

M.SC CHEMISTRY WITH 12 YEARS INDUSTRIAL EXPERIENCE IN QUALITY, RESEARCH AND NEW PRODUCT DEVELOPMENT:

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Objective:

To work in an analytical environment, that always gives an opportunity to use my talents and skills for the benefit of the institution as well as for my personal growth.

Educational Qualifications:

| SI No | Educational Qualifications | Stream | Board/ University | Percentage of marks (%) | Year of Passing |
|-------|-------------------------------|-------------------|----------------------------------|-------------------------|-----------------|
| 1. | M.Sc Chemistry | Analytical | University of Kerala | 64.5 | 2008 |
| 2. | B.Sc Chemistry | Physics and Maths | Calicut University Tamil nadu | 59.0 | 2005 |
| 3. | Plus Two (12 th) | Science | Hr. Sec Board Board of | 78.0 | 2002 |
| 4. | S.S.L.C (10 th) | General | Public examinations- kerala | 53.0 | 2000 |

PROFILE SNAPSHOT

- Skill in Quality control, Research works, New Product Development, process management and production.
- Skilled in quality control & inspection of a wide spectrum of procedures & systems
- Technical supporting to Customer, Production and Marketing team.
- Expertise in SPC & SQC (**Statistical Quality Control Tools**) and deftness at carrying out “5S” (House-keeping)
- An effective communicator & planner with strong interpersonal, problem solving, people management and negotiation skills

Job Experience (12.0 yrs and 8 months):

1. June 2013 – Present – Working in the position of Quality Manager and Research officer in HD Microns Ltd., Bhuj – Gujarat.
2. September 2008 – June 2013 - Worked in the position of Research Chemist in R&D centre and Process chemist in the plant of English Indian Clays Ltd, Trivandrum, Kerala, India.

Current responsibilities:

- Working in Hydrous and Calcined clays process and Research works. New
- product development of Hydrous and Calcined clays. Development of Nano
- clay from Bhuj clay.
- Development of Surface modified clays.
- Development and processing route of Delaminated clay in Bhuj clays.
- Identification of new process technology and New Raw materials.
- Technical supports providing to Production team and Marketing team.

JOB EXPERIENCE - DETAILED

Chemical and Mineralogical Analysis of Clays.

- Analysis of chemical constituents in clays (Si, Al, Fe, Ti, Na, K, Ca, Mg, Cl, SO₄, C etc), other minerals and water by Wet chemical & Instrumental techniques
- Able to develop new analytical methods and sample preparation techniques as and when required.
- Well versed in the operation of equipments like XRF, Surface area analyzer, Particle size analyzer- Sedigraph, BF Viscometers, Spectra photometer, Hegman grind etc and its data interpretation.

New Product Development – Kaolin field

1. Developed Nano clays from Kaolin clay in EICL under the Guidance of Dr. S. Sivakumar. (Nano clay specialist).
2. Experienced in operating pilot scale equipments like Spray drier, Calciner, Delaminator, Ball mill, Attrition mill, Pulverizers, Mixture machine etc.
3. Development of surface modified (Stearic, Silane, Organic titanates) clays and other minerals like calcium carbonate etc for application in paint, rubber, plastics etc
4. Development of Delaminated clays using Trivandrum clays and also Bhuj clays.
5. Identification of new process chemicals for plant use.
6. Identification of New Process Techniques and Process Chemicals in order of cost reduction without affecting existing quality of the end product.
7. Conducted new Bleaching technique, like Low pH bleaching, Neutral Bleaching, TDO bleaching and alkaline bleaching.

8. Conducted new process route on Lower quality matrix, and it is usable. (Pink matrix to be used)
9. Reduce grit level and increasing PSD technique in process.
10. Studied the impact of different dispersants in the kneading of clays and identified various potential dispersants (sodium, Ammonium based) working at different pH.
11. Identified different chemical for Clay processing route, for the purpose of cost effective.

Application of Clays in Paint

- ☛ Good working knowledge in the application of hydrous and calcined clays in paint. Identified chemicals for increasing paint Opacity- CR and Whiteness after making Paint.
- ☛ Identified chemicals for increasing rheological properties of lower grade clays for usable of Paint and paper customers.
- ☛ Well versed in testing pigmentary properties like Oil absorption, Hegman, Water demand, Flow point, Viscosity, Sedimentation, Optical properties, Tinting strength etc required for paint grades.
- ☛ Carried out comparison studies of our hydrous clays and calcined clays with domestic and international grades.

Application of Clays in Paper Coating

- ☛ Studied the impact of particle size, viscosity of clays on the coating slip viscosity and on the optical properties, gloss, smoothness of the coated paper and board.
- ☛ Also analyzed the impact of different dispersants on the viscosity clays.
- ☛ Knowledge in the Routine Process and Quality Control Activities.
- ☛ Experienced in the routine process and quality control activities in the production of hydrous

clays and Calcined clays

☛ Good knowledge in the detailed specification of each grade of clays. Issue of COA, TDS , MSDS etc .

Research works of Calcined clays:

1. I have sound knowledge of Calcined clays research works. For improving Opacity of clay product, For improving Gloss, Optical properties, Oil absorption etc.
2. I have knowledge of Calcined surface treated clays for Polymer applications.
3. Identified chemicals for increasing shade of the calcined product by using lower grade clay as a Raw materials.

· Experience in other minerals:

1. Identified Process route of SYNTHETIC ALUMINIUM SILICATE in lab level and Pilot plant level with Oil absorption 200 ml/100g and BET surface area 180.
2. Identified Process route of PPT SILICA in lab level and Pilot plant level with Oil absorption 160 ml/100g and BET surface area 175.
3. Coating of Silane chemicals with PPT Silica

Personal Details:

Date of Birth : 28/09/1984

Nationality : Indian

Languages known : English, Hindi, Tamil & Malayalam

Marital status : Married

Notice period : 2 Months after confirmation letter

Current salary : 13.0 Laks CTC.

DECLARATION

I hereby declared that , all the above details are true and correct to the best of my knowledge and belief.

Date : 25-04-2020

KARTHIKAYAN P

Place : Bhuj- Gujarat