

# What Is GMP for Dietary Supplements? A Presentation by InstantGMP

# Topics

- ① Dietary Supplements
- ① Dietary Ingredients
- ① GMP Manufacturing of Dietary Supplements
- ① InstantGMP Manufacturing

# What are Dietary Supplements?

- Orally ingested products that contain an ingredient that is intended to supplement the diet
- Dietary supplements are under the "umbrella" of foods at the FDA
- Ingredients may be one or more of the following:
  - an amino acid
  - a concentrate or extract of a plant material
  - an herb or other botanical
  - a mineral
  - a vitamin

# FDA Review and Approval

- ⦿ Dietary supplements do not need approval from FDA before they are marketed unless they contain a new dietary ingredient
- ⦿ FDA must conduct a pre-market review for safety data and other information on new dietary ingredients before marketing
- ⦿ Manufacturers need to register themselves pursuant to the [Bioterrorism Act](#) with FDA before producing or selling supplements

# How are Dietary Supplements Supplied?

- Available in many forms that can be taken by mouth
  - Capsules
  - Softgel capsules
  - Gelcaps
  - Tablets
  - Liquids
  - Powders

# Purpose of Dietary Supplements

- Ensure you have enough essential nutrients
- May help reduce the risk of some diseases
- Labeling may indicate health claims, structure/function claims, and nutrient content claims
- Labeling may not indicate that a dietary supplement is for treatment, prevention or cure for a specific disease or condition
- Only drugs can be used to "diagnose, treat, cure or prevent a disease"

# Who is Responsible for GMP?

- ◎ Firms that manufactures or distributes dietary supplements must:
  - Make sure their products are safe
  - Assure that any claims made about them have adequate evidence to show that they are not false or misleading
  - Register with the FDA before producing or selling supplements according to the Bioterrorism Act
  - Manufacture their products in accordance with GMPs
- ◎ The FDA:
  - Does not approve dietary supplements on the market before 1994
  - Reviews and approves new dietary ingredients
  - Can restrict a product's use or remove it from the marketplace if they show a dietary supplement is "unsafe"

# ICH Q7A Good Manufacturing Practice

- International Conference on Harmonization
- ICH Member Countries –
  - European Union (EU) - 27 countries
  - Japan
  - United States
  - Australia
  - Canada
  - Norway



# Basic of GMPs according to ICH

- Instructions and procedures are clear and unambiguous
- Manufacturing processes are clearly defined and controlled
- Facilities designed to minimize cross-contamination and mix-ups
- Operators are trained
- Records demonstrate that all required steps were taken
- Distribution minimizes any risk

# Manufacturing Facility Compliance is Sponsor's Responsibility

- Facility and flow designed to minimize potential contamination and mix-ups
- Defined areas for:
  - Receipt
  - Quarantine
  - Storage
  - Production
  - Packaging
  - Washing

# GMP Facility Inspection is Sponsor's Responsibility

- ⦿ FDA conducts facility inspections for products to be sold in the US
  - Doesn't include CTM facilities
  - Doesn't include clinical stage products
- ⦿ UK and EU use UK's "Orange Guide" to check compliance
- ⦿ China, Japan, India et al rely on local inspectors

# Specifications

## QA shall approve specifications of materials and components

- Test - A measurement of a quality attribute such as potency or water content
- Method - The procedure by which the quality attribute is measured
- Limit - The acceptable range for the attribute
- Other Requirements
  - Sampling Instructions
  - Safety and Handling

# Testing and Release of Final Product is Sponsor's Responsibility

- Samples pulled from production batch
- QC will test according to methods in specifications
- In US, QA will disposition batch after final product is made in the US
- in the UK and Europe, QP (Qualified Person) is used for batch release
- Finished products are entered into inventory

# Differences in GMP compliance for Dietary Supplements versus Drugs

- ⦿ FDA regulations for dietary supplements and for pharmaceuticals are issued separately
- ⦿ Drugs have to be pre-approved before marketing, dietary supplements do not
- ⦿ Drug testing must be done for all active components in a product whereas there are exceptions available for dietary supplements
- ⦿ Equipment and analytical methods have to be fully validated for drugs, but only qualified for dietary supplements

# What is the Cost of Compliance?

- The regulations for dietary supplement GMP compliance estimated the cost of compliance on small businesses
- Dietary supplement business with less than 20 employees will bear annual costs of about \$46,000
- Business with up to 500 employees will bear a cost of about \$184,000 a year

# Challenges of GMP Manufacturing

- Good Manufacturing Practices are complex
- Wide array of regulatory requirements
- High time and cost to set up quality system
- Long cycle times for QA review and corrections
- Training and compliance to SOPs is lengthy
- Documentation coordination and data tracking is laborious
- High cost of compliance

*InstantGMP™ is the manufacturing system that has been built from the ground up to meet these challenges*



# InstantGMP™ for GMP Manufacturing of Dietary Supplements

- ◎ Seamlessly incorporates all manufacturing processes one place where it is visible all the time to everyone via cloud-based application
- ◎ Provides flexibility, speed, real-time access to information
- ◎ Uses built-in quality procedures and GMP compliance
- ◎ Accelerates startup of new GMP operations or rapid conversion from paper based manufacturing to an electronic batch record system

