



**Parijat Industries (India) Pvt. Ltd.**

AN ISO 9001, 14001 & OHSAS 18001 COMPANY

# Scientific Infrastructure At Parijat



**NABL  
ISO/IEC 17025:2005  
Accredited  
Quality  
Control  
Laboratory**

**Issued By:**

**Parijat Industries (India) Pvt. Ltd.**

**Reg. Office:** M-77, I & II Floor, M Block Market, Greater Kailash-II, New Delhi-110048.

**Factory:** Works-Khera Ganni, V&PO-Fatehgarh, Raipur Rani Road, Ambala, Haryana-134201



**PARIJAT**

Enabling. Growth. Responsibly.

**A REFERENCE GUIDE FOR SCIENTIFIC LABORATORY**

# INTRODUCTION

Parijat is a manufacturer of Crop Protection Products marketed in India as well as across 70 countries. Catering to such a wide market requires a wide-ranging Technical Infrastructure to maintain quality and innovation.

This publication is a brief description of Scientific and Technological infrastructure at Parijat Industries.

The Scientific and technological infrastructure is a combination of:

1. Inhouse Laboratories,
2. Scientific workforce,
3. And extensive engagement with External Scientific institutions



**Parijat has established 6 different inhouse Laboratories**  
**Each of these are specialized in different areas**  
**and include**

1. Entomological Laboratory
2. Field Research Station
3. Physical and Chemical Testing Laboratory
4. Formulation Development Laboratory
5. Process Development Laboratory
6. Packaging Laboratory



**These Laboratories work in conjunction with 4 departments which include.**

1. Registration and international Regulatory department.
2. R&D Research and Development department.
3. Quality Assurance Department.
4. Health Safety & Environment Department.



# ENTOMOLOGICAL LABORATORY

Research & Development are an integral part of Parijat. The R&D (Agri.) Dept. operates a Laboratory at Mandohur Ambala, that is solely dedicated to carry out different research activities for the Company related to pests, field trails and efficacy.

The Plant protection laboratory is currently functional under three sections

1. Pathology,
2. Agronomy
3. Entomology.

The Entomology division is solely responsible for maintaining insect culture in the Entomology lab. Rearing of different pests is done from time to time to conduct trials upon them.

Bio-efficacy trials of pesticides in laboratory are carried out in-vitro and in-vivo condition.

The Pathology division dedicatedly collects and identifies diseased samples from the field, isolates different diseases in laboratory and thereafter conducts lab trials for testing efficacy of fungicides.

The Agronomy division is responsible for growing of weed in pots and conducting pot trials for testing efficacy of herbicides.

The Lab is well equipped with various sophisticated instruments such as the-

1. Autoclave
2. Laminar Air Flow
3. BOD
4. Compound Microscope
5. Diet Shaker
6. Hotplate
7. Compound Electronic Microscope

The lab serves as the backbone of the R&D Dept. conducting bioassay's, dose standardization as well as monitors Parijat's in house and multilocation field trials.



# RESEARCH FARM OF THE R&D DEPT

Research Farm of the R&D Dept. is situated in Ambala, Haryana.

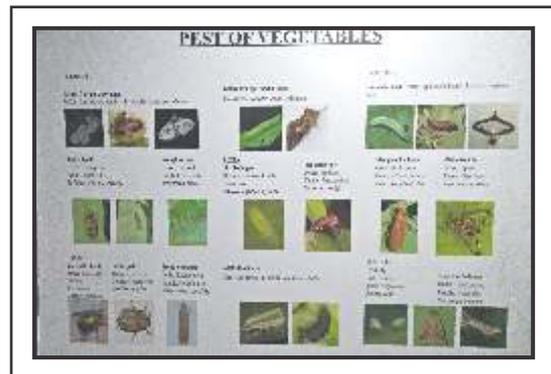
The Farm is located at Tasroli village and spread across 2.5 acres.

Furthermore, a modern poly house has been installed in the farm to conduct different trials and research.

Various in-house studies are conducted in the research farm for new molecules, which are further distributed in various locations.

For multilocation studies. Different types of research activities are carried out in the farm to test the efficacy of molecules and evaluation of various aspects which are helpful for Domestic and International market.

The research farm enables us to do trails on providing the correct solutions to the farmers for the problems related to their crops.



# PHYSICAL AND CHEMICAL TESTING

## LABORATORY NABL ACCREDITED ISO/IEC 17025 :2005

Parijat Products are sold globally under our own trademark brands. A vigorous process of quality monitoring is in place under our independent quality control and quality assurance department.

To serve global clientele, the company has invested in a sophisticated laboratory for testing and R&D. Instruments available at the premises include.

