STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

1. Purpose:

To describe a procedure for Hold Time Study of Bulk Product before its final packing.

2. Scope:

This SOP is applicable for the Hold Time Study of Bulk Products before its final packing.

3. Responsibility:

Executive/Chemist of QA, QC, Production	Responsible for Hold time study of intermediate stages of the product.
Head of QA, QC, Production	To ensure the activity as per SOP and Protocol.
Head QA	Implementation and compliance with SOP.

4. Procedure:

4.1 Hold time study points & Tests required

S.No.	Hold Study required	Hold time study points	Tests required
1.	**Un-Coated Tablets (Direct compression/Dry granulation)**		
	a. Blending	7,15,30,45 and 60 days	Description, LOD or water content and assay & Micro
	b. Lubrication	7,15,30,45 and 60 days	Description, LOD or water content and assay & Micro
	c. Un-coated tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
2.	**Un-Coated Tablets (Wet granulation)**		
	a. Dry mixing	7,15 and 30 days	Description, LOD or water content & Micro
	b. Binder solution	Initial 12,24,36,48 and 72 Hours	Description & Micro
	c. Wet granules	Initial 12,24,36,48 and 72 Hours	Description, LOD or water content & assay, Micro
	d. Blending	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	e. Uncoated Tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
3.	**Coated Tablets (Direct Compression/Dry granulation)**		
	a. Pre-blending	7,15,30,45 and 60 days	Description, LOD or water content & Micro
	b. Lubrication	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	c. Un-coated tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
	d. Coating solution	Initial 12,24,36,48 and 72 Hours	Description & Micro

STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

S.No.	Hold Study required	Hold time study points	Tests required
	e. Coated tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
4.	**Coated Tablets (Wet Granulation)**		
	a. Binder Solution	Initial 12,24,36,48 and 72 Hours	Description & Micro
	b. Wet granules	Initial 12,24,36,48 and 72 Hours	Description, LOD or water content & assay, Micro
	c. Blending	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	d. Uncoated tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
	e. Coating solution	Initial 12,24,36,48 and 72 Hours	Description & Micro
	f. Coated tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
5.	**Dispersible/Orally disintegrating tablet**		
	a. Blending	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	b. Compressed Tablets	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
6.	**Capsule (Powder Filling)**		
	a. Mixing	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	b. Lubrication	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	c. Filled capsules	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
7.	**Capsules (Wet granules filled)**		
	a. Dry mixing	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	b. Binder Solution	Initial 12,24,36,48 and 72 Hours	Description & Micro
	c. Wet granulation samples	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	d. Blending	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	e. Filled capsules	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
8.	**Capsules (Pellets filled or mups)**		
	a. Drug Pellets	7,15, and 30 days	Description, & assay, Micro
	b. Coating solution	Initial 12,24,36,48 and 72 Hours	Description & Micro

STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

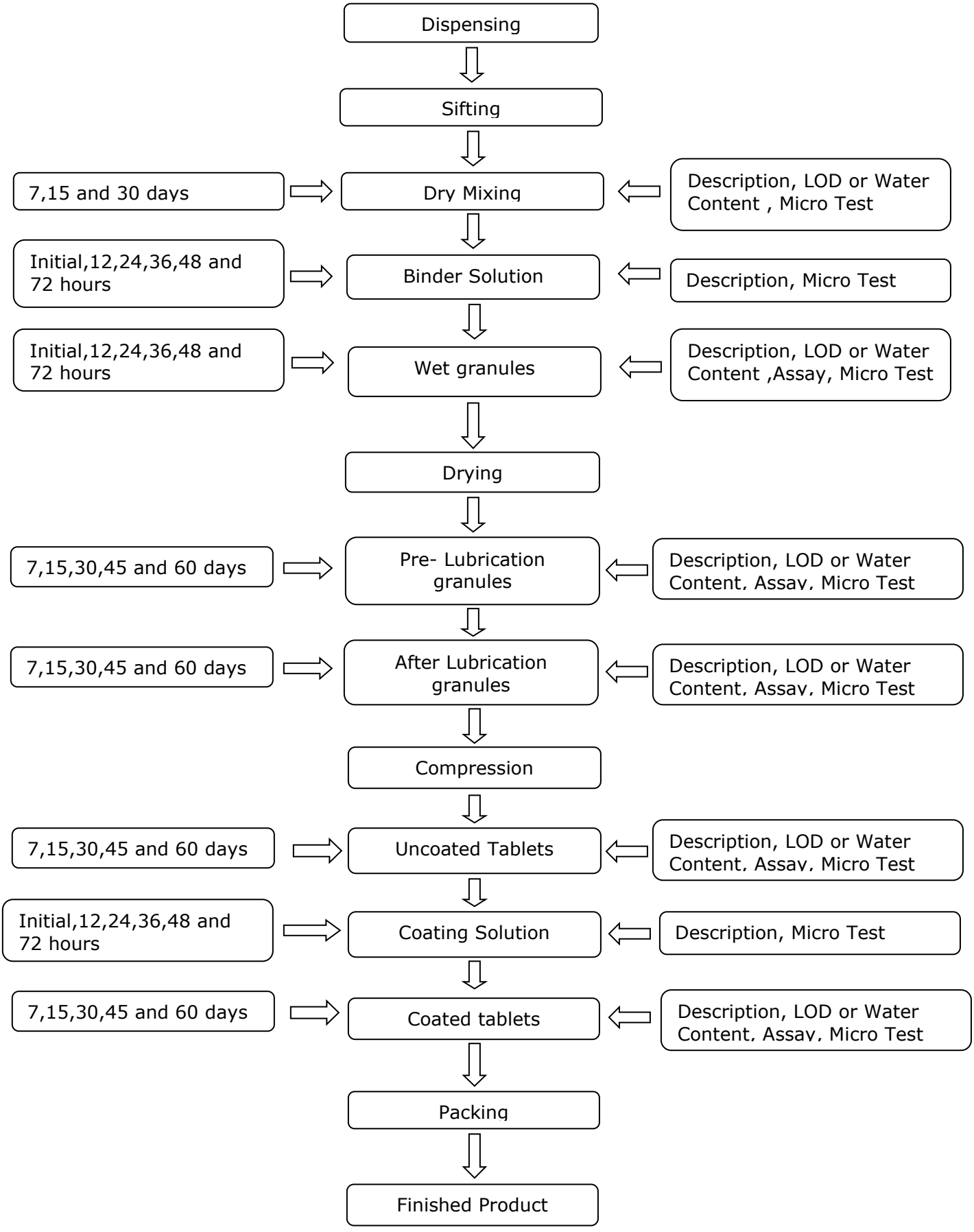
S.No.	Hold Study required	Hold time study points	Tests required
	c. Coating pellets	7,15, and 30 days	Description, LOD or water content & assay, Micro
	d. Blending	7,15,30,45 and 60 days	Description, LOD or water content & assay, Micro
	e. Filled capsules	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
	f. Un-coated tablets (MUPS)	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
	g. Coated tablets (MUPS)	7,15,30,45 and 60 days	Description, LOD or water content and assay & Dissolution & Micro
9.	**Liquids (Syrups, Oral solutions ,Oral suspension and Linctus)**		
	a. Un-Filtered solution	1,2,5 and 7 days	Description, pH value, wt per ml and assay , Micro
	b. Filtered solution	1,2,5 and 7 days	Description, pH value, wt per ml and assay , Micro
10.	**Ointments/Gels/Creams**		
	Bulk stage	Initial 12,24,36,48 and 72 Hours	Description, pH value, wt per ml and assay , Micro

Note: Hold time exceed out of above given specific time product batch go for retesting and after getting result found satisfactory then go for next stage.

