

Renewal Assessment Report

Dimethenamid-P

BAS 656 12 H

Volume 3 – B.2 Physical and chemical properties

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Co-Rapporteur Member State: Bulgaria

Version history

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B.2 Physical and chemical properties

Product name: BAS 656 12 H (containing 720 g/L dimethenamid-P, EC)

For some studies formulation BAS 656 08 H was used instead of BAS 656 12 H. Except for the shelf life study, this is deemed acceptable taking into account the minor deviation of the composition stated in Volume 4.

Study	Method	Test material	Results	Conclusion/ Comment	GLP	Reference
B.2.1 Appearance (CP 2.1)						
Appearance	Visual assessment	BAS 656 12 H Batch: FD-130515-0002	Brown, free flowing, low viscosity, clear liquid	acceptable	Y	Clapperton (2013) (BVL no. 2630544)
B.2.2 Explosive and oxidising properties (CP 2.2)						
Explosive properties	EC A.14	BAS 656 12 H Batch: 0004701751	The preparation BAS 656 12 H has no explosive properties.	acceptable	Y	Kappler (2013) (BVL no. 2630551)
Oxidising properties	EC A.21	BAS 656 12 H Batch: 0004701751	The preparation BAS 656 12 H has no oxidising properties.	acceptable	Y	Kappler (2013) (BVL no. 2630551)

B.2.3 Flammability and auto-flammability (CP 2.3)						
Flash point	EC A.9	BAS 656 08 H Batch: 2000-1	105 °C	acceptable	Y	Kaestel (2000) (BVL no. 2630553)
Flammability						
Self-heating	EC A.15	BAS 656 12 H Batch: 0004701751	Auto ignition temperature: 391 °C	acceptable	Y	Kappler (2013) (BVL no. 2630552)
B.2.4 Acidity/alkalinity and pH value (CP 2.4)						
Acidity or alkalinity and pH						
pH of a 1 % aqueous dilution, emulsion or dispersion	CIPAC MT 75.3	BAS 656 12 H Batch: FD-130515-0002	4.7 (1 % in deionised water at 21 °C) 5.2 (1 % in CIPAC water D at 21 °C)	acceptable	Y	Clapperton (2013) (BVL no. 2630554)
B.2.5 Viscosity and surface tension (CP 2.5)						
Viscosity	CIPAC MT 22.1 (capillary viscometer)	BAS 656 12 H Batch: FD-130515-0002	Kinematic viscosity: 41 · 10 ⁻⁶ m ² /s at 20 °C 22 · 10 ⁻⁶ m ² /s at 40 °C	acceptable	Y	Clapperton (2013) (BVL no. 2630555)
Surface tension	EC A.5 OECD 115 (plate method)	BAS 656 12 H Batch: FD-130515-0002	34.3 mN/m (undiluted at 25 °C) 30.1 mN/m (0.05 % (v/v) at 25 °C) 30.4 mN/m (1.4 % (v/v) at 25 °C) According to EEC A5 the preparation should be regarded as surface active.	acceptable	Y	Clapperton (2013) (BVL no. 2630555)

B.2.6 Relative density and bulk density (CP 2.6)						
Relative density	EC A.3 OECD 109	BAS 656 12 H Batch: FD- 130515-0002	D ²⁰ ₄ = 1.117		acceptable	Y Clapperton (2013) (BVL no. 2630556)
Bulk density (pour and tap)			Not relevant as the preparation is a liquid formulation.			
B.2.7 Storage stability and shelf-life: effects of temperature on technical characteristics of the plant protection product (CP 2.7)						
Storage stability after 14 days at 54 °C	CIPAC MT 46.3	BAS 656 12 H Batch: FD- 130515-0002	Stable for 14 days at 54 °C in the original packaging (COEX PE/PA bottle)		acceptable	Y Clapperton (2013) (BVL no. 2630557)
			Before storage	After storage		
	Active substance content (Analytical method CF-A 563, see Volume 3, B.5)		708 g/L (634 g/kg)	706 g/L (632 g/kg)		
	Visual assessment		Brown, free flowing, low viscosity, clear liquid	Brown, free flowing, low viscosity, clear liquid		
	EC A.3 OECD 109 (relative density)		D ²⁰ ₄ = 1.117	D ²⁰ ₄ = 1.117		
	CIPAC MT 75.3 (pH)		4.7 (1 % in deionised water at 21 °C) 5.2 (1 % in CIPAC water D at 21 °C)	4.7 (1 % in deionised water at 21 °C) 4.5 (1 % in CIPAC water D at 21 °C)		
	CIPAC MT 47.2		0.05 % v/v in CIPAC	0.05 % v/v in CIPAC		

