

Dai-ichi Karkaria Overview

July 2017





ABOUT DAI-ICHI

- We commenced production in 1963, in technical collaboration with Dai-ichi Kogyo Seiyaku, Japan
- We develop and manufacture high performance specialty chemicals for various industry applications
- We market innovative products, providing custom solutions tailored to our clients' needs
- Sustainability and innovation are key factors in all our business operations



+ OUR CURRENT PLANTS

- **KASARWADI PLANT**

- Multipurpose plant designed to allow high degree of flexibility
- Equipped with stainless steel and glass lined reactors of varying capacities from 100 litres to 16,000 litres
- Capable of carrying out reactions at temperatures from 0-260 C and pressures from 4 mm Hg-8 Kg /sq.cm

- **KURKUMBH PLANT**

- Equipped with specially designed photo polymerization belt reactor to manufacture polyelectrolytes for use as flocculants and dewatering applications
- Capability to produce Polyacrylamides of any ionicity and varying molecular weight to suit an application specific requirement

+ REACTION CAPABILITIES

- Ethoxylation / Propoxylation
- Esterification / Transesterification
- Sulfonation / Sulfation / Sulfosaccination
- Polymerisation
- Quarternisation
- Emulsification
- Phosphorylation



+ INDUSTRIES CATERED TO

- Polymers & adhesive lattices
- Dyes, pigments, paints & printing inks
- Oilfield - for crude oil & lube oil
- Metal treatment
- Textiles
- Spin finishes (synthetic filament & yarn)
- Rayon
- Sizing
- Cosmetics & pharmaceuticals
- Electronic & electrical
- Mining & metallurgy
- Pulp & paper
- Coal washeries
- Effluent treatment
- Plastics & PVC
- Construction
- Pesticides & weedicides
- Leather
- Sugar



+ ENERGY & RESOURCES

- **Petroleum oilfield, refinery & lubrication:**
 - Pour point depressants
 - Demulsifiers
 - Corrosion inhibitors
 - Metal passivators
 - Scale inhibitors



+ PAINTS, INKS & COATINGS

- **Polymers:** surfactants for emulsion polymerisation, dispersing agents & thickeners
- **Adhesives & lattices:** surfactants for emulsion polymerisation, binders
- **Dyes & pigments:** surfactants for pigment purification, pigment dispersion & emulsification
- **Paints & printing inks:** dispersants for water based printing inks



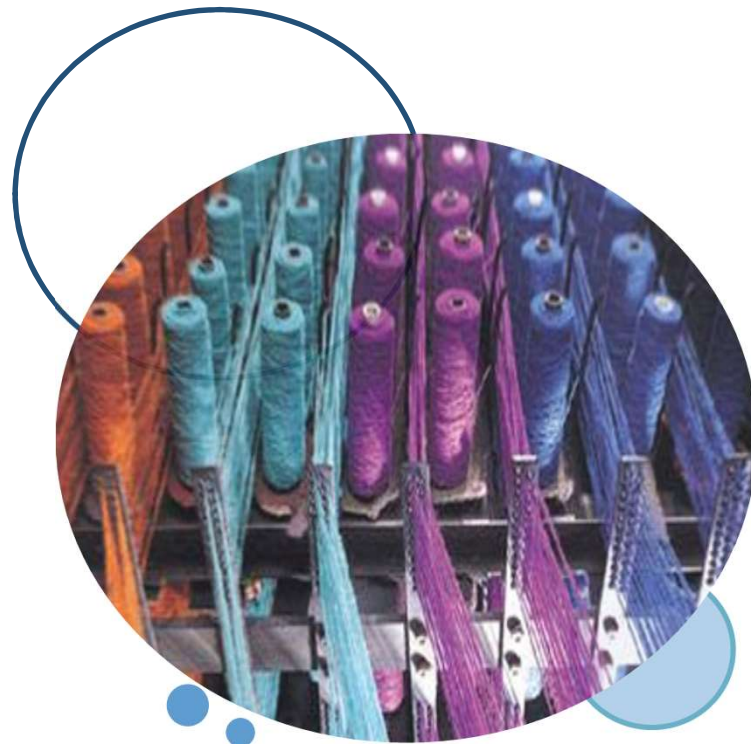
+ CONSTRUCTION

- **Cement additives:** additives for water reduction, saving on cement klinger, beneficiation of lime stone
- **Super plasticizers:** for high strength cement concrete, self compating cement concrete
- **PU based water proofing:** for construction sealant



