

Magnesium sulphate – suggested spectral and analytical methods for identification

Pure magnesium sulphate (CAS 7487-88-9) (>80% (w/w)):

- UV-VIS, IR and NMR: statement will be provided to co-registrants with documentation after entering Joint Submission
- XRD and ICP-MS: analysis should be provided

Magnesium sulphate manufactured/imported in mixtures without any possibility of isolating the substance:

The quantitative analysis of mixture of different substances is unreal. Fertilizer mixtures are substances of polar character. When analyzing them they dissolve and pass into ionic form – so in mixture of cations and anions. There is of course possibility of assessment of cations and anions, but exact reconstruction of composition of substances present in fertilizer is impossible.

The most often used methods for quantitative assessment of cations is ICP (AAS), for assessment of anions is capillary electrophoresis or ion chromatography. However all forms of hydrogenphosphoric anions all transferred to phosphoric anion and expressed by one figure. So the assessment of cations should not be a problem at all, but the assessment of anions, especially hydrogenphosphoric anions could lead to less transparent results.

Spectral data (XRD, IR spectrum) as descriptive characteristics will not influence above mentioned information and could be obtained. However such spectra have no information about present substances.

However, we have to anticipate the presence of insoluble parts in case of fertilizers as well. In such case the assessment of heterogeneous mixture is even more challenging.

Lead Registrant recommends submit spectral analysis of pure magnesium sulphate. The spectra of NPK or other fertilizers could be provided but it could cause confusion in ECHA.

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Lead Registrant for substance magnesium sulphate