	(Persistent foaming)		water D: after 10 s 12 mL after 1 min 10 mL after 3 min 6 mL after 12 min 6 mL 1.4 % v/v in CIPAC water D: after 10 s 22 mL after 1 min 20 mL after 3 min 20 mL after 12 min 20 mL	water D: after 10 s 28 mL after 1 min 18 mL after 3 min 8 mL after 12 min 8 mL 1.4 % v/v in CIPAC water D: after 10 s 36 mL after 1 min 30 mL after 3 min 12 mL after 12 min 12 mL			
	CIPAC MT 36.3 (Emulsion stability)		0.05 % v/v in CIPAC water A and D: uniform after 30 s after 30 min 0 mL after 2 h 0 mL after 24 h 0 mL Re-emulsification: after 30 min 0 mL 1.4 % v/v in CIPAC water A and D: after 30 min 0 mL after 2 h 0 mL after 24 h 0 mL Re-emulsification: uniform after 30 s after 30 min 0 mL	0.05 % v/v in CIPAC water A and D: uniform after 30 s after 30 min 0 mL after 2 h 0 mL after 24 h 0 mL Re-emulsification: after 30 min 0 mL 1.4 % v/v in CIPAC water A and D: after 30 min 0 mL after 2 h 0 mL after 24 h 0 mL Re-emulsification: uniform after 30 s after 30 min 0 mL			
Effect of low temperatures on stability	CIPAC MT 39.3	BAS 656 12 H Batch: FD-130515-0002	Stable for 7 days at 0 °C		acceptable	Y	Clapperton (2013) (BVL no. 2630557)
Shelf life following storage at ambient			A 3 yr ambient shelf life study on BAS 656 12 H is ongoing. The 2 yr interim report can be submitted as		A 2-year shelf life study with		

temperature			soon as it will have been completed.		formulation BAS 656 12 H is required.		
	GIFAP Monograph 17	BAS 656 08 H Batch: 2000-1	Stable for 24 months at 20 °C and 30 °C in the original packaging (COEX bottle, 1L)		not acceptable as formulation BAS 656 08 H was tested	Y	Koenig (2002) (BVL no. 2630559)
			Before storage	After storage			
	Active substance content (Analytical method CF-A 563, see Volume 3, B.5)		717 g/L	711 g/L at 20 °C 710 g/L at 30 °C			
	GIFAP Mono-graph 17	BAS 656 08 H Batch: 2000-1	Stable for 24 months at 20 °C and 30 °C in the original packaging (COEX bottle, 1L)		not acceptable as formulation BAS 656 08 H was tested.	Y	Kaestel (2002) (BVL no. 2630558)
			Before storage	After storage			
	Visual assessment		Brown, clear liquid	Dark brown, clear liquid (20 °C and 30 °C)			
	CIPAC MT 75.3 (pH)		3.1 (1 % in deionised water at 20 °C) 3.1 (1 % in CIPAC water D at 20 °C)	storage at 20 °C: 6.4 (1 % in deionised water) 3.2 (1 % in CIPAC water D) storage at 30 °C: 6.4 (1 % in deionised water) 3.1 (1 % in CIPAC water D)			
	CIPAC MT 47.1 (Persistent foaming)		1.0 % v/v in CIPAC water D: after 1 min 7 mL after 15 min 4 mL	1.0 % v/v in CIPAC water D storage at 20 °C: after 1 min 3 mL after 15 min 0 mL			