Reference: ICH, WHO and EU Guideline

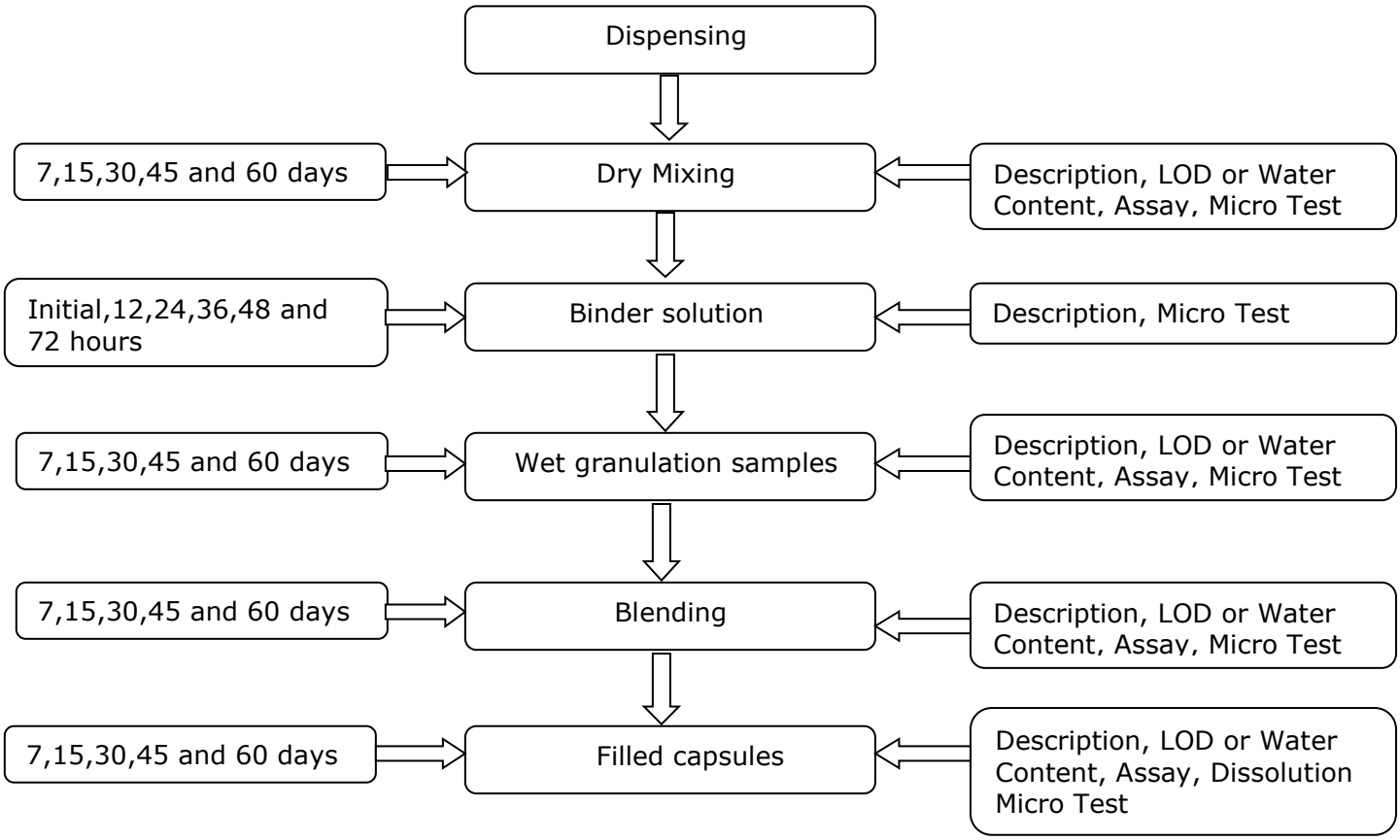
STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

