



**ROUSSELET  
ROBATEL®**

ROUSSELET CENTRIFUGATION GROUP

## LIQUID/LIQUID EXTRACTION PROJECT QUESTIONNAIRE

### 1. GENERALITIES

Company or client identification

Company

Phone

E-mail

Fax

Address

Name of the project leader

Name of the writer

Compound to be valorised

Please attach a process flow diagram to this questionnaire

A liquid/liquid extraction process may include several operations (extraction, washing, one or more selective back-extractions, solvent regeneration, etc.).

For each operation implemented, complete, if possible, paragraphs B to E of the questionnaire.

Attach a process flow diagram of the process to the completed questionnaire

### 2. OPERATION TYPE

Operation

continuous

batch

Number of operating hours per day:

Maximum time allowed to process the batch:

### 3. CHARACTERISTICS OF THE PHASES

#### Phase to be extracted

Flow rate:  $\text{m}^3/\text{h}$  (kg/h) or batch:  $\text{m}^3$

*Composition:*

Solute to be extracted:

Concentration :

Other components (Acids, other solutes):

Concentration:

Suspended solids: yes no

Amount:

Are they soluble in the other phase? yes no

Can they be separated by filtration

by centrifugal decantation

Density:  $\text{kg}/\text{m}^3$

Viscosity: cps at  $^{\circ}\text{C}$

Temperature:  $^{\circ}\text{C}$

#### Solvent

Phase ratio:  $\text{m}^3$  solvent/ $\text{m}^3$  phase to be extracted  $\text{m}^3/\text{h}$

Flow rate:

*Composition:*

Main components:

Concentration:

Suspended solids: yes no

|                                      |                            |    |
|--------------------------------------|----------------------------|----|
| Are they soluble in the other phase: | yes                        | no |
| Can they be separated                | by filtration              |    |
|                                      | by centrifugal decantation |    |
| Density:                             | kg/m <sup>3</sup>          |    |
| Viscosity:                           | cps at                     | °C |
| Temperature:                         | °C                         |    |

Flow rate:  m<sup>3</sup>/h or batch:  m<sup>3</sup>

Density: kg/m<sup>3</sup>

Viscosity: cps at °C

Flow rate:  m<sup>3</sup>/h or batch:  m<sup>3</sup>

Density: kg/m<sup>3</sup>

Viscosity: cps at °C

#### 4. EXISTING DATA ON THE PROCESS

##### Kinetics

Contact time, between the two phases, necessary to obtain equilibrium of the solute concentrations in the two phases:

With the two phases vigorously mixed, how long does it take to separate them

By gravity ?

By centrifugation ?

Conditions of centrifugation:

##### Temperature

Optimum temperature for carrying out the operation:

°C

##### Precipitate formation

Can a precipitate be formed when the two phases come into contact?

yes

no

##### Partition coefficient - Isothermal partition curve

Partition coefficient of the solute between the two phases:

**Isothermal partition curve** - Mac Cabe Thiele construction

Have they been traced?

yes

no

*Please attach them to the questionnaire.*

Theoretical number of floors corresponding to the desired results of the operation:

## Pilot or industrial scale experience

Has the process already been studied at a pilot or industrial scale?

yes

no

Can you attach information about the installation and the results achieved to the questionnaire?

## 5. INSTALLATION

### Materials

**Compatible materials of construction** for parts in contact with both liquid phases:

**Metals** (stainless steel, alloy, metal)

316 L

Hastelloy C or B

Titanium

304 L

**Plastics**

Polypropylene

Polyethylene

Pvdf (Kynar)

Other materials (please specify):

Seals, O-rings, lip seals:

### Installation

The extractor shall be installed in an explosion-proof area:      yes                      no



#### HEADQUARTER

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