



Ammonium Nitrate import - certificate of analysis and UN test requirements

This technical note has been prepared to provide information on ammonium nitrate testing requirements for the purpose of import notification under the *Explosives (Security Sensitive Substances) Regulations 2006*.

A certificate of analysis must be attached to each Ammonium Nitrate import notification and must include the following analyses:

- percentage (expressed as mass/mass) combustible substances including any organic substance calculated as carbon, to the exclusion of any other added substance
- nitrate nitrogen as nitrate
- ammonium nitrogen as ammonium
- chloride as ammonium chloride
- iron content
- moisture content
- pH of 10% aqueous solution; and

Physical properties:

- bulk density
- prill diameter/range
- prill coating (metals, surfactants and carbonaceous materials).

The analysis must be performed by a NATA registered laboratory or equivalent, using classical analytical methods.

SPECIFICATIONS FOR CLASSIFICATIONS TO THE UN MODEL REGULATIONS;

UN 1942 Ammonium Nitrate - Division 5.1, with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance; Special Provision 306 applies.

UN 0222 Ammonium Nitrate - Division 1.1D with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substances.

UN 2067 Ammonium Nitrate Based Fertilizer – Division 5.1; Special Provisions 186, 306 and 307 apply.

UN 2071 Ammonium Nitrate Based Fertilizer – Class 9; Special Provisions 186 and 193 apply.

SPECIAL PROVISIONS:

SP 186 – in determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture must be calculated as ammonium nitrate.

SP 193 This entry may only be used for uniform ammonium nitrate based fertilizer mixtures of the nitrogen, phosphate or potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material. Fertilizers within these composition limits are not subject to this Code. They are, however, dangerous goods when transported by air or sea unless shown by a Trough Test (see *Manual of Tests and Criteria*, Part III, sub-section 38.2) not to be liable to self-sustaining decomposition.

SP 306 – This entry may only be used for substances that are too in sensitive for acceptance into Class 1 when tested in accordance to Test Series 2 (see *Manual of Tests and Criteria*, Part 1).

SP 307 – This entry may only be used for uniform mixtures containing ammonium nitrate as the main ingredient within the following composition limits:

- (a) not less than 90% ammonium nitrate with not more than 0.2% total combustible/organic material calculated as carbon and with added matter, if any, which is inorganic and inert towards ammonium nitrate; or
- (b) Less than 90% but more than 70% ammonium nitrate with other inorganic materials or more than 80% but less than 90% ammonium nitrate mixed with calcium carbonate and/or dolomite and/or mineral calcium sulphate and not more than 0.4% total combustible/organic material calculated as carbon; or
- (c) Nitrogen type ammonium nitrate based fertilisers containing mixtures of ammonium nitrate and ammonium sulphate with more than 45% but less than 70% ammonium nitrate and more than 0.4% total combustible/organic material calculated as carbon such that the sum of the percentage compositions of ammonium nitrate and ammonium sulphate exceeds 70%.

For transport classification as UN 1942 Ammonium Nitrate, Test Series 2 results must be also supplied with the import notification.