4.2 Hold Time Study Flow Chart of Tablet



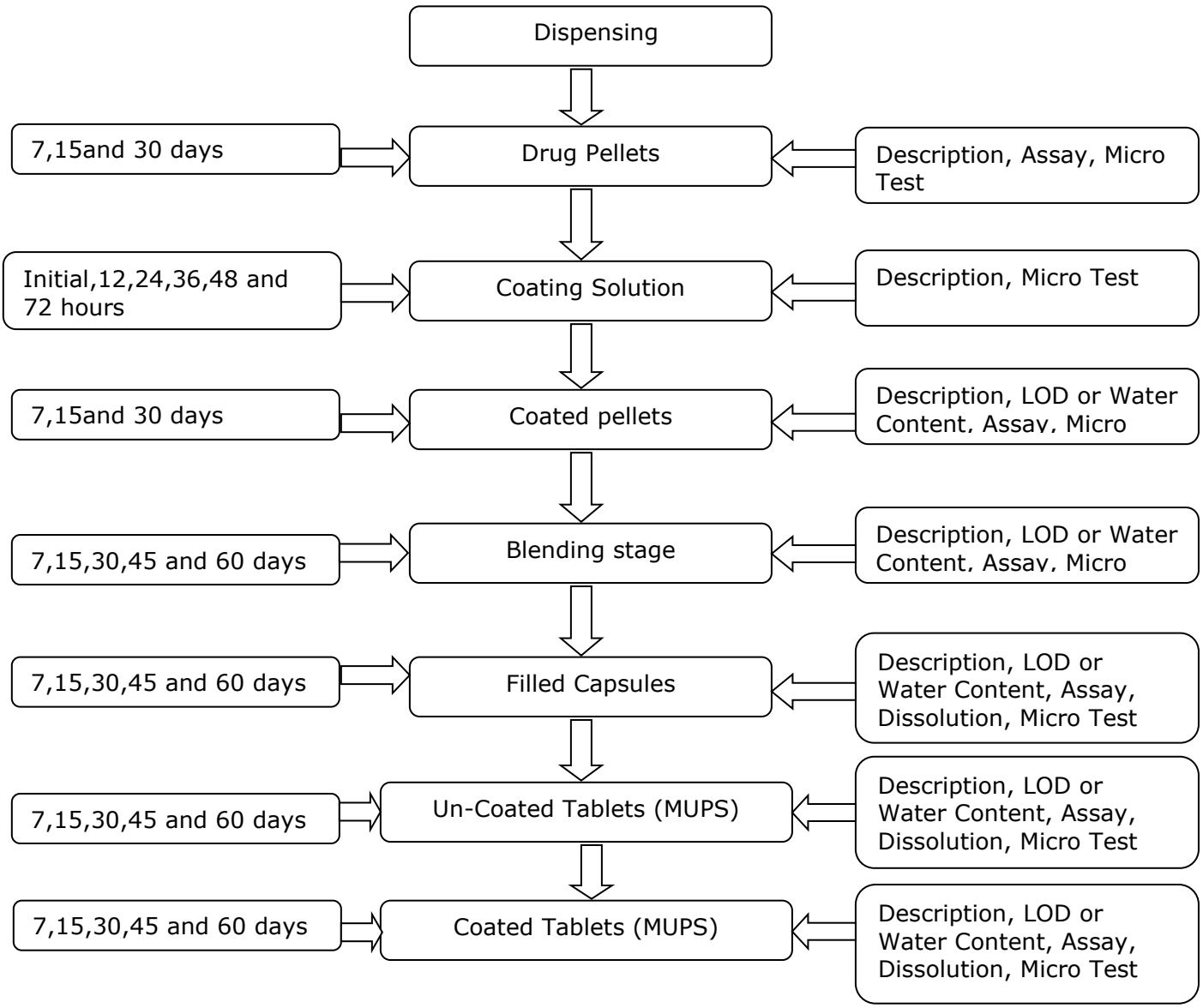
STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

