

# Résumé

## S Sankaranarayanan

### Contact Details

Mail: [sankar.s.narayanan@gmail.com](mailto:sankar.s.narayanan@gmail.com), Ph: +91 97433 99342/ +91 831 2490500

### Work Experience

39 years of specialized experience in the areas of Bauxite, Bayer process and Chemical grade Specialty Alumina and ATH including over 4 years as an Independent Technical Consultant.

Core competency and work experience include

- Process/ Technology design & development
- Product/ Application development, R&D and Innovation management
- Operations and project management
- Process data analysis and trouble-shooting
- Process review and audit identifying **OFI** (Opportunities for improvement)
- Quality system development and implementation
- System assessment and audit
- Specialised and intensive training on Bayer Chemistry, Bayer Process operations.
- Training on technology and production processes of Specialty aluminas and ATH and their applications in various end-uses like Refractories, Ceramics and Fire-retardant fillers.
- Training on report writing skills, statistical analysis, process & system audit
- Guiding, coaching and motivating Scientists, Engineers and Others enabling them to excel in their performance etc.

Have worked with and experienced bauxites from different geographical locations like India (West coast, East coast, Central Plateau), Africa (Cameroon, Guinea, Ghana), Jamaica, Brasil, Australia (Gove, Weipa) etc.

Have worked on different bauxite residue disposal systems as well as on alternative uses for bauxite residue.

The technology scope under Bayer process includes

- Desilication
- Low and High temperature Digestion as well as Double digestion
- Solid-Liquid separation using different types of flocculent
- Hydrate precipitation using Batch, Semi-continuous and Continuous methods
- Residue filtration & disposal using rotary & pressure filtration methods
- Impurity removal & control for organics, oxalate, vanadium etc.

Have worked on and developed suitable schemes on upcoming technologies such as

- Dry & wet bauxite beneficiation
- Gallium extraction from Bayer liquor
- Iron recovery from bauxite residue etc.

The technology scope under Specialty Chemical grade alumina (CGA) and Chemical grade Hydrate (CGH) for Refractory, Ceramics and Fire retardant applications includes

- Controlled calcination using specific additives in order to achieve required critical properties like crystal shape/size, morphology, chemical purity etc.
- Controlled dissolution and precipitation to achieve required particle size and morphology in order to suit the particular end-use.
- Particle size reduction to achieve required size and to impart required PSD.

Have worked on high-end products such as Tabular, Sintered and Activated aluminas and Ground and Precipitated Superfine hydrates (FPH).

Scope of Consultancy work presently being undertaken include Concept Design, Basic Engineering and Detailed Engineering involving development/ review of PFD, P&ID, Layout, Equipment Datasheet, RfQ, Technical bids, Laboratory design, Process and Operating Manuals, Technical & operation training covering all areas of Bayer process, Hazop etc.

### Refineries & Major Projects worked for

Belgaum, Muri, Renukoot, Utkal and Ouro Preto of **Indal**, the Alcan-owned Indian company / **Hindalco**, the Indian Multi-National company of Aditya Birla Group.

Utkal, Aditya, Cameroon Alumina and Gapco projects.

A greenfield CGH plant in Gujarat, India.

### Technical Interactions/ Reports

With Scientists of Alcan/ RTA R&D Centres in Canada & Australia and technical personnel of QAL, AAL, Aluminpro, Almatis, Sherwin, Worsley, Gapco, etc.

Have participated, presented technical papers and chaired technical sessions in seminars/ conferences such as AQW, Icsoba, IBAAS, Irefcon, Hi-Tech Aluminas.

Have authored more than 50 and reviewed/ approved over 400 internal technical reports.

### Education

Masters in Chemical Engineering with a Gold Medal from Indian Institute of Science, Bangalore, the premier Science institute of India.

B Tech from LIT, Nagpur, the second-oldest institute for Chem Engineering in India.

1 Jul 2020



(Sankar)

## **Annexure**

### **Chronological Details of Work Experience**

**2016 – Present:** Independent Technical consultant, working on technology supply and detailed engineering assistance to a new Bayer process refinery producing alumina tri-hydrate, providing technology to specialty alumina manufacture and providing technical training to engineers and plant personnel

**2011 – 2016:** Vice President and Head of **Hindalco** Innovation Centre. Responsible for process and product development for all the alumina refineries of Hindalco. Worked on pressure filtration of bauxite residue in all the refineries of Hindalco and also on alternative uses of bauxite residue.

**2005 – 2011:** Head of R&D Centre of Hindalco. Lead a team of Scientists and Engineers in process/ product development, process improvements, trouble-shooting and technical assistance to Hindalco's expansion projects.

**1981 – 2005:** Various positions in **INDAL** (Indian Aluminium Company, Limited) ranging from Bayer Process development, Specialty alumina/ hydrate product development for various applications, Application engineering, Production operation, Technical support, Technical review and audit of alumina refineries, laboratory audits, Quality system development and audit of the R&D Centre as well as all the plants of Indal, technical coordination with ALCAN on behalf of Indal refineries.