

**Project Type:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Contract / Toll Manufacturing | <input type="checkbox"/> Material Procurement |
| <input checked="" type="checkbox"/> Scale Up / Piloting           | <input type="checkbox"/> Other :              |
| <input type="checkbox"/> Research & Development                   |   |

**Are you willing to co-invest capital?**

- Yes       No

**Sector:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Agrochemical | <input type="checkbox"/> Performance             |
| <input type="checkbox"/> Pharmaceuticals         | <input type="checkbox"/> CASE                    |
| <input type="checkbox"/> Personal Care           | <input type="checkbox"/> Industrial              |
| <input type="checkbox"/> Electronics             | <input type="checkbox"/> Fuel Oil/Lube Additives |
| <input type="checkbox"/> Renewable/Green         | <input type="checkbox"/> Other :                 |

**Raw Materials:**

- I will source materials       You will source materials       Combination sourcing

50% caustic soda - toller  
silicate material - customer proprietary

**Professional Certifications:**

- |   |                                    |                                  |
|---|------------------------------------|----------------------------------|
| <input checked="" type="checkbox"/> ChemStewards® | <input type="checkbox"/> ISO 9001  | <input type="checkbox"/> cGMP    |
| <input type="checkbox"/> Responsible Care®        | <input type="checkbox"/> ISO 14001 | <input type="checkbox"/> Other : |

**Process/Technology Type:**

hydrolysis reaction

## Unit Operations/Equipment:

Reaction requires significant agitation of low viscosity liquid with a specific gravity of 1.2-1.5. Must be able to handle hydrogen gas byproduct.

Specialized equipment needs:

Analytical equipment needs:

Equipment material of construction: SS 304 or higher

## Operating Conditions:

Temperature range: 50-110C

Pressure range: Atomspheric

Viscosity range:

Must be able to handle hydrogen gas byproduct

## Processing Volumes:

R&D:

Pilot: 3 MT Q3

Commercial: 40 MT Q4

## Packaging Type:

Drum/Tote  Supersack  ISO/tank truck  Other :

## Delivery & Transportation:

Domestic  International  Road  Rail  Sea  Air

## Storage Conditions:

Ambient  Blanketing required  Other :

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