+ TEXTILES, LEATHER, PAPER, PULP

- Textile auxiliaries
- Spin finishes
- Sizing agents
- Rayon additives
- Retanning
- Softeners
- Retention aids
- Drainage aids for paper making
- Flocculants for krofta & ETP



+ AGRO

- **Pesticides, weedicides, herbicides and insecticides**
 - Emulsifiers for EC
 - Liquid (SL, SC, CE) as well as powdered formulations (WG, WP, WDG etc) for various toxicants



+ WATER & ENVIRONMENT

- **Potable water:** clarification of potable water, flocculants, UF thickening agents & dewatering agents for recovery
- **Waste water & ETP:** colour coagulants, flocculants & dewatering agents
- **Solid waste management:** dewatering agents for mechanical dewatering



+ MISCELLANEOUS

- **Metals, mining & metallurgy:** flocculants and dewatering agents for beneficiation, recovery of water, cleaning & brightening agent
- **Ceramics:** deflocculants, rheology modifiers
- **Sugar:** flocculants for mud settling and dewatering, colour coagulants for refining





OUR NEW DAHEJ PLANT





Dahej Project Vision

- Green field site in PCPIR region of Dahej, Gujarat
- Independent manufacturing blocks - PPD/MPP Block, EO/PO Block, Sulfonation block,
- Common infrastructure includes: Admin/R&D Block, utility block, the boiler house, warehouse, engineering store and an effluent treatment plant
- The site facilitates the manufacturing of Dai-ichi's existing product portfolio with higher capacities
- We intend to strengthen our portfolio in new markets like agro and personal care by investing in innovative technology

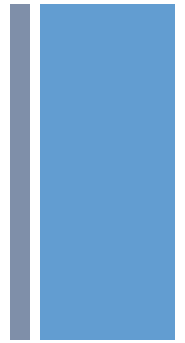


+ EO/PO Capability

- The plant is equipped with state of the art swiss technology - 'Buss-Loop reactor' provided by 'Buss-Chemtech' – the 1st of its kind in India
- Can manufacture a wide range of products in a highly efficient and safe
- New process will result in minimizing the by-products and improving yields
- Products manufactured are close to zero 'dioxane content' after the post-treatment
- The reactor operates in a non-explosive region keeping the atmosphere inside intrinsically safe

+ PPD Capability

- The PPD plant will house polymer reactors, neutralizers, melters, esterifiers, intermediate and final storage vessels
- The plant is automated with a DCS system
- Pressure, level, flow measuring instruments have been provided at all locations
- An auto drum filling station is also provided to make drum packing more efficient
- A WFE (Wiped film evaporator) is also being planned, to de-bottleneck capacities





Multipurpose Plant Capabilities

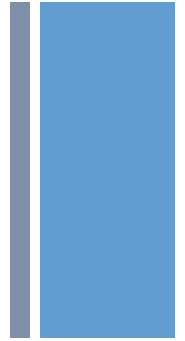
- 21+ standalone process reactors to cater to a wide variety of products
- The plant is semi-automated with a DCS system having two operator stations and one engineering station

Sulfonation Capabilities

- The Sulfonation plant has been planned with a 'Multi-tube reactor', followed by downstream processing equipment
- The plant will be fully automated with a DCS system having a separate operating station



+ Effluent Treatment Plant



- The 300 KLD effluent treatment plant has primary, secondary and tertiary treatment units
- State of the art 'Membrane Bio Reactor' technology (German) will be implemented in the ETP
- The treated water will be completely recycled within the premises

+ Warehouse & Utility Block

- The 53 mtr x 24 mtr warehouse has a G+3 racking system to store the RM and FG into different sections
- A stacker and fork-lift are provided for the material movement inside the warehouse and loading into the trailer via Dock levellers
- The warehouse will be able to store 1020 pallets along with space for movement and dispensing activity



WHY CHOOSE US?





INNOVATION & SUSTAINIBILITY

- We work with a focus on product design, process efficiency and environmental health & safety

RESEARCH & DEVELOPMENT

- We work towards creating products and processes that are clean, reflecting the integrity of our manufacturing process, with minimum use of hazardous chemicals and efficient chemical synthesis
- Customers have partnered with us to resolve specific performance issues, challenging our R&D team to find a cost effective solution

QUALITY CONTROL

- Our batch to batch consistencies are maintained by rigorous, regular and complete testing at every stage
- We conform to all relevant health, safety, environmental, national and international standards





THANK YOU