				storage at 30 °C: after 1 min 2 mL after 15 min 0 mL			
	CIPAC MT 36.3 (Emulsion stability)		1 % v/v in CIPAC water A and D: initial emulsification: little froth after 30 min 0 mL after 2 h 0 mL after 24 h 0 mL Re-emulsification: after 30 min 0 mL 5 % v/v in CIPAC water A and D: initial emulsification: little froth after 30 min 0 mL after 2 h 0 mL after 24 h 0 mL Re-emulsification: uniform after 30 s after 30 min 0 mL	Storage at 20 °C 1 % v/v in CIPAC water A and D: initial emulsification: little froth after 30 min < 1mL after 2 h < 1 mL after 24 h 1 mL Re-emulsification: after 30 min < 1 mL 5 % v/v in CIPAC water A and D: initial emulsification: little froth after 30 min 2 mL after 2 h 3 mL after 24 h 4 mL Re-emulsification: uniform after 30 s after 30 min 2 mL			
Shelf life in months (if less than 2 years)							

B.2.8 Technical characteristics of the plant protection product (CP 2.8)						
B.2.8.1 Wettability (CP 2.8.1)						
Wettability			Not relevant as the preparation is an EC			
B.2.8.2 Persistent foaming (CP 2.8.2)						
Persistent foaming	CIPAC MT 47.2	BAS 656 12 H Batch: FD-130515-0002	see B.2.7	acceptable	Y	Clapperton (2013) (BVL no. 2630560)
B.2.8.3 Suspensibility, spontaneity and dispersion stability (CP 2.8.3)						
Suspensibility			Not relevant as the preparation is an EC			
Spontaneity of dispersion			Not relevant as the preparation is an EC			
Dispersion stability			Not relevant as the preparation is an EC			
B.2.8.4 Degree of dissolution and dilution stability (CP 2.8.4)						
Degree of dissolution			Not relevant as the preparation is an EC			
Dilution stability			Not relevant as the preparation is an EC			

B.2.8.5 Particle size distribution, dust content, attrition and mechanical stability (CP 2.8.5)						
Particle size distribution			Not relevant as the preparation is an EC			
Dust content			Not relevant as the preparation is an EC			
Attrition			Not relevant as the preparation is an EC			
Hardness and integrity			Not relevant as the preparation is an EC			
B.2.8.6 Emulsifiability, re-emulsifiability, emulsion stability (CP 2.8.6)						
Emulsifiability	CIPAC MT 36.3	BAS 656 12 H Batch: FD-130515-0002	see B.2.7	acceptable	Y	Clapperton (2013) (BVL no. 2630561)
Re-emulsifiability	CIPAC MT 36.3	BAS 656 12 H Batch: FD-130515-0002	see B.2.7	acceptable	Y	Clapperton (2013) (BVL no. 2630561)
Emulsion stability	CIPAC MT 36.3	BAS 656 12 H Batch: FD-130515-0002	see B.2.7	acceptable	Y	Clapperton (2013) (BVL no. 2630561)
B.2.8.7 Flowability, pourability and dustability (CP 2.8.7)						
Flowability			Not relevant as the preparation is an EC			
Pourability			Not relevant as the preparation is an EC			
Dustability following accelerated storage			Not relevant as the preparation is an EC			

