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Company:	NovaThera Pharmaceuticals Pvt. Ltd.	**Effective Date:**	2025-01-01
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Raw Material Sampling Procedure

Category: Quality Control

Standard Operating Procedure (SOP)

Company: NovaThera Pharmaceuticals Pvt. Ltd.

Department: Quality Control

Title: Raw Material Sampling Procedure

SOP No.: SOP-QC-001

Version No.: 2.0

Effective Date: 2025-07-01

1.0 PURPOSE

This Standard Operating Procedure (SOP) outlines the procedures for sampling raw materials received at NovaThera Pharmaceuticals Pvt. Ltd. for use in pharmaceutical manufacturing. This SOP ensures that all raw material samples are collected in a consistent, representative, and reliable manner to facilitate accurate testing and assessment of their suitability for use in the manufacture of pharmaceutical products. Adherence to this SOP is critical for compliance with current Good Manufacturing Practices (cGMP) as outlined in 21 CFR Parts 210 and 211, ICH Q7, and WHO GMP guidelines, ensuring the quality, safety, and efficacy of the final drug products. It supports quality by design (QbD) principles by providing reliable data for material characterization and control. This SOP also aims to minimize the risk of contamination and cross-contamination during the sampling process, ensuring data integrity by adhering to ALCOA+ principles (Attributable, Legible, Contemporaneous, Original, Accurate, Complete, Consistent, Enduring, and Available).

2.0 SCOPE

This SOP applies to all personnel involved in the sampling of raw materials used in the manufacturing of pharmaceutical products at NovaThera Pharmaceuticals Pvt. Ltd., Pune, India. The scope includes sampling procedures for all incoming raw materials, including active pharmaceutical ingredients (APIs), excipients, packaging materials, and any other components used in the manufacturing process. It covers sampling from various container types, such as drums, bags, and totes. The sampling

procedures described herein are applicable to both materials received directly from suppliers and those transferred from internal storage locations. This SOP excludes sampling of in-process materials and finished products, which are covered under separate SOPs. Furthermore, it does not apply to sampling for environmental monitoring, although it includes requirements for maintaining a clean and controlled environment during the raw material sampling process. This SOP is aligned with FDA, ICH, and WHO GMP guidelines and aims to meet all applicable regulatory requirements for raw material control.

3.0 RESPONSIBILITY

QC Inspector: Responsible for performing raw material sampling according to this SOP, ensuring proper identification of materials, using appropriate sampling tools and techniques, documenting all sampling activities accurately and completely, and maintaining the sampling area in a clean and orderly condition. The QC Inspector is responsible for visually inspecting the material and container for any signs of damage or contamination before sampling and for reporting any discrepancies to the Production Supervisor. Performance will be evaluated based on the accuracy of sampling, adherence to procedures, and the completeness of documentation. Quality metrics include the number of sampling errors, deviations reported, and the timely completion of sampling activities.

Production Supervisor: Responsible for ensuring that all QC Inspectors are properly trained and qualified to perform raw material sampling, providing adequate resources and equipment for sampling activities, reviewing sampling documentation for completeness and accuracy, and addressing any issues or deviations identified during the sampling process. The Production Supervisor is authorized to make decisions regarding the acceptance or rejection of raw material lots based on the sampling results and other relevant information. Supervisory responsibilities include overseeing the sampling process to ensure adherence to safety precautions and GMP requirements. The Production Supervisor is responsible for informing the QA Manager of any major deviations or issues encountered during sampling.

QA Manager: Responsible for developing and maintaining this SOP, ensuring its compliance with current GMP regulations and industry best practices, approving any changes to the SOP, overseeing the training of personnel on the SOP, and conducting periodic audits of the raw material sampling process to ensure compliance. The QA Manager is responsible for reviewing and approving all sampling plans and for ensuring that all sampling activities are properly documented and controlled. The QA Manager also has the authority to stop any sampling activity if there is a concern about quality or safety. Comprehensive management oversight includes ensuring that all documentation practices comply with ALCOA+ principles.