4.3.1 Hold Time Study Flow Chart of Capsule (Capsule Filling with powder and Wet granules Filled)



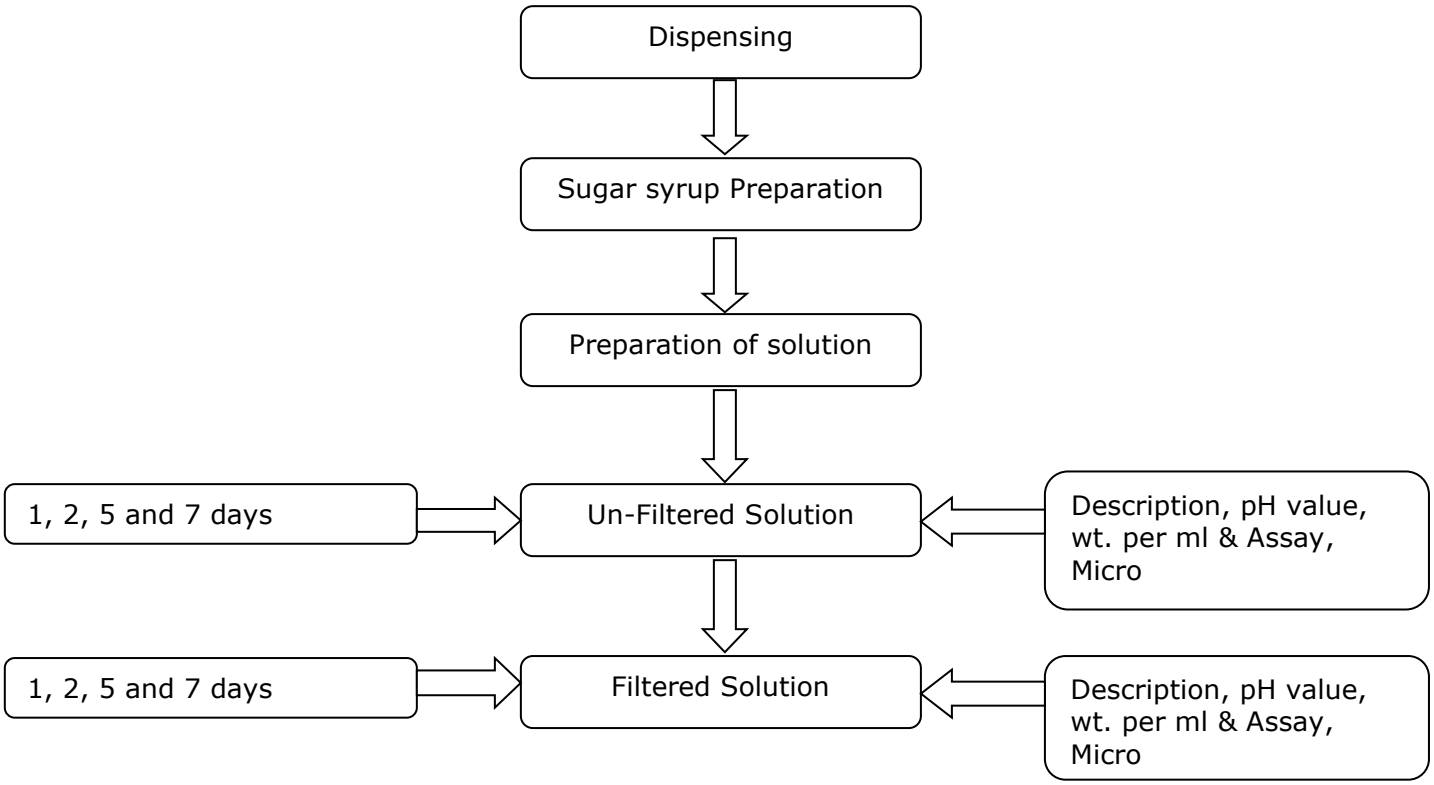
STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

4.4.2 Hold Time Study Flow Chart of Capsule (Capsule Filling with Pellets or Tablets)

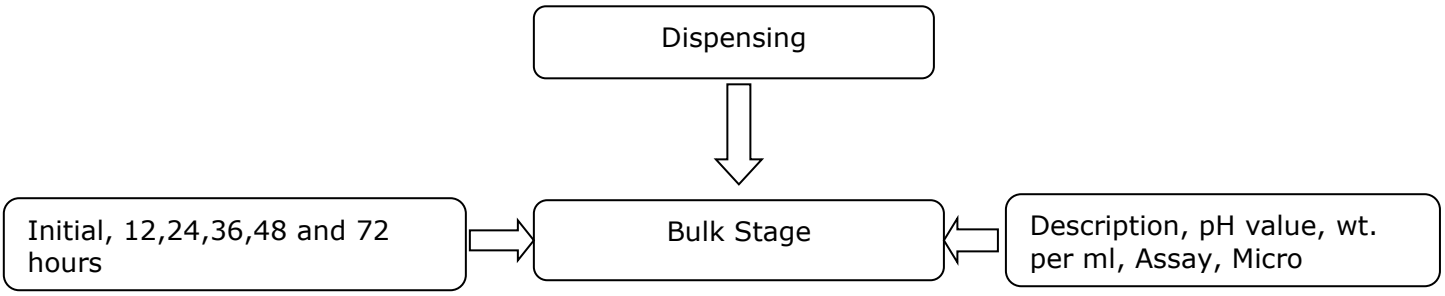


STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

4.4.3 Hold Time Study Flow Chart of Liquids (Syrups, Oral solutions, Suspensions and Linctus)



4.5 Hold Time Study Flow Chart of Ointments/Gels/Creams



STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

4.6.1 Each hold time study protocol shall be of 14 character and numbered as HTSP/PD/XXX-YY.

Where, "HTSP" denotes Hold Time Study Protocol

"/" marking for gap between two numerical or words.

