

PROCESS BULLETIN

Document Ref.:

PB/3-7/001

Issued by:

Date:

SG

29/03/04

Subject:

HOMOGENIZATION OF EMULSIONS: Silicon based emulsion

TEST REPORT

Typical composition and preparation

o/w Emulsion: Water (34%), mineral oil + silicon oil (58%), emulsifier (8%).

Product preparation: The emulsion has been stirred and heat before the homogenising process.

Test purposes

To stabilize the emulsion; reducing the n° of passages.

Test performed in Niro Soavi Laboratory

Homogenization conditions

Homogenizer: PANDA2K NS1001L; capacity 10l/h max pressure 1500bar.

Homogeneous valve: type pS

Homogenisation conditions: the inlet temperature is 60°C; products have been homogenized at 300, 500, 1000 bar with 10% of the total pressure on the second stage and for 3 passages.

Analysis and methods

a. Laser Particle size analyser type Coulter LS130: it uses a laser diffraction and patented PIDS technology to rapidly determine particle size distribution of materials in an extremely wide dynamic range (0,1-1000um) with high resolution and excellent reproducibility. The samples were prepared by mixing gently and adding to the vessel. . The optical model used has been created for for oil/water emulsion (real ref. Index=1,438; imaginary ref. Index=0).