component in hybrid framework materials, used for storage, separation and purification of gases and in catalysis. Recovery of terephthalic acid is thus of interest.

An object of the embodiments disclosed herein~~present invention~~ is generally to overcome as far as possible the disadvantages of the prior art processes.

A further object is to increase the overall efficiency and/or yield of the methacrylic acid production process by reducing or eliminating blocking of pipes and equipment due to precipitation to the greatest extent possible.

Summary

A contribution to solving the above objects is made by a process for preparation of methacrylic acid, comprising process steps

a) providing a crude methacrylic acid-comprising aqueous solution comprising at least one impurity at least partially dissolved therein;

b) precipitation of at least a part of the at least one impurity from the crude methacrylic acid-comprising aqueous solution to form at least one solid impurity and a mother liquor;

c) separation of at least a part of the at least one solid impurity from the mother liquor to obtain a purified methacrylic acid-comprising aqueous solution and a solid impurity;

d) separation of methacrylic acid from the purified methacrylic acid-comprising aqueous solution.

In an aspect, there is provided a process for preparation of methacrylic acid, comprising process steps a) providing a crude methacrylic acid-comprising aqueous solution comprising at least one aromatic acid impurity at least partially dissolved therein; b) precipitation of at least a part of the at least one aromatic acid impurity from the crude methacrylic acid-comprising aqueous solution to form at least one solid aromatic acid impurity and a mother liquor; (c) separation of at least a part of the at least one solid aromatic acid impurity from the mother liquor to obtain a purified methacrylic acid-comprising aqueous solution and a solid aromatic acid impurity; (d) separation of methacrylic acid from the purified methacrylic acid-comprising aqueous solution.

Detailed description of the embodiments

In a preferred aspect of the process according to the invention process step a) comprises process steps:

a1) gas phase oxidation of a C_4 compound to obtain a methacrylic acid-comprising product gas;

a2) contacting the methacrylic acid-comprising product gas with a quenching agent to obtain a crude methacrylic acid-comprising aqueous solution comprising at least one impurity at least partially dissolved therein.