

Smartamine[®] M

Quality Standard



1. Description

Smartamine[®] M is Adisseo's rumen-stable, abomasum-dispersible methionine product for ruminants. It is produced using a unique patented process.

Smartamine[®] M contains:

- a core of concentrated methionine.
- a pH-sensitive coating.

This specifically-designed coating ensures that the methionine is perfectly protected in the rumen and fully released in the abomasum. The methionine is thus made available in the intestine. There it is absorbed and can be used by the animal.

2. Composition

DL-methionine, technically pure: CAS no. [59-51-8]

Chemical formula: $\text{CH}_3 - \text{S} - \text{CH}_2 - \text{CH}_2 - \text{CH}(\text{NH}_2) - \text{COOH}$

Patented pH-sensitive coating, containing a specific copolymer: poly(2-vinylpyridine-co-styrene)

3. Specifications

Appearance	Beadlets
Color	White to Gray
DL-methionine content:	70% minimum
Copolymer poly (2-vinylpyridine-co-styrene):	3% maximum
Protection, in vitro:	90% minimum
Release, in vitro:	90% minimum

4. Typical Analysis *

DL-methionine content: approximately 76%

Particle size

- Above 2.5 mm: 5% maximum
- Below 1.4 mm: 5% maximum

Weight / volume

- Non-compressed - Approx. 0.75 g/cm³
- Compressed - Approx. 0.80 g/cm³

Moisture content: approximately 0.5%

Particles per gram: approximately 150/g

**Representative of products tested. Data may vary from one sample to another and should not be considered as a guaranteed feature of a particular batch or as a general product specification.*

5. Duration of Guarantee

24 months from date of manufacture in original unopened packaging, stored in a cool dry place

6. Packaging

- 25 kg internally sealed boxes (500 kg/pallet)
- 500 kg big bag

7. Utilization

- European Union:

Dairy cows:

EEC/82/471 Directive, June 30, 1982, published in the OJEC L213, July 21, 1982.

EEC/93/26 Directive, June 4, 1993, published in the OJEC, July 22, 1993.

- United States: FDA - 21 CFR - Part 573

Beef cattle: Federal Register, March 5, 1992.

Dairy cows: Federal Register, March 21, 1996.

Smartamine™ M is also authorized in many other countries.

8. Method of Analysis

Internal Method, Reference #R710. Following destruction of the coating by a strong acid, methionine content is measured by iodometric titration of its sulfur.

Internal Method, Reference #R702. Degree of protection (centesimal fraction of non-released methionine, after the product has been immersed for 24 hours in a 40°C, pH6 buffered solution).

Internal Method, Reference #R704. Degree of release (centesimal fraction of methionine dissolved from the product after a 2 hour immersion in a 40°C, pH2 buffered solution)

9. Safety Information

Reference: Material safety data sheet for Smartamine® M

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