Head of QA: Responsible for providing strategic oversight of the raw material sampling process, ensuring that it aligns with the overall quality management system, and serving as the primary liaison with regulatory agencies on matters related to raw material control. The Head of QA is responsible for ensuring that NovaThera Pharmaceuticals Pvt. Ltd. has adequate resources and personnel to support the raw material sampling process and for resolving any major quality issues related to raw materials. Strategic oversight includes ensuring that the raw material sampling process is continuously improved to enhance quality and efficiency. Regulatory liaison responsibilities include staying informed about changes in regulatory requirements and ensuring that the raw material sampling process is updated accordingly.

4.0 MATERIALS & EQUIPMENT

PPE:

- Safety glasses (ANSI Z87.1 certified)
- Nitrile gloves (Powder-free, sterile)
- Lab coat (Clean, dedicated to sampling area)
- Dust mask or respirator (NIOSH approved, as required by the material SDS)
- Dedicated footwear or shoe covers (Clean, non-slip)

Equipment:

- Sampling scoops (Stainless steel, autoclavable, different sizes) - Code: SCO-01, SCO-02, SCO-03
- Sampling thief (Stainless steel, different lengths) - Code: THF-01, THF-02
- Sampling trier (Stainless steel, for bags) - Code: TRR-01
- Sterile sample containers (HDPE bottles, glass vials, different sizes) - Code: CNT-01, CNT-02, CNT-03. Pre-labeled with unique sample identifiers.
- Weighing balance (Calibrated, accuracy ± 0.1 mg) - Code: BAL-01 (Calibration due date clearly displayed)
- Spatulas (Stainless steel, autoclavable) - Code: SPT-01, SPT-02
- Cleaning supplies (70% Isopropyl Alcohol (IPA), lint-free wipes)
- Designated sampling area (Controlled environment, with laminar flow hood if required)
- pH meter (Calibrated) - Code: PHM-01 (Calibration due date clearly displayed, if required for the material)
- Temperature and Humidity monitoring device (Calibrated, continuous recording) - Code: THM-01

Documentation:

- Raw Material Sampling Form (SOP-QC-001-F1, Version 2.0)
- Raw Material Specification Sheet
- Certificate of Analysis (CoA) from supplier
- Material Safety Data Sheet (MSDS) / Safety Data Sheet (SDS)
- Receiving Logbook
- Equipment Calibration Records (BAL-01, PHM-01, THM-01)
- Deviation Report Form (SOP-QA-005-F1)

Reagents/Chemicals:

- 70% Isopropyl Alcohol (IPA) - USP Grade

5.0 PROCEDURE

5.1 Pre-Activity Preparation

5.1.1 Verify that the raw material has been quarantined upon receipt and released by the warehouse personnel. Review the receiving logbook to confirm the material's status.

5.1.2 Review the Raw Material Specification Sheet and the Certificate of Analysis (CoA) provided by the supplier. Compare the CoA results to the specifications to identify any potential discrepancies. Document the review on the Raw Material Sampling Form (SOP-QC-001-F1).

5.1.3 Obtain the Material Safety Data Sheet (MSDS) / Safety Data Sheet (SDS) for the raw material and review the safety precautions and handling instructions. Ensure that all required PPE is available and in good condition.

5.1.4 Ensure that the designated sampling area is clean and free from any extraneous materials. Disinfect the sampling area surfaces with 70% IPA and wipe dry with lint-free wipes.

5.1.5 Calibrate the weighing balance (BAL-01) and pH meter (PHM-01), if required for the material, prior to use. Verify the calibration due dates and record the calibration information on the Raw Material Sampling Form.

5.1.6 Prepare the sterile sample containers (CNT-01, CNT-02, CNT-03) by labeling them with the following information:

- Raw Material Name
- Lot Number
- Date of Sampling
- Sampler's Initials
- Unique Sample Identifier

5.1.7 Ensure that the sampling tools (scoops, thief, trier, spatulas) are clean and sterilized, either by autoclaving or by wiping with 70% IPA.

5.1.8 Record the temperature and humidity of the sampling area on the Raw Material Sampling Form. Ensure that the temperature and humidity are within the specified limits.

5.1.9 Verify that the raw material container is properly labeled with the raw material name, lot number, and any necessary hazard warnings.

