## Substance name : ammonia anhydrous EINECS / CAS no . : 231-635-3 / 7664-41-7

## Recommendation for analytical methods Date : 19th July 2010

As ammonia anhydrous is not an organic chemical and is a dangerous substance to work with, many of the suggested techniques (Annex VI of the REACH Regulation) are not relevant or useful and for this reason we recommend to use as the sample :

## ammonia anh. absorbed in distilled(\*) water ( concentration ca. 25%)

Such testing sample should be used in recommended analysis, as follows:

- 1) Titration (in order to determine the sample concentration)
- 2) <sup>1</sup>H NMR (water solution form)
- 3) <sup>15</sup>N NMR(water solution form)
- 4) IR (gas form) (\*\*)

Regardless of the aforementioned analytical technique each company is obligated to determine the purity of the ammonia anhydrous (e.g. by using evaporation method).

## Statement to waive justification refer the non-selected methods (mentioned in Annex VI of the REACH Regulation) will be prepared by the LR and will be available for all the Joint Submission members.

(\*) We recommend to use distilled water instead of demineralization water. Mentioned water should be boiled aprox. 3min in order to minimize the  $CO_2$  contend in the water. Subsequently, water should be chill before ixing with ammonia anhydrous. (\*\*) Ammonia anhydrous in gas form will be generated from the recommended solution

FYI :

Refer the laboratory, which we can recommend as the really <u>professional and cheap</u> you will find below some more detailed address and contact data:

Uniwersytet Mikolaja Kopernika (Nicolaus Copernicus University) Gagarina street ; 87-100 Torun, Poland Contact person: Prof. Edward Szłyk

e-mail: <u>eszlyk@chem.uni.torun.pl</u>

As far you need any further information refer the analytical method don't hesitate to get in touch with me, directly, please.

Andrzej Blasiak

blasiaka@anwil.pl