B.2.9 Physical compatibility with other products including plant protection products with which its use is to be authorised (CP 2.9)						
Physical compatibility of tank mixes	ASTM E1518-05	BAS 656 08 H Batch: FS 18974 BAS 523 12 H Batch: WH 19077	A combination of BAS 656 08 H with BAS 523 12 H (Rebell SC) was tested for compatibility with five other products of the types EC, SC and WG: Betanal Progress Of, Focus Ultra, Goltix SC, Goltix WG and Power Twin. All mixtures were physically compatible. Sediment traces can be avoided using a running agitator. All mixtures were chemically stable.	acceptable	N	Foerster (2002) (BVL no. 2630562)
Chemical compatibility of tank mixes	ASTM E1518-05	BAS 656 08 H Batch: FS 18974 BAS 523 12 H Batch: WH 19077	A combination of BAS 656 08 H with BAS 523 12 H (Rebell SC) was tested for compatibility with five other products of the types EC, SC and WG: Betanal Progress Of, Focus Ultra, Goltix SC, Goltix WG and Power Twin. All mixtures were physically compatible. Sediment traces can be avoided using a running agitator. All mixtures were chemically stable.	acceptable	N	Foerster (2002) (BVL no. 2630562)
B.2.10 Adherence and distribution to seeds (CP 2.10)						
Distribution (seed treatment)			Not relevant as the preparation is an EC			
Adherence (seed treatment)			Not relevant as the preparation is an EC			

B.2.11 Other studies (CP 2.11)						
Other studies			Not relevant as the preparation is an EC			

B.2.12 References relied on

Data Point EU as of 2014	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data Protection Claimed Y/N	Justification if data protection is claimed	Owner	Previously submitted Y/N If yes, old data point
KCP 2.1/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability uop to 2 weeks at 54°C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630544	N	Y	New data for AIR3 renewal	BASF	N III A 2.1
KCP 2.2/1	Kappler	2013	Evaluation of physical and chemical properties according to Directive 94/37/EC (Regulation (EC) No 440/2008) 2012/1182380 BASF SE, Ludwigshafen/Rhein, Germany Fed.Rep. GLP, unpublished BVL No. 2630551	N	Y	New data for AIR3 renewal	BASF	N III A 2.2
KCP 2.3/1	Kappler	2013	Evaluation of physical and chemical properties according to Directive 94/37/EC (Regulation (EC) No 440/2008) 2012/1182380 BASF SE, Ludwigshafen/Rhein, Germany Fed.Rep. GLP, unpublished BVL No. 2630552	N	Y	New data for AIR3 renewal	BASF	N III A 2.3
KCP 2.3/2	Kaestel R.	2000	Physical and chemical properties of BAS 656 08 H 2000/1014147 BASF AG Agrarzentrum Limburgerhof, Limburgerhof, Germany Fed.Rep. GLP, unpublished BVL No. 2630553	N	Y	New data for AIR3 renewal	BASF	N III A 2.3
KCP 2.4/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability uop to 2 weeks at 54 °C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630554	N	Y	New data for AIR3 renewal	BASF	N III A 2.4
KCP 2.5/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability uop to 2 weeks at 54 °C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630555	N	Y	New data for AIR3 renewal	BASF	N III A 2.5
KCP 2.6/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability uop to 2 weeks at 54 °C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630556	N	Y	New data for AIR3 renewal	BASF	N III A 2.6

Data Point EU as of 2014	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data Protection Claimed Y/N	Justification if data protection is claimed	Owner	Previously submitted Y/N If yes, old data point
KCP 2.7/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability up to 2 weeks at 54 °C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630557	N	Y	New data for AIR3 renewal	BASF	N III A 2.7
KCP 2.8.2/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability up to 2 weeks at 54 °C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630560	N	Y	New data for AIR3 renewal	BASF	N III A 2.8.2
KCP 2.8.6/1	Clapperton R.M.	2014	Physical and chemical properties of BAS 656 12 H: Accelerated storage stability up to 2 weeks at 54 °C stored in a COEX PE/PA bottle 2013/1311388 Battelle UK Ltd., Havant Hampshire PO9 1SA, United Kingdom GLP, unpublished BVL No. 2630561	N	Y	New data for AIR3 renewal	BASF	N III A 2.8.7
KCP 2.9/1	Foerster R. Bork T.	2002	Physical and chemical compatibility in aqueous tank mixtures of BAS 523 12 H + BAS 656 08 H 2002/1002183 BASF AG Agrarzentrum Limburgerhof, Limburgerhof, Germany Fed.Rep. Not GLP, unpublished BVL No. 2630562	N	N	New data for AIR3 renewal	BASF	N III A 2.9