5.2 Container Inspection and Preparation

5.2.1 Visually inspect each container of the raw material for any signs of damage, such as dents, tears, or leaks. Document any observed damage on the Raw Material Sampling Form.

5.2.2 Check the integrity of the container seals. If the seals are broken or tampered with, notify the Production Supervisor and QA Manager immediately. Do not proceed with sampling until the issue has been resolved.

5.2.3 Clean the exterior of the container with a clean, dry cloth or a cloth dampened with 70% IPA to remove any dust or debris.

5.2.4 If the raw material is packaged in multiple containers, determine the number of containers to be sampled based on the sampling plan (see Section 8.0). Use a random number generator or other statistically valid method to select the containers to be sampled. Document the container selection process on the Raw Material Sampling Form.

5.2.5 Open the container carefully, using appropriate tools to avoid damaging the container or contaminating the raw material.

5.3 Raw Material Sampling

5.3.1 Using a clean and sterilized sampling tool (scoop, thief, or trier), collect a representative sample of the raw material from each selected container. The sampling technique will depend on the physical form of the material (e.g., powder, liquid, solid).

• For powders: Use a sampling thief or trier to collect samples from different locations within the container (top, middle, bottom).

• For liquids: Use a sampling thief to collect samples from different depths within the container. Ensure the liquid is homogenous before sampling; if not, mixing may be required (BLN-04 if available and appropriate).

• For solids: Use a sampling scoop or spatula to collect samples from different locations on the surface and within the container.

5.3.2 The quantity of sample collected should be sufficient to perform all required tests, as specified in the Raw Material Specification Sheet.

5.3.3 Transfer the sample to the pre-labeled sterile sample container. Close the container tightly and ensure that the label is securely attached.

5.3.4 If multiple samples are collected from the same container, label each container with a unique sample identifier and record the location from which the sample was taken (e.g., top, middle, bottom).

5.3.5 After collecting the sample, reseal the raw material container securely to prevent contamination or degradation.

5.3.6 Repeat the sampling process for each selected container until all required samples have been collected.

5.4 In-Process Controls

5.4.1 Visual Inspection: During sampling, continuously inspect the raw material for any signs of abnormalities, such as discoloration, foreign matter, or unusual odor. Document any observations on the Raw Material Sampling Form.

5.4.2 Sample Weight Verification: Verify that the weight of each sample collected is within the acceptable range, as specified in the sampling plan. Record the weight of each sample on the Raw Material Sampling Form. Acceptance criteria: ± 10% of the target sample weight.

5.4.3 Container Integrity Check: After resealing the raw material container, ensure that the container is properly sealed and that there are no signs of leakage or damage.

5.4.4 Temperature Monitoring: Continuously monitor the temperature and humidity of the sampling area during the sampling process. Ensure that the temperature and humidity remain within the specified limits. Take corrective action if the temperature or humidity deviates from the acceptable range.

5.4.5 Equipment Cleaning Verification: Ensure that all sampling tools and equipment are cleaned and sterilized between samples to prevent cross-contamination. Visually inspect the equipment for any signs of residue or contamination.

5.4.6 Environmental Monitoring: Perform surface swabbing of the sampling area at the beginning, middle, and end of the sampling activity to monitor the cleanliness of the environment. Send the swabs to the microbiology lab for analysis. Review of historical data to identify trends. Acceptance criteria to be established by the microbiology department.

5.5 Sample Handling and Storage

5.5.1 Transport the collected samples to the quality control laboratory as soon as possible after sampling.

5.5.2 Store the samples in a designated storage area in the quality control laboratory under appropriate conditions (e.g., temperature, humidity, light exposure) to maintain their integrity.

5.5.3 Record the storage location and conditions on the Raw Material Sampling Form.

5.5.4 Follow the sample retention policy as specified in the relevant SOP.

6.0 POST-ACTIVITY PROCEDURES

6.1 Review the Raw Material Sampling Form to ensure that all information is complete and accurate. Verify that all required fields have been filled in and that there are no inconsistencies or errors.

