RESCAYPE

Technical Guide 1.5

Abstract

Technical guidance on storage handling and use.

SOILWATER LTD

www.soilwater.co.uk

info@soilwater.co.uk

RESCAYPE® m-PAM Technical Guide

This document is an introductory guide containing important technical information about Rescaype's micronised Linear Anionic Polyacrylamide (La PAM, m-PAM). It covers aspects such as granule size, storage, handling, dosage, and application methods. The Material Safety Data Sheet (MSDS) provides evidence of its non-toxic nature, and standard powder handling Personal Protective Equipment (PPE) advice is included.

m-PAM Introduction

- **Nature of Product:** Rescaype® m-PAM is a food-grade, biodegradable, linear-anionic copolymer made from sodium acrylate and acrylamide.
- **Functionality:** As a catalyst it improves soil moisture penetration, adsorption, and structure, prevents small soil particle erosion, and nutrient leaching, enhancing nutrient availability without entering plant systems.
- **Unique Characteristics:** m-PAM's small granule size (50,150,250 micron) ensures quick solubility and long-lasting effects compared to traditional La PAM products.
- **Bulk Density:** 44lbs cubic foot (0,65-0,75) granule size relative.

Product Format

Available in three micronised-granule sizes: Large, Medium & Small. *Note: previous documentation listed sizes as Coarse, Medium & Fine.*

Large 250 micron : More effective in Clay soils and flooding areas. – Long Term Erosion prevention use

Suitable for dry application as it is the least affected by wind, Flow through on Turbo-Jet system, using a spinner hopper (Fan-Jet) mixing in Gypsum powder at 3:1 as a bulking agent. The larger granular size takes longer to dissolve completely into the soil. However, if applied during the fall it will have the whole winter to dissolve giving the same results, compared to the other granular sizes, by the time spring arrives.

Larger doses used for transplants such as trees , and turf/grass, due to long term requirement to allow strong root network to establish.

Medium 150 micron: Good choice for Sandier and Loam soils.

Suitable for potting and short grow trials. Wet and dry applications. Used in our AMS pre-mix, (see mixing), or dosed directly into drip irrigation systems. Dry application can be difficult to handle in windy conditions due to the small granular size. This granular size dissolves quickly into the soil making it excellent for fast results and shorter trials including pots.

Fine 50 micron: Wet application - Ditch irrigation and Glasshouse

For Drip irrigation and Boom systems use a precision <0.5mm drip feeder

Pots - Mixed-Media w/ soil - Increase the plant lifespan, unit production, reduce nutrient and water use.

Lifetime

Rescaype m-PAM has a half-life of 6 years. It is topped up (boosted) based on the soil activity in relation to both operations and environment impact. It is expected that in general use m-PAM should perform between 2-3 years based on soil and natural rainfall respective to a higher rain country like England. When topping up it is usually at 50% of the original dosage.

Storage and Handling

- **Storage Requirements:** Keep in well-sealed, waterproof containers out of direct sunlight to prevent UV damage.
- **Safety Precautions:** Use powder-filter respirators, safety glasses, and gloves. Wear long sleeves and pants to minimize exposure.

Spill Management

- **Dry Spills:** Use brushes, vacuums, and dry cloths for collection.
- **Wet Spills:** it will be very gooey and slippery. For activated m-PAM, start with dry cloths, then rinse with water and dry wipe.
- **SAFETY:** Warm water and vigorous rubbing will remove m-PAM from skin. See MSDS. In case of accidental ingestion report to nearest hospital stating Linear Anionic Polyacrylamide. CAS No. 9003-08-05
- **Machinery:** Power blowing and brushing followed by vacuum. If remnants use power washer.

Application Guidance

- **Erosion Control:** Apply any time except during high rain or when soil is wet post-flooding.
- **Crop Yield Improvement:** Incorporate during field preparation, cultivation, drilling, or tilling.
- **Pots:** Mix into substrate with a minimum 30% soil content.
- **Surface Application:** for Viticulture and fruit trees, clear soil cover, disturb surface across root width, sprinkle on surface and then scrape/mix to depth available, then irrigate.

- **Irrigation Post-Application:** Essential for activating m-PAM, with a recommended rate of 3-5 l/m2/g. Rain fed can occur within 48 hrs of install and low sunlight exposure.

Dosage and Application Methods

- **Pot Applications:**
- Dosage varies from 0.5g for a 4-6L pot to 1.5g for a 65L pot. (80% soil)
- **Soil Applications:**
- 10kg/ha for sandy/loam/clay mix-soils.
- 10-15kg/ha for clay type soils and wet sandy soils.
- 15-30kg/ha for longer term regenerative effects (Forestry)
- **Special Applications:**
- Turf/Grass: 15-20kg/ha - Applied before grass seeding.
- **Booster Dosages:** Recommended every 2-4 years, depending on annual flooding and soil conditions.
- **Desalination:** mix at high ratio with Gypsum (e.g. 1:250), based on existing soil chemistry state and target.

Mixing

- **Water Mix Concentration:** Maximum of 0.1% to prevent irrigation system blockage.
- **Overdosing:** Mild overdosing is not detrimental, but insufficient watering can lead to soil crusting.

For detailed storage, safety, and application recommendations, refer to the MSDS and consult with our technical team for project-specific guidance.