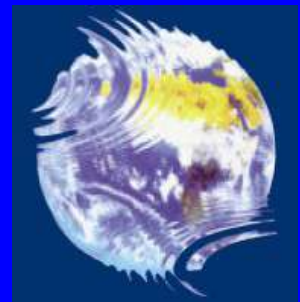


SNF – Finished Product Quality Control



SNF FLOERGER®

Our products are manufactured according to fixed processes which efficiency is measured by indicators.

The same manufacturing process is used each time for each product, giving a batch which is the result of:

- * A reagent (raw materials) preparation process in preparation tanks,
- * A chemical reaction in polymerisation reactors,
- * A succession of finishing operations such as drying, distillation, evaporation, etc (depending on the type of product).

For each manufacturing batch, a representative sample is taken and sent to the quality control laboratories.

SNF carries out a 100% routine check on all finished products. All the batches produced are consequently checked systematically in our analysis laboratories; we do not use any statistical methods which would result in random sampling with the consequent risks of delivering products that do not comply.

SNF FLOERGER®		PROCEDURE		N°
		FREE ACRYLAMIDE CONTENT ON EMULSIONS		QC-1001 A
				Rev : 10
				Page : 1/5
Issue	Application date	Issued by	Controlled by	Approved by
10	24/09/05	M. Huart	Ph. Lecomte	R. Hund
Remarks: N/A5 residual acrylamide modification Addition of new chromatographic conditions.				
The free acrylamide content on emulsion is determined: <ul style="list-style-type: none">• Or by liquid chromatography,• Or by gas chromatography.				
A- LIQUID CHROMATOGRAPHY				
A1- PRINCIPLE				
Unreacted acrylamide in polymer is extracted from the sample with a mixture of solvents and water. The solution is then analysed by liquid chromatography for the determination of the acrylamide content. Peaks are identified by retention time. Concentrations are calculated from peak area measurements using ratio and proportion with an external standard.				
A2- APPARATUS				
<ul style="list-style-type: none">• Liquid chromatograph equipped with a variable wavelength detector and an integration system (Millenium of WATERS for example).• or ECONOSIL C18 (Alltech) length : 25 cm ID: 4.6 mm Particule size: 10 µm• or ATLANTIS DC 18 (Waters) column length : 150 mm ID: 4.6 mm Particule size: 3 µm				
A3- REAGENTS				
<ul style="list-style-type: none">• Acrylamide,• HPLC quality water,• HPLC quality methanol,• Acetone, ethanol or isopropanol,• NaH₂PO₄ buffer 50 m Ml of pH = 3.75.				



This systematic quality check is carried out:

- * By trained laboratory staff approved for their specific work posts,
- * According to SNF analysis methods (procedures referenced with a QC n°) and to routine specifications for each product.

The SNF analytical methods can be consulted by customers on simple request.

The product is totally defined by the specifications which constitute a contractual warranty concerning the quality of the delivered product. They can be consulted by customers on simple request.

Product samples analysed are archived at least for the lifetime of the product. All the analysis results obtained are recorded on tracking

Finished product

following a specific request (notably in the event of a concern concerning the quality of the delivered product).

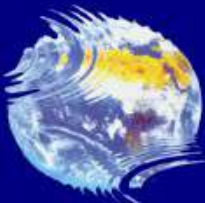
It can also be checked directly on the spot at Andrézieux by customer audits.

After a comparison between the analysis results obtained and the check specifications, the laboratory staff decide on the status of the analysed product is:

Compliant (C): in which case the product is shipped or stored,

Non-compliant (NC): the product is immediately identified with a coloured label and isolated in the storage premises to avoid being used or delivered by mistake.

With this identification and traceability system it is thus possible to determine whether the finished product is in compliance or not.



SNF FLOERGER®



SPECIFICATION PROPOSAL

PRODUCT NAME		AN 534	
GENERIC NAME		Copolymer of acrylamide and sodium acrylate	
PRODUCT DESCRIPTION		White to off free flowing powder	
	UNITS	SPECIFICATION	QC TEST
DRY CONTENT	%	87,0-100,0	QC-100A
RESIDUAL MONOMER	ppm	0-999	QC-290A
INSOLUBLES	%	0,00-3,50	QC-151A
IN INSECURITY	rpm	5,00-5,30	QC-400A
SOLUTION APPEARANCE		slightly hazy appearance	
SNF APPROBATION		CUSTOMER APPROBATION	
VERSION :	2	CUSTOMER NAME :	
DATE :	17/05/1999		
CONTROLLED BY : F. CHAMPAINE			
RESPONSIBLE : R. HUBER			
		DATE :	RESPONSIBLE NAME :



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