



Compositional guideline for Molybdenum trioxide

Name of the ingredient

Molybdenum trioxide (AAN)

Definition of the ingredient

Molecular formula: MoO_3

Molar mass: 143.94

CAS Number: 1313-27-5

Table 1. Ingredient specific requirements

Test	Method reference	Acceptance criteria
Description		
Appearance	Visual	Yellow-green or grey powder
Characteristics		
Loss on drying (dried to a constant weight at 100-105 °C)	BP (Appendix IX D)	Not more than 0.5%
Solubility	BP (General Notices)	Slightly soluble in water. Soluble in concentrated mineral acids, solutions of alkaline hydroxides and ammonia
Identification		
AAS	Ph Eur 2.2.23	Matches spectrum of authenticated reference material
Assay		
Molybdenum trioxide	Ph Eur 2.2.23	99.5-101.0% (anhydrous basis)

Table 2. Incidental constituents

Test	Method reference	Acceptance criteria
Incidental metals and non-metals		
Heavy metals (as lead)	BP (Appendix VII)	Not more than 10 ppm
Arsenic	Ph Eur 2.4.2	Not more than 10 ppm
Sulfates	Ph Eur 2.4.13	Not more than 200 ppm
Phosphates	Ph Eur 2.4.11	Not more than 5 ppm
Ammonium	BP (Appendix VII)	Not more than 20 ppm
Other organic or inorganic impurities or toxins		
Ammonia insoluble matter (10g sample in 120 mL dilute aqueous ammonia)	Literature method ¹	Not more than 0.01% w/w
Microbiology		
While substance manufacturers are encouraged to include limits for objectionable microorganisms, it is the product into which those substances are formulated that is subject to a legally binding set of criteria. The Therapeutic Goods Order No. 77 <i>'Microbiological Standards for Medicines'</i> mandates that any finished product that contains the ingredient, alone or in combination with other ingredients, must comply with the microbial acceptance criteria set by Clause 9 of the Order.		
Notes		
¹ Reagent Chemicals Ninth Edition, American Chemical Society Specifications		

Key to abbreviations:

AAS = Atomic Absorption Spectrophotometry

BP = British Pharmacopoeia

Ph Eur = European Pharmacopoeia