

## 1. SUBJECT OF THE SPECIFICATION

This Technical Specification cover mechanically granulated ammonium nitrate with calcium carbonate and magnesium carbonate (type A.1.5. fertiliser according to Annex I of the EC Regulation No. 2003/2003), with an anti-caking agent.

## 2. REQUIREMENTS

### 2.1. GENERAL REQUIREMENTS

PULAN<sup>®</sup>MACRO is produced in the form of white to beige granules, depending on the filler colour.

PULAN<sup>®</sup>MACRO fulfils the requirements set forth in Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers.

### 2.2. DETAILED REQUIREMENTS

Detailed requirements are shown in Table 1.

Table 1

No.	Requirements		Unit	Limits
1.	Total nitrogen content	-	% (w/w)	32.0 (-0.8)
2.	Loss on drying at (105 ± 3) °C	max	% (w/w)	0.5
3.	Particle size: content of granules with dimensions of 2-5 mm	min	% (w/w)	95

The producer guarantees the flowability of this product if stored under conditions specified in Section 5.

## 3. LABELLING

The labelling of the package must be placed in a conspicuous location, and remain indelible and clearly legible.

The labelling of the package complies with the Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.

The labelling of the fertiliser package contains information in accordance with the Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers.

The labelling of the package may include other elements, resulting from the specificity of the product or the type of packaging.

Motor vehicles should be equipped with orange-coloured placards.

Railway cars should be marked with warning labels for Class 5.1. oxidizing materials placed on both sides, in accordance with RID.

Additionally, the railway car may be marked on both sides with orange-coloured placards bearing numerical markings (50/2067), if it contains a cargo consisting entirely of packages of one and the same kind of goods.

## 4. PACKING

PULAN<sup>®</sup>MACRO may be delivered in original packages only. The following packages may be used:

- Big Bag Flexible IBCs, with a capacity of 500, 600, 750, 1000kg,
- other packaging as agreed with the customer.

## 5. STORAGE

# PULAN<sup>®</sup>MACRO

PULAN<sup>®</sup>MACRO should only be stored in its original packaging, in clean, dry and ventilated buildings, protected from the ground side from moisture penetration.

Store PULAN<sup>®</sup>MACRO on a substrate made of non-flammable materials, without channels, holes and depressions where the molten saltpetre could be trapped.

PULAN<sup>®</sup>MACRO can be stored in stable piles with a total weight not exceeding 300 t of the product. The stacks should be separated from each other, walls, roof, heat sources (eg lamps and electrical appliances, heating installations) by a minimum distance of 1 m. Moreover, each stack should be able to access vehicles intended to transport the fertiliser in case of emergency.

Fertilizer in flexible Intermediate bulk containers (IBCs) with a unit weight not exceeding 600 kg should be stored in stacks with up to 2 layers. Fertilizer packed in sacks with a unit weight of 750 and 1000 kg must be stored in one layer only.

Repack the fertiliser in the damaged packaging, and it is imperative to collect the spills into a clean bag and separate from the pile.

It is allowed to store nitrate fertilisers, such as: ammonium nitrate, nitro-chalk, calcium nitrate, potassium nitrate, sodium nitrate, fertilisers based on ammonium nitrate with a total nitrogen content above 28% next to each other in one storage room.

Do not store PULAN<sup>®</sup>MACRO with fertilisers other than those mentioned above and avoid allowing ammonium nitrate to get in contact with materials that may react with it, or are combustible, that is, e.g., pesticides, disinfectants, herbicides, flammable materials, chlorates, hypochlorites, chlorinated organic compounds, bleaches, chromates, organic peroxides, organic compounds, alkalis, acids, sulfur, powdered metals (zinc, copper and copper alloys), organic materials such as hay, straw, oils, greases, grains, and animal fodder.

The access to all storage rooms, both inside and outside, must be restricted only to the authorised persons.

In an PULAN<sup>®</sup>MACRO storage area, smoking, welding, and open flame are prohibited. Protect from direct sunlight, and from heating above 30 °C.

## 6. TRANSPORT

PULAN<sup>®</sup>MACRO should be transported in accordance with the applicable regulations concerning the international carriage of dangerous goods by road/rail.

According to the RID/ADR regulations, the product is classified as Class 5.1. "Oxidizing substances", UN number: 2067.

## 7. ANALYTICAL METHODS

### 7.1. TESTING SCHEDULE

See Table 2.

Table 2

No.	Test description	Test description as per:
1.	General requirements checking	7.4.
2.	Determination of total nitrogen content	7.5.1.
3.	Determination of loss on drying at (105 ± 3) °C	7.5.2.
4.	Particle size analysis	7.5.3.

## 7.2. BATCH SIZE

A traceable amount of product not greater than 400 t is a batch of PULAN<sup>®</sup>MACRO.

## 7.3. SAMPLING

Perform according to PN-EN1482-1:2008 standard.

## 7.4. GENERAL REQUIREMENTS CHECKING

Testing for compliance with general requirements is performed visually.

## 7.5. DESCRIPTION OF TESTING

### 7.5.1. DETERMINATION OF TOTAL NITROGEN CONTENT

Perform according to Regulation (EC) No 2003/2003 of the European Parliament and of the Council 13 October 2003 relating to fertilisers - Annex IV B - Method -2.2.3.

### 7.5.2. DETERMINATION OF LOSS ON DRYING AT (105 ± 3) °C

Perform according to PN-C-87054:2000 standard.

### 7.5.3. PARTICLE SIZE ANALYSIS

Perform according to PN-EN 1235:1999/A1:2004 standard.

## 7.6. RESULTS EVALUATION AND TEST CERTIFICATE

A batch of PULAN<sup>®</sup>MACRO shall be considered to meet the requirements of this Technical Specification if test results conform with the requirements indicated in Table 1.

The quality control certificate confirms compliance of the test results with the requirements of this Technical Specification.

## 8. REFERENCES

- PN-EN 1482-1:2008 Fertilizers and liming materials. Sampling and sample preparation. Part 1: Sampling.
- PN-C-87054:2000 - Fertilisers - Straight nitrogen fertiliser of high nitrogen content containing ammonium nitrate. Ammonium nitrate.
- PN-EN 1235:1999/A1:2004 Solid fertilizers. Test sieving the grain size.
- Regulation (EC) no 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers.
- Regulation (EC) no 1272/2008 (CLP) of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (REACH).
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
- Convention concerning International Carriage by Rail (COTIF), Appendix C - Regulation concerning the International Carriage of Dangerous Goods by Rail (RID).
- Act dated on 19<sup>th</sup> August 2011 relating to transportation of dangerous goods.

## 9. ADDITIONAL INFORMATION

Not relevant.