

Armid DM10 and Armid DM810



Fatty acid dimethylamide based solvents have entered the agrochemical market since the regulatory pressure on the use of traditional solvents such as N-methylpyrrolidone has increased.

One of Akzo Nobel's new capabilities is the production of Armid DM10 and Armid DM810.

Armid DM10 N,N-dimethyldecanamide (CAS No. 14433-76-2)

Armid DM810 blend of N,N-dimethyl octan/ decanamide (CAS 1118-92-9 / 14433-76-2)

The application range of these new solvents is no longer restricted to triazole fungicides. Since their introduction, Armid DM10 and Armid DM810 have been found to be efficient EC solvents for a variety of active ingredients.

Typical properties of Armid DM10 and Armid DM810

- alternatives to aromatic solvents like Solvesso 150 and N-methylpyrrolidone
- easy to incorporate into emulsifiable concentrates
- low water solubility
- miscible with typical co-solvents
- readily biodegradable
- good tox / ecotox profile
- low VOC

Physical properties

	Armid DM10	Armid DM810
	N,N-dimethyldecanamide	N,N-dimethyl(C8-10)amide
Appearance	Clear liquid	Clear liquid
Density at 20°C	0.88 g/ml	0.89 g/ml
Flash point	> 100°C	> 100°C
Melting point	- 11°C to - 7°C	- 18°C
Viscosity at 20°C	5.0 mPa.s	2.7 mPa.s

Armid DM10 and DM810 are easily miscible with other solvents: propylene glycol, 1-butanol, 2-ethyl hexanol, ethyl lactate, propylene carbonate, dimethyl sulfoxide, rape-methylester and aromatics, e.g. Solvesso 150 and Solvesso 200 (all tested in 1:1 w/w ratio).

Solubility data of different active ingredients in Armid DM10

Trifloxystrobin	19%
Tebuconazole	34%
Difenoconazole	24%
2,4-D acid	30%
Amitraz	36%
Bifenthrin	32%
Tebuconazole / Trifloxystrobin (1/1)	25%
Fluroxypyr	> 50%
Cyhalofop-butyl	> 50%
Fenbuconazole	14%

All results in % w/w.



Guide recipes

Active ingredients	Emulsifiers	Co-solvent	Armidec DM10	Armidec DM810
g/l	g/l	g/l	g/l	g/l
Ethofumesate 140 + Phenmedipham 70	90	20 *	balance	-
Tebuconazole 250	90	-	balance	-
Tebuconazole 250	90	20 *	-	balance
Diazinon 100	100	200 **	balance	-
Trifloxystrobin 125	90	200	balance	-
Fenoxaprop P-ethyl 120	90	10 *	balance	-

The emulsifier package is a combination of Witconate P1460EH, Ethylan NS500LQ and Ethylan 954LQ.

* Co-solvent = water.

** Co-solvent = rape seed methyl ester.

Regulatory

Armidec DM810 is listed on TSCA, DSL, NZIoC, ENCS, ISHL, IECSC and REACH.

Environmental profile

	Armidec DM10	Armidec DM810
Acute oral toxicity (rat)	LD50 > 2000-5000 mg/kg	LD50 > 1250 mg/kg
Acute dermal toxicity (rat)	LD50 > 5000 mg/kg	LD50 > 1000-2000 mg/kg
Toxicity to fish Exposure time: 96h Species: <i>Leuciscus idus</i> (Golden orfe)	LC50 > 10 ≤ 100 mg/l	LC50 > 10 ≤ 100 mg/l
Toxicity to daphnia Exposure time: 48h Species: <i>Daphnia magna</i> (Water flea)	EC50 > 1 ≤ 10 mg/l	EC50 > 1 ≤ 10 mg/l
Toxicity to algae Exposure time: 72h Species: Algae	EC50 > 10 ≤ 100 mg/l	EC50 > 10 ≤ 100 mg/l
Biodegradability	Readily biodegradable	Readily biodegradable
PBT and vPvB assessment: (Persistent, Bioaccumulation, Toxic) (very Persistent nor very Bioaccumulating)	This substance is not considered to be a PBT This substance is not considered to be vPvB	This substance is not considered to be a PBT This substance is not considered to be vPvB



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