

Arm^{id}® FMPC: a new solvent for imidacloprid SL



Local environmental regulations are forcing agrochemical formulators to find a suitable alternative for N-methylpyrrolidone (NMP), which is the solvent that is commonly used in imidacloprid SL's. AkzoNobel's new Arm^{id} FMPC offers the formulator the exact candidate to replace NMP. Arm^{id} FMPC is an optimized blend for highly efficient SL's of imidacloprid with exceptional spray dilution stability (low tendency for crystallization).

Key Benefits:

- Arm^{id} FMPC is a water soluble solvent.
- Arm^{id} FMPC is a powerful solubiliser for imidacloprid (up to 200 g/l).
- Arm^{id} FMPC provides good miscibility of imidacloprid SL in water at low temperature.
- Arm^{id} FMPC is readily biodegradable and has an excellent tox and ecotox profile.

Arm^{id} FMPC: Environmental profile*

Acute oral toxicity (rat)	LD50 >5000 mg/kg
Acute dermal toxicity (rabbit)	LD50 >2000 mg/kg
Toxicity to fish	LC50 >500 mg/l Exposure time: 96 h Species: <i>Leuciscus idus</i> (Golden orfe)
Toxicity to daphnia	EC50 >500 mg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea)
Toxicity to algae	EC50 >100 mg/l Exposure time: 72 h Species: Algae
Biodegradability	>70% DOC, 28 days Readily biodegradable
PBT and vPvB assessment	This substance is not considered to be a PBT (Persistent, Bioaccumulation, Toxic). This substance is not considered to be vPvB (very Persistent nor very Bioaccumulating)
Eye and skin irritation	Eye irritant, may cause allergic reaction

*Literature data



Application

Armid FMPC is a powerful optimized solvent blend based on a morpholine derivative. It is highly soluble in many other solvents such as water, glycols, ethanol, xylene, vegetable and mineral oils. Armid FMPC is optimized to ensure

good stability of an imidacloprid 200 g/l SL and to avoid initial crystallization upon dilution.

Guide recipe

Imidacloprid	200 g/l
Ethylan 1008 *	40 g/l
Armid FMPC	to 1 litre

* Ethylan 1008 enhances the dilution properties in water and brings the addition benefit of good wetting of the spray liquid to the surface.

Physical properties and solubility data

Physical properties of Armid FMPC

Appearance	Clear and colourless liquid
Density at 20°C	1,161 g/ml
Flash point	122°C
Melting point/freezing point	< - 5°C
Viscosity at 20°C	5,2 mPas

Solubility data of different active ingredients in Armid FMPC

2,4-D acid	47%
Dicamba	> 50%
Fenbuconazole	22%
Imidacloprid	22%
Metconazole	21%
Tebuconazole	25%
Trifloxystrobin	33%

All results in % w/w

Regulatory

The ingredients in Armid FMPC are listed on TSCA and DSL. The product contains only ingredients that have been subject to a

pre-registration, according to EC Regulation No. 1907/2006 (REACH).



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