6.2 Clean and disinfect all sampling tools and equipment after use. Sterilize the tools as required.

6.3 Return the sampling tools and equipment to their designated storage locations.

6.4 Dispose of any used PPE and waste materials in accordance with the facility's waste disposal procedures.

6.5 Clean and disinfect the sampling area after each sampling activity.

6.6 Submit the Raw Material Sampling Form, along with the samples, to the quality control laboratory for testing.

6.7 Update the raw material inventory records to reflect the quantity of material sampled.

6.8 Review all data generated during the sampling activity for any trends or anomalies.

6.9 File all relevant documentation, including the Raw Material Sampling Form, CoA, MSDS/SDS, and equipment calibration records, in the designated document control system. Ensure that the documents are readily retrievable and that they are protected from damage or loss. Data integrity is maintained by ensuring all records are Attributable, Legible, Contemporaneous, Original, Accurate, Complete, Consistent, Enduring, and Available (ALCOA+).

6.10 Equipment used for sampling, such as the weighing balance, must be cleaned and calibrated after each use. Record the cleaning and calibration activities in the equipment logbook.

6.11 Any deviations from this SOP must be documented on a Deviation Report Form (SOP-QA-005-F1) and investigated. Implement corrective and preventive actions (CAPA) as necessary to prevent recurrence.

7.0 SAFETY PRECAUTIONS

7.1 Review the Material Safety Data Sheet (MSDS) / Safety Data Sheet (SDS) for the raw material prior to sampling to understand the potential hazards and required safety precautions.

7.2 Wear appropriate PPE, including safety glasses, nitrile gloves, a lab coat, and a dust mask or respirator, as required by the MSDS/SDS.

7.3 Handle raw materials with care to avoid spills or exposure.

7.4 Use appropriate tools and equipment to minimize the risk of injury.

7.5 Work in a well-ventilated area or under a laminar flow hood to minimize exposure to airborne particles.

7.6 Avoid eating, drinking, or smoking in the sampling area.

7.7 Wash hands thoroughly with soap and water after handling raw materials.

7.8 In case of a spill or accidental exposure, follow the emergency procedures outlined in the facility's safety manual.

7.9 Ensure that all personnel involved in raw material sampling are trained on the hazards of the materials and the appropriate safety precautions.

7.10 Conduct a risk assessment prior to sampling any new raw material to identify potential hazards and implement appropriate control measures. Document the risk assessment.

8.0 QUALITY CONTROL MEASURES

8.1 Sampling Plan: A written sampling plan must be established for each raw material, specifying the number of containers to be sampled, the quantity of sample to be collected from each container, and the sampling technique to be used. The sampling plan should be based on the statistical variability of the material and the criticality of the material to the final product. The sampling plan must be approved by the QA Manager.

8.2 Sample Size: The sample size must be sufficient to perform all required tests, as specified in the Raw Material Specification Sheet.

8.3 Sampling Technique: The sampling technique must be appropriate for the physical form of the material and the type of container.

8.4 Acceptance Criteria: The raw material must meet all acceptance criteria specified in the Raw Material Specification Sheet.

8.5 Testing: All samples must be tested according to the Raw Material Specification Sheet.

8.6 Retesting: If the initial test results are not within the acceptance criteria, the sample must be retested.

8.7 Lot Release: The raw material lot must be released by the QA Manager before it can be used in manufacturing.

8.8 Sampling Frequency: The sampling frequency should be based on the risk assessment of the raw material and the supplier's quality history.

8.9 Supplier Audits: Conduct periodic audits of raw material suppliers to ensure that they are following GMP and that their materials meet the required quality standards.

8.10 Control Charts: Maintain control charts to monitor the quality of raw materials over time and to identify any trends or anomalies.

8.11 Reference Standards: Use calibrated and traceable reference standards for all testing.

8.12 Data Review: The QA Manager or designee must review all sampling and testing data to ensure that it is complete, accurate, and reliable.

8.13 Change Control: Any changes to the sampling plan or Raw Material Specification Sheet must be approved through the facility's change control system.