1. High Pressure Liquid Chromatography (HPLC)
2. GAS Chromatography (GC)
3. UV Spectrophotometer
4. High precise Analytical Balance
5. Air Jet Mill
6. SC Bead Mill Lab Model- For the development of SC formulation
7. Extruded Granulator.

The total number of scientific and technical staff engaged in the lab is 15.

A number of studies are generated from this laboratory including

1. Bio efficacy
2. Chemistry
3. Toxicity



# FORMULATION

## DEVELOPMENT LABORATORY

The Formulation development Lab, is focused on producing new formulations as well as continuous improvements in existing Formulations .

The Lab is equipped with

1. Fluidized Bed Processor & Dryer for high dispersible granules
2. Air jet mill for micronization
3. Extruded granulating machine
4. Wet grinding bead mill for suspension etc.

Working along with the Physico Chemical Testing lab as well as the Field Research Stations, the Formulation lab is in a position to precisely determine the effectiveness of formulations before a product launch or improvements



# PROCESS DEVELOPMENT LABORATORY

The Process Development Lab based in Cuddalore , Tamil Nadu is involved with process development of Active ingredients as well as intermediates . The laboratory is equipped with the following equipment's .

## PROCESS LAB EQUIPMENTS

### **EQUIPMENTS**

- Process Reaction Vessels
- Vacuum Systems
- Hydrogenation Vessel
- Fume extraction Chambers
- Chilled water circulation system
- Phase separators
- Filtration systems
- High Vacuum system
- Vacuum hot air oven
- Hot air oven
- Weighing Scale
- Hard wares such as Heating Mantles, Stirrers, circulation pumps, water baths etc in various sizes

### **ANALYTICAL SECTION**

- HPLC with UV-Vis detector
- Preparatory HPLC with UV-Vis detector
- GLC with FID Detector and all accessories
- Sonicator
- Analytical Balance (Metler Toledo)
- Karl Fisher moisture analyser (Polmon)
- pH meter
- Moisture Balance
- Melting Point Apparatus (VEEGO)

### **CHEMICAL PROCESS CAPABILITIES**

- Friedel-Crafts alkylation and acylation Reactions
- Grignard Reactions
- Formylation Reactions
- Oxidation and Reduction Reactions
- Esterification and Hydrolysis Reactions
- Hydrogenation Reactions
- Phase Transfer Reactions
- Halogenation reactions such as Fluorination, Chlorination and Bromination
- Addition and Elimination Reactions
- Substitution Reactions
- Nitration and Amination Reactions
- Coupling Reactions

# PACKAGING LABORATORY

Parijat handles a very large number of Packaging materials both in terms of size as well as material of Construction. Pesticide packaging is regulated by statutory laws , and this includes Containers, Labels, Leaflets, Cartons, Bags, Pouches, Cans & Drums.

The separate packaging laboratory is operational for testing as well as developing and continuous improvement of packaging at PARIJAT . The Laboratory has the following equipment's.

1. Compression strength machine CS
2. Bursting Strength machine
3. Hot Air Oven
4. Cobb Value tester

Products are tested against BIS Standards .



## **SCIENTIFIC DEPARTMENTS**

Other than the Laboratories, Parijat has 4 different departments solely engaged with Scientific, technological innovation and Quality Management .

These include

1. Registration and international Regulatory department.
2. Quality Assurance Department.
3. Research, Development & Patent Department.
4. Health Safety & Environment Department.

### **Regulatory Department**

Regulatory Department deals with registration of agro-chemical based products in Indian as well as International markets according to the regulatory framework. The departments coordinates for registration of products right from development phase, followed by working closely with Contract Research Organizations, compilation and submission of dossiers to government authorities, follow-up with the regulators for data gaps and fulfilling deficiencies, till completion of registration process. Department also monitor post-registration regulatory compliances of the product.

Currently, department is working in 50 international markets with 437 complete registrations. Another set of 243 international registration are in the pipeline in 35 countries.

In Indian market, Parijat is holding registration of 170 products which can be sold in domestic market, out of which 10 products are registered under Section 9(3).

# QUALITY ASSURANCE DEPARTMENT

The quality Assurance Department plays a key role in monitoring implementing Standard Operating Procedures at all stages and in all departments of the manufacturing plants from the time Raw materials enter the plant to the time finished products leave the plant .

It also plays a key role in the continuous improvement of Standard Operating Process.



# HEALTH SAFETY & ENVIRONMENT

As a responsible corporate citizen Parijat is committed to ensure that the Best of Safety Health and Environmental practices are implemented through all operations of our activities. The scope of the department is to ensure safe handling during manufacturing, logistics, warehousing, distributors and farmers.



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Place  
To  
Work.®**

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**MAY 2019–APR 2020**

**INDIA**



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