

# Infosheet

## Natamycin

### Introduction

The coating on cheese is a yellow or red layer applied around the cheese during ripening to protect the cheese from mould and bacteria. The coating contains natamycin, or Pimaricin, an antifungal agent (E235). As natamycin is broken down in the intestines, it does not pose a health hazard in small amounts. However, gastrointestinal complaints are associated with consumption of the coating (containing natamycin) of cheese. It's better to be safe than sorry!

### Legislation

For food additives, European regulations specify maximum values in:

- Regulation (EC) No 1129/2011 amending Annex II to Regulation (EC) No 1333/2008 by establishing a Union list of food additives.

The following maximum values are indicated for natamycin in dairy products:

Category	E No.	Name	Maximum (mg/kg or mg/l)	Restrictions / exceptions
01.7.2 – Ripened cheese	E235	Natamycin	1 mg/kg	Surface treatment of hard, semi-hard and semi-soft cheese only
01.7.6 – cheese products (excluded products covered by category 16 (desserts))	E235	Natamycin	1 mg/dm <sup>2</sup> surface area (not present at a depth of 5 mm)	Surface treatment of hard, semi-hard and semi-soft products only

### Expertise

Qlip has many years of experience in analysing natamycin by high-pressure liquid chromatography (UPLC-UV). Qlip applies the accredited method, in accordance with NEN-EN-ISO 9233-2.

When testing natamycin, it is important to think about what you want to know. You need to ask yourself the following questions: In which part of the cheese do you want to measure the Natamycin content? In the cheese itself, in the cheese rind or in the grated cheese?

- In cheese (excluding coating) at a depth of 5 mm:
  - Research result in mg/kg: → test code CE4445e or CE4445d (duplicate)
- In cheese rind (excluding coating) at a depth of 0-5 mm:
  - Research result in mg/dm<sup>2</sup>: → test code CE4447e or CE4447d (duplicate)
- In grated cheese:
  - Research result in mg/kg: → test code CE4441e or CE4441d (duplicate)

### Would you like to have these analysis performed?

You can easily request these analyses through our customer portal. If you still have questions about the natamycin analysis, please contact our sales department at [sales@qlip.nl](mailto:sales@qlip.nl) or +31 88-7547199.

#### Your Benefits

- Monitoring against the requirements listed in various EC regulations
- Reliable analysis results through validated techniques
- Execution by ISO17025:2017 accredited laboratory
- Easy to request via Qportal
- Clear reports
- Use of Qlip's specialised knowledge



## Method of examination

### Method in the cheese (excluding coating) at a depth of 5 mm

The natamycin testing method is most clearly described in NEN-EN-ISO 9233-2 and is the method in which the coating is removed before sampling.

This works as follows:

- ✓ Carefully remove layer of coating (plastic) from the cheese
- ✓ With a scraper remove 5 mm of cheese (outer layer)
- ✓ From the layer underneath then shave 1 mm cheese with a David's knife
- ✓ Grind this cheese and make a sample according to the usual cheese preparation procedure
- ✓ Use high performance liquid chromatography (UPLC-UV) to determine the amount of natamycin

Natamycin content is hereby expressed in mg/kg.

The standard is: not present at a depth of 5 mm excluding coating. The reporting limit is 0,5 mg/kg.

This accredited analysis can be requested under article code CE4445e (single) or CE4445d (duplicate).



### Cheese with additives

Cheese with additives can interfere with the analysis of natamycin, potentially leading to false positive results. If this occurs, Qlip will perform another analysis using an Isocratic method. This change in procedure is included in NEN-EN-ISO 9233-2. With this method no false positive results will be reported.

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### Method in the cheese rind (excluding coating) at a depth of 0-5mm

- ✓ Accurately remove coating (plastic) from the cheese
- ✓ Shave off a 5 mm layer of cheese using a slicer
- ✓ Use a punch to cut out a 10 cm × 10 cm sample from these 5 mm shavings
- ✓ Determine the weight of this sample
- ✓ Grind the 5 mm-thick cheese sample and prepare it according to the usual cheese pre-treatment procedure
- ✓ Use high performance liquid chromatography (UPLC-UV) to determine the amount of natamycin

The standard is: maximum 1 mg/dm<sup>2</sup>.

The natamycin content is expressed in mg/dm<sup>2</sup>. This accredited analysis can be requested under article code CE4447e (single) or CE4447d (duplicate).

### Submission of samples for natamycin testing:

- Cheese : 500 g
- Grated chees: at least 100 g
- Light-proof packaging
- Seperate sample unit



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