8.14 Training: All personnel involved in raw material sampling and testing must be properly trained and qualified.

9.0 DOCUMENTATION AND RECORDS

9.1 Raw Material Sampling Form (SOP-QC-001-F1, Version 2.0): This form must be completed for each raw material sampling activity. It should include the following information:

- Raw Material Name
- Lot Number
- Date of Sampling
- Sampler's Initials
- Unique Sample Identifier
- Number of Containers Sampled
- Quantity of Sample Collected from Each Container
- Sampling Technique Used
- Observations (e.g., appearance, odor)
- Temperature and Humidity of Sampling Area
- Equipment Used (with calibration information)
- Deviations (if any)
- Signatures and Dates

9.2 Certificate of Analysis (CoA) from supplier: The CoA must be retained for each lot of raw material received.

9.3 Material Safety Data Sheet (MSDS) / Safety Data Sheet (SDS): The MSDS/SDS must be readily available for each raw material.

9.4 Receiving Logbook: The receiving logbook must be maintained to record the receipt of all raw materials.

9.5 Equipment Calibration Records (BAL-01, PHM-01, THM-01): Calibration records must be maintained for all equipment used in raw material sampling and testing.

9.6 Deviation Report Form (SOP-QA-005-F1): Any deviations from this SOP must be documented on a Deviation Report Form.

9.7 All records must be legible, accurate, and complete.

9.8 Records must be stored in a secure location and protected from damage or loss.

9.9 Records must be retained for the period specified in the facility's record retention policy (typically one year after the expiry date of the drug product).

9.10 Electronic Records: If electronic records are used, the system must be validated to ensure data integrity and compliance with 21 CFR Part 11. The system must provide audit trails, access controls, and electronic signatures. Electronic signatures must be unique and securely linked to the individual signing the record.

9.11 Backup and Recovery: A system must be in place for backing up and recovering electronic records in case of a system failure.

9.12 Archiving: A system must be in place for archiving electronic records after the retention period has expired.

10.0 DEVIATIONS AND CORRECTIVE ACTIONS

10.1 Any deviation from this SOP must be documented on a Deviation Report Form (SOP-QA-005-F1).

10.2 The Deviation Report Form should include the following information:

- Description of the deviation
- Date and time of the deviation
- Name of the person who discovered the deviation
- Possible cause of the deviation
- Impact of the deviation on product quality
- Corrective actions taken
- Preventive actions to prevent recurrence
- Signatures and dates of the individuals involved in the investigation and approval of the corrective actions.

10.3 The Deviation Report Form must be investigated by the Production Supervisor and QA Manager.

10.4 Corrective actions must be implemented to address the deviation and to prevent recurrence.

10.5 The effectiveness of the corrective actions must be evaluated.

10.6 A CAPA (Corrective and Preventive Action) system must be in place to track and manage deviations and corrective actions.

10.7 All CAPAs must be documented and approved by the QA Manager.

10.8 The CAPA system must be periodically reviewed to ensure its effectiveness.

11.0 TRAINING REQUIREMENTS

11.1 All personnel involved in raw material sampling must be trained on this SOP.

11.2 Training must include the following topics:

- Purpose and scope of the SOP
- Responsibilities of personnel
- Materials and equipment used
- Sampling procedures
- Safety precautions
- Quality control measures
- Documentation and records
- Deviations and corrective actions
- GMP requirements

11.3 Training must be documented.

11.4 Personnel must be re-trained periodically to ensure that they are up-to-date on the SOP and any changes to the SOP.

11.5 Training records must be maintained.

11.6 Specific training shall be provided on the operation and maintenance of sampling equipment such as sampling thief (THF-01, THF-02) and Sifter (SFT-02) if used.

12.0 REVIEW AND REVISION

12.1 This SOP must be reviewed at least annually or more frequently if there are any significant changes to the process or regulations.

12.2 The review must be conducted by the QA Manager.

12.3 Any revisions to the SOP must be approved by the Head of QA.

12.4 The revision history must be documented in the SOP.

12.5 The current version of the SOP must be readily available to all personnel involved in raw material sampling.

12.6 A change control procedure must be in place to manage changes to the SOP.

13.0 APPROVALS

Prepared By: QC Inspector

Reviewed By: QA Manager

Approved By: Head of QA

Date:

Controlled Document Notice

Document Approval

Role	Name	Signature	Date
Prepared by:	_____	_____	_____
Reviewed by (QA):	_____	_____	_____
Approved by (Head QA):	_____	_____	_____

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