guides formulation selection for thermodynamically and kinetically stable dispersions

Spray Drying Process Background Physical Situation

Decision Tree

The Microcentrifuge Dissolution Test

Intro

Spray Drying Scale-up - Atomization \u0026 Droplet Size

What is an amorphous material

Unit Operations \u0026 Screw Design for Manufacturing Amorphous Solid Dispersions

Prototype Formulations for Amorphous Solid Dispersions: Prediction of Glass Transition Temperature

Spray-Dried Amorphous Solid Dispersion Formulations

Key Parameters

Amorphous Solid Dispersions, Hot Melt Extrusion and ...

Approach to Formulating Amorphous Solid Dispersions by HME: Balancing Performance, Manufacturability, Stability

Typical Hot-Melt Extrusion Process Train

Physical Stability of the Drug Intermediate Based on Relative Mobility at Storage Conditions

Mixing Amorphous Polymer with Semi crystalline Polymer

Intro

Hot-Melt Extrusion: Unit Operations and Screw Design for Manufacturing Amorphous Solid Dispersions

Typical Hot-Melt Extrusion Process Train

Playback

Initial Range Finding Hot-Melt Extrusion Runs

Pharmaceutical Technology Platforms

Excipients

Overview of SDD QbD Work

Rate of Dissolution

Thermodynamics of Homogeneous Drug-Polymer Dispersions

Spray-Dried Dispersion Equipment and Process

Solid Dispersions to Address Crystallinity - Solid Dispersions to Address Crystallinity 28 minutes - Jim Di Nunzio, PhD Merck \u0026 Co., Distinguished Scientist, Oral **Solid**, Dosage **Drug**, Product Development **Solid Dispersions**, to ...

Amorphous Solid Dispersion — An Ideal Formulation Approach to Improve Developability - Amorphous Solid Dispersion — An Ideal Formulation Approach to Improve Developability 45 minutes - In this webinar, Sreehari Babu, Sr. Vice President — Formulations Solutions at Aragen Life Sciences, deep dives into how ...

Why does an amorphous material

Graphical Representation of Thermodynamic Model Spray Drying Operating / Design Space

Challenges in Oral Solid Dosage OSD Formulation Development - Challenges in Oral Solid Dosage OSD Formulation Development 13 minutes, 11 seconds - Challenges in Oral **Solid**, Dosage OSD Formulation Development.

Industry Trends: The Problem Statement Binning Compounds In The \"Developability\" Classification System

Business Unit Overview

Solid Dispersions

Technology Platforms - Capsugel Dosage Form Solutions

Webinar: Fundamentals of Spray-Dried Dispersion Technology - Webinar: Fundamentals of Spray-Dried Dispersion Technology 1 hour - Amorphous solid dispersions, are typically prepared by using hot-melt extrusion or spray drying processes. This webinar will focus ...

Common Drug Candidate Pre-Formulation

Introduction

Reusable Alumina Pan vs Hermetic Pan

Powder Preparation Tool

Excipient Screening

Poorly Soluble Compounds Categorizing Compounds in the DCS Classification System Increasing Solubility

Analytical Tools For Monitoring Physical State or Stability Example

Three Areas of Focus for Early Development Lonza of an Amorphous Dispersion

Recent Advances in Amorphous Solid Dispersions: Formulation and Characterization Strategies - Recent Advances in Amorphous Solid Dispersions: Formulation and Characterization Strategies 5 hours, 30 minutes - Recent Advances in **Amorphous Solid Dispersions**,: Formulation and Characterization Strategies. Advances in amorphous solid ...

Spray Drying Process Background

Applications

Conceptual Bioavailability-Enhancement Technology Applicability Map

Standard DSC

Prototype Formulation Characterization: Gastric Buffer Intestinal Buffer Transfer Microcentrifuge Dissolution Test

Endothermic Peaks

Hot-Melt Extrusion of Amorphous Solid Dispersions for Bioavailability Enhancement - Hot-Melt Extrusion of Amorphous Solid Dispersions for Bioavailability Enhancement 57 minutes - A large majority of active **pharmaceutical**, ingredients (API) currently in development have limited bioavailability due to low ...

Integrated Approach to SDD Development

Common Methods to Downstream Process SDD's into a Tablet

Business Model - Capsugel Dosage Form Solutions

Phase Appropriate Physical Stability Testing

Solid amorphous dispersion definition

Acknowledgements

In Vitro Dissolution Testing of Dosage Forms . Translation of dissolution methods from powder to dosage form: non-sink, biorelevant media, include gastric - intestinal transfer steps Goal: ensure dosage forms and intermediates release SDD rapidly and in high-activity form

Extrusion Equipment: Twin-Screw (co-rotating) Extruders at BRIC (non-GMP pilot-plant) and BRIM (GMP building) Extruders

CTC Profiles of the of SDDs

Case 2: Ketoconazole (Nizoral)

Polymer screening for amorphous solid dispersions (ASDs) using the Crystal16 - Polymer screening for amorphous solid dispersions (ASDs) using the Crystal16 52 minutes - Amorphous solid dispersions, (ASDs) are advanced **pharmaceutical**, formulations in which a poorly water-soluble **drug**, is ...

Example Dimensional Analysis: Semi-empirical Model \"SDD Compressibility\"=(HMT or Process Parameters)

Early Development Screening for Technology Selection and Formulation Design - Early Development Screening for Technology Selection and Formulation Design 57 minutes - In early formulation development of low solubility drugs, it is critical to identify the appropriate technology and produce promising ...

Phase Appropriate Physical Stability Testing

https://www.api.motion.ac.in/mpuckv/3Q6V886/hbuastp/4Q0V615012/genderminorities__and__indigenous-peoples.pdf
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