

Recovery of sodium thiocyanate solvent from acrylic industrial process solution using nanofiltration technique.

Title of Product/Design/Equipment	Recovery of Sodium thiocyanate from Industrial Process Solution Using Nanofiltration Technique
IPR Status Patent/Copyright/Trademark secured in Indian/Abroad IPR Details	<p>Title of the Invention: Recovery of Sodium thiocyanate from Industrial Process Solution Using Nanofiltration Technique.</p> <p>Inventors: S. Sridhar, G.S. Murthy, D. Suhanya, B. Smitha, M. Ramakrishna</p> <ol style="list-style-type: none"> 1. US Patent 7,314,606 Granted on 1st Jan, 2008. 2. Morocco: MA Pat. No. 28551 Granted on 3rd April, 2007. 3. Indonesia: ID 0021889 Granted on 4th Sept, 2008. 4. Turkey TR200606229B Granted on 21st March, 2007.
Application/Uses	<p>Acrylic fibre industry generating huge amounts of aqueous effluent stream containing 10-12% sodium thiocyanate (NaSCN) solvent along with color imparting ions, salts and organic compounds such as β-sulfo propionic acid, β-sulfo propionitrile.</p> <p>Membrane based nanofiltration (NF) technique for recovering NaSCN from the industrial process solution.</p>
Salient Technical Features including Competing Features	<p>A five-stage NF operation of 4000-6000 L/day feed capacity has been designed and commissioned at CFCL.</p> <p>The process showed more than 90% impurity removal with > 99% NaSCN recovery.</p> <p>The operating cost per m³ of permeate generated was half of the conventional Gel Filtration Process.</p> <p>The process developed was eco-friendly, efficient and cost-effective</p>
Level/Scale of Development	Pilot Scale
Environmental Considerations	No environmental issues involved in the process
Status of Commercialization	Technology transferred
Major Raw Materials to be Utilized	Industrial Effluent, Prefilters, Membrane Modules and Cleaning Chemicals
Major Plant Equipment and Machinery Required	Raw Water Pump, High Pressure Pump, Pressure Vessels, Pressure Gauges, Rotameters, Prefilters, Membrane Modules, Storage tanks.
Techno-Economics	Technically and economically feasible as it is being produced by industry
Technology Package	Can be made available upon request

For further information please contact

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