

Nouryon

Dispersants and wetting agents for SC and WDG

Agricultural solutions

Morwet® naphthalene sulfonates are specifically designed to serve as wetting and dispersing agents in aqueous dispersions and dry formulations. They are known for their versatility and formulation robustness with a wide range of crop protection active ingredients.

Morwet D-425 is known to provide good formulation stability, it significantly reduces crystal growth during storage

Aqueous dispersions

Generally Morwet D-425 can be used to formulate water based suspensions (SC). At 2-3 % w/w for a 480 g/l SC and 3-5 % w/w for a 720 g/l SC, Morwet D-425 will act as wetting and dispersing agent as well as milling aid. In case better wetting of the active ingredient is required in the premix, addition of Morwet EFW can be considered. Other good wetting agents for SC applications are of the alcohol ethoxylate type or block copolymer (e.g. Ethylan NS 500 LQ). These wetting agents can be added at a rate of 1 % w/w.

Morwet D-425 is known to provide good formulation stability. It significantly reduces crystal growth during storage. Morwet D-425 is an excellent dispersant for a wide variety of active ingredients and the product ensures good dispersibility in both soft and hard water. Alternatively our new high performance dispersant, Morwet D-809, is very effective in hard water applications, even at lower surfactant concentrations.

To substitute specialty lignosulfonates in SCs Nouryon offers two new dispersants: Morwet D-360 and Morwet D-390. They are proprietary process blends of lignin and naphthalene sulfonates and can be used individually or in combination. Morwet D-360 and Morwet D-390 show better performance compared to specialty lignosulfonates (e.g. lower viscosity in SC applications).

Another good and cost effective dispersant is Morwet D-400. It is chemically similar to Morwet D-425 but contains a lower amount of naphthalenesulfonate. Its performance is comparable to most Morwet D-425 look-a-likes.

SC guide recipes

Imidacloprid SC		Tebuconazole SC	
Imidacloprid	40.0 % w/w	Tebuconazole	38.0 % w/w
Morwet D-425	2.5 %	Morwet D-425	2.5 %
Ethylan NS-500LQ	1.0 %	Morwet EFW	1.0 %
Propyleneglycol	5.0 %	Propyleneglycol	5.0 %
Proxel GXL	0.04 %	Proxel GXL	0.04 %
Xanthan gum	0.3 %	Rhodopol 23	0.2 %
Silicone antifoam	0.2 %	Silicone antifoam	0.2 %
Water	to 100 %	Water	to 100 %

Solid formulations

Good wetting, dispersing and suspension performance are key requirements of dry formulations. The Morwet wetting and dispersing agents are an excellent choice when formulating wettable powders (WP) and water dispersible granules (WDG).

Combining the wetting properties of Morwet EFW with the dispersing characteristics of Morwet D-425 is generally the best option. In WP formulations it is recommended to use 1-2 % of Morwet EFW and 2-3 % of Morwet D-425. For WDG applications the required concentrations will be slightly higher: 2-3 % of Morwet EFW and 3-5 % of Morwet D-425.

Alternative wetting agents to Morwet EFW are Morwet DB (for low active concentration systems), Morwet IP (for reduced foaming) and Morwet 3028 (to improve granule disintegration in high active concentration systems).

As in SCs the lignin/naphthalene sulfonate proprietary process blends, Morwet D-360 and Morwet D-390, can be used to replace specialty lignosulfonates. Compared to these Morwet D-360 and Morwet D-390 often offer better suspensibility and dispersibility, especially upon storage.

Also in solid formulations, Morwet D-400 is a good and cost effective alternative to Morwet D-425 look-a-likes.

Morwet D-809, our most recent dispersant, allows formulators to produce high performance WDGs in hard water conditions.

In some agro markets there is a strong preference for white WDG. As Morwet dispersants have a tendency to bring a slightly brownish colour to the formulations it is possible to substitute them with either Agrilan 700 or Agrilan 789 (polycarboxylates). These Agrilan products will ensure equally good performance and a very white looking formulation.

WDG guide recipes

Mancozeb WDG

Mancozeb	80 %
Morwet D-809	8 %
Morwet 3028	3 %
Kaolin clay	9 %

Imidacloprid WDG

Imidacloprid	70 %
Agrilan 700	6 %
Morwet EFW	3 %
Kaolin clay	21 %

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