# InstantGMP™ - Electronic Batch Record Manufacturing System

- ⦿ Electronic Batch Record system with complete set of manufacturing SOPs and Policies
- ⦿ 21 CFR Part 11-compliant software with an all-encompassing quality system built in
- ⦿ Data is automatically visible to all decision-makers at the same time
- ⦿ Reduces delays created by traditional linear processes
- ⦿ Increases productivity while containing costs

# Automated Compliance

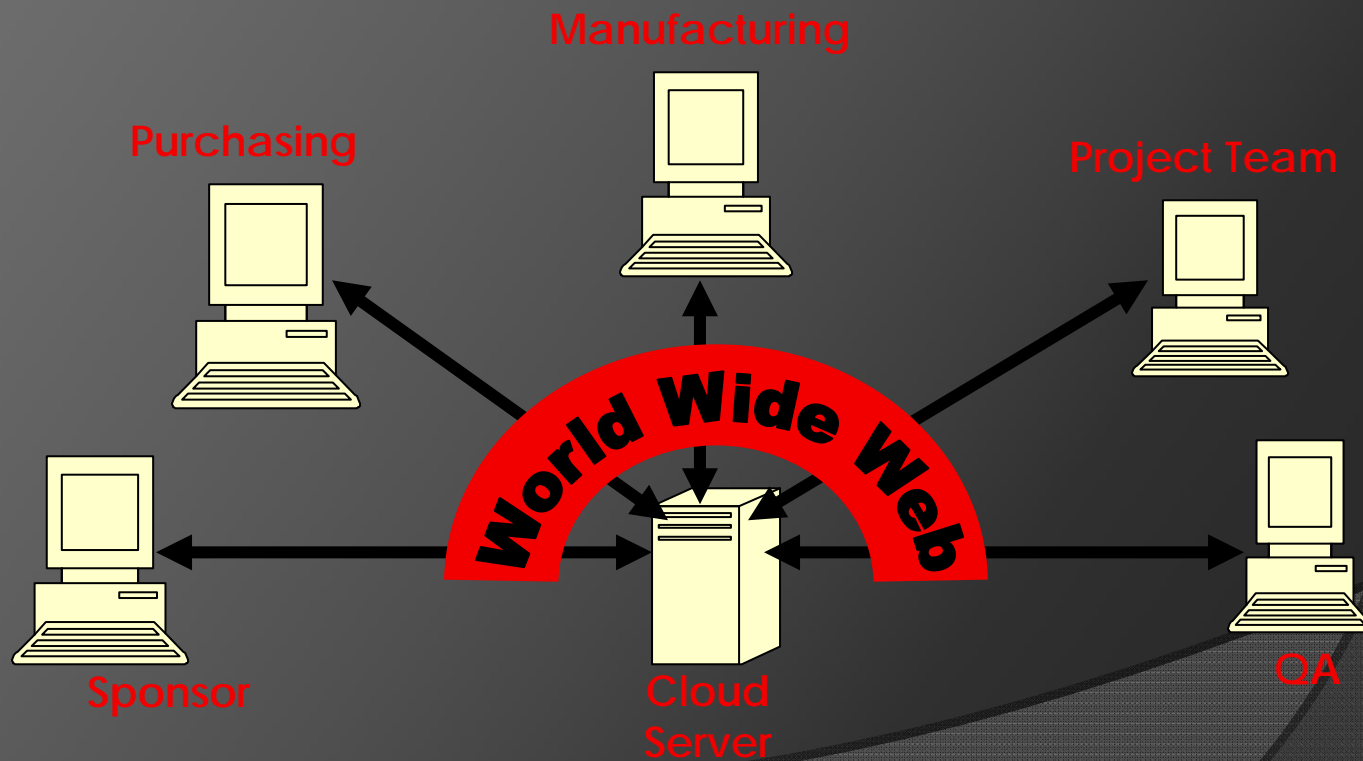
**cGMP compliance controls are built into the system**

Some of the many features:

- Limited access based on user/role security settings
- Purchasing restricted to approved materials and vendors
- Materials quarantine/restricted until QA approval
- Specification version control
- Master and Batch Record version control
- Required signatures at specified batch record steps
- Deviations must be approved before batch is released
- Complete automated audit trail

# Advantages

InstantGMP™ enhances control, visibility, efficiency and compliance of the GMP manufacturing process



# Quick Facts

- Developed by the manufacturing and quality experts at PharmaDirections
- Integrated internet based application developed through “Quality by Design” approach
- 20 Core Standard Operating Procedures built in
- 21 CFR Part 11 Compliant
- System has been in use since 2004

# InstantGMP™ Summary

- Suite of virtual GMP manufacturing systems
- Takes full advantage of cloud-based computing
- 21 CFR Part 11 compliant database with hard coded SOP requirements
- Streamlines entire process of producing clinical trial materials
- Simplifies the documentation and approval procedures to reduce production lead times
- Ideally suited for dietary supplement manufacturing
- For more information, contact:  
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