"PD" denotes Pharmadevils.

"/" [Slash] marking for gap between two numerical or words.

"XXX" denotes the serial No. of Hold Time Study Protocol

"-" marking for gap between two numerical or words.

"YY" denotes for current version of the protocol i.e. 00, 01, 02 .....

4.6.2 If the bulk product is stored for a long period, there may be chances of increasing microbial growth, changes in physical and chemical properties which may affect the quality & stability of finished products. So to minimize the risk, each product has a maximum storage period at each stage of its manufacturing.

4.6.3 Hold time study shall enable to decide maximum holding period of any bulk product that can be withheld before its final packing, ensuring no effect on quality & stability of finished products.

4.6.4 Hold time study shall be required only for intermediate products not for its finished product.

4.6.5 Hold time study shall be carried out as per approved protocol **(Annexure-I).**

4.6.6 Ensure the availability of approved protocol for hold time study for bulk product before its manufacturing process starts.

4.6.7 Three consecutive batches shall be considered for hold time study for bulk product.

4.6.8 For in house requirement, if any product requires the data of hold time study for bulk product or for own satisfaction, study is carried out.

4.6.9 Sample shall be collected as per the protocol and collected sample shall be stored in double poly bag, tightly tied with cable ties & with proper labeling and it is to be kept in in-process container at controlled conditions as mentioned in Batch Manufacturing record.

4.6.10 Sample collected for Hold time study shall be send for both microbial analysis as well as chemical analysis as per protocol.

4.6.11 Make a summary and conclusion after the completion of study which shall be approved by Head-Quality Assurance.

STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

5.Annexure

Annexure No.	Title	Format No
Annexure I	Format for Hold Time Study Protocol cum Report	

6. Reference

S.No.	Title	Reference No
1.	SOP for SOP	

7. Abbreviation

S.No.	Abbreviation	Extended Form
1.	SOP	Standard Operating Procedure
2.	HTSP	Hold Time Study Protocol
3.	PD	Pharmadevils

8. History of change

Revision No.	Effective Date	Change Control No.	Details of reason

9. Distribution List

Copy No	Dept/ Distributed to
Master Copy	Head QA
1 (A)	Quality Assurance
1 (B)	Head QC
1 (C)	Production-General Manager
1 (D)	Plant Head

Annexure I

HOLD TIME STUDY PROTOCOL

FOR

…… TABLETS

PROTOCOL NO.	
SUPERCEDES	…….
PROTOCOL EFFECTIVE DATE	
REPORT EFFECTIVE DATE	
TOTAL PAGE NO.	X

STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

CONTENTS

PHARMADEVILS

QUALITY ASSURANCE DEPARTMENT

STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

1.0 PROTOCOL APPROVAL:

PROTOCOL PREPARED BY:

DEPARTMENT	NAME	DESIGNATION	SIGNATURE	DATE
QUALITY ASSURANCE				

PROTOCOL REVIEWED BY:

DEPARTMENT	NAME	DESIGNATION	SIGNATURE	DATE
PRODUCTION				
QUALITY CONTROL				

PROTOCOL APPROVED BY:

DEPARTMENT	NAME	DESIGNATION	SIGNATURE	DATE
QUALITY ASSURANCE				

Write down the information of product and it's Hold time Study according to the points mentioned above.

STANDARD OPERATING PROCEDURE HOLDTIME STUDY OF BULK PRODUCT BEFORE IT'S FINAL PACKING

10.0 REPORT APPROVAL:

COMPILED BY:

DEPARTMENT	NAME	DESIGNATION	SIGNATURE	DATE
QUALITY ASSURANCE				

REVIEWED BY:

DEPARTMENT	NAME	DESIGNATION	SIGNATURE	DATE
PRODUCTION				
QUALITY CONTROL				

APPROVED BY:

DEPARTMENT	NAME	DESIGNATION	SIGNATURE	DATE
QUALITY ASSURANCE				