

Internship report

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY, CHENNAI



REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF A DEGREE OF

BACHELOR OF SCIENCE

IN

CHEMISTRY

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Acknowledgment

I want to thank my advisers and everyone at the company for their patience and assistance during my on-site training. thanks to their guidance, I developed my industrial skills and learned about different chromatography techniques used in tablets. these skills will help to expand my resume and advance my career

ABOUT COMPANY

Softgel Healthcare Pvt Ltd is a new-age manufacturer of soft gelatin capsules for

- . Rx
- . OTC and
- . Nutraceuticals

To cater to the growing needs of Pharmaceutical Companies worldwide, Softgel has newly set up an advanced manufacturing plant with state-of-the-art machinery and technically skilled personnel.

Softgel is an associate company of Madras Pharmaceuticals, an over-25-year-old WHO GMP-certified manufacturer of complex healthcare drugs.

Located in Chennai, South India, Softgel is well-connected with Air, Rail, Road and Ship. With a well-defined organogram and skilled manpower, Softgel is all set to be a leading name in the manufacture of soft gelatin capsules.

ABSTRACT

DEFINITION

- Chrome-colour; graphy -technique
- It was invented by Russian botanist Mikhail Tsvet(1890s)
- They employed the technique to separate plant pigments like chlorophyll and xanthophyll using a column of calcium carbonate
- The separated components appeared as colored bands on components hence the name chromatography

TYPES OF CHROMATOGRAPHY

- i. **Reversed-phase chromatography**
- ii. **ion exchange chromatography**
- iii. **affinity chromatography**
- iv. **size exclusion chromatography.**

HPLC

High-performance liquid chromatography (HPLC) is renowned for its high precision and accuracy. Despite the high costs that are associated with the method, it's a perfect match for the kind of precise identification and quantification required for pharmaceuticals

OBSERVATION

HPLC is used to analyze pharmaceutical products (drug and medicine products) for the ingredients they contain. The method is utilized to separate, quantify, and identify the various components along with their quantities within products.

Doing so gives developers a better idea of a drug's properties, with each component's quantities affecting the overall performance and strength of a product, for example. However, it also allows them to identify and quantify any impurities within pharmaceutical products.

Most importantly, the method lends itself to the analysis of difficult components, including high molecular weights, thermal instability, and compounds that are difficult to volatilize. This makes it suitable for the analysis of drugs in both their pure form and dosage form, such as pills, drinks, powders, injections, or inhalers

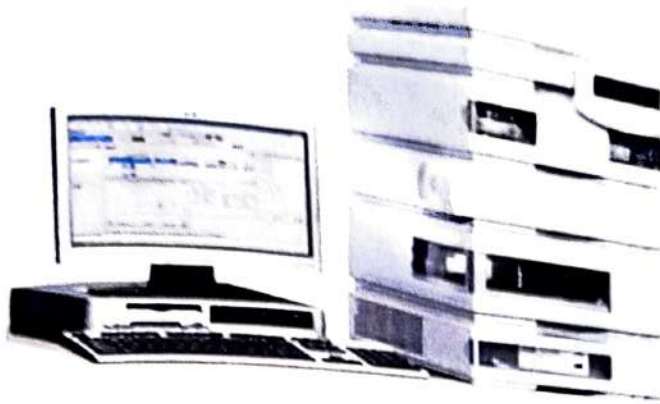
APPLICATION:

1. ANALYTICAL CHEMISTRY

2. GREEN CHEMISTRY

3. POLYMER CHEMISTRY

HPLC



GC (GAS CHROMATOGRAPHY)

Gas chromatography (GC) is a common type of chromatography used in the field of analytical chemistry. for separating and analyzing compounds that can be vaporized without **decomposition**. Typical uses of GC include testing the purity of a particular substance or separating the different components of a mixture. In preparative chromatography, GC can be used to prepare pure compounds from a mixture.

Gas chromatography is also sometimes known as **vapor-phase chromatography (VPC)**, or **gas-liquid partition chromatography (GLPC)**. These

alternative names, as well as their respective abbreviations, are frequently used in scientific literature.



OBSERVATION

Analytical technique in the pharmaceutical industry for the analysis of volatile compounds. It is a separation technique that separates and analyzes volatile organic compounds

in a sample mixture. GC is a powerful analytical tool that can separate and identify very small quantities of analytes in complex mixtures.

GC is widely used in the pharmaceutical industry for the analysis of active pharmaceutical ingredients (drugs), excipients, and impurities. It is used to determine the purity and potency of drugs, to detect impurities and degradation products, and to quantify residual solvents.

APPLICATION:

- Examining the levels of drugs present in a tablet.
- Percentage of purity of compound
- Analysing of functional group

03rd June 2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Iris Gnana Sheela J** (Enroll No. 41030008) Second Year Bachelor of Science (Chemistry) student from Sathyabama Institute of Science and Technology, Rajiv Gandhi Salai, Chennai - 600 119 had undergone internship in our manufacturing facility during the period 22nd May 2023 to 03rd June 2023.

During her internship she has shown lot of enthusiasm and found to be sincere, punctual, and inquisitive.

We wish her every success in her future endeavors

For **SOFTGEL HEALTHCARE PRIVATE LIMITED**



M. JAGADISH
MANAGER - HR

CONCLUSION

From my internship, I was able to get a better understanding of how the pharmaceutical industry works and how effective it is. I enjoyed working in the Area and I got some different experiences. However, I still have a long way to go in understanding the psychological aspects of chromatography. Overall, I found the industrial internship experience to be positive, and I'm sure I will be able to use the skills I learned in my career later.