



Molecular Mass (g mol ⁻¹)	387.86
IUPAC Name	(<i>EZ</i>)-4-[3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl]morpholine
CAS Name	4-[3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)-1-oxo-2-propenyl]morpholine
Other status information	-
Herbicide Resistance (HRAC) Classification	Not applicable
Insecticide Resistance (IRAC) Classification	Not applicable
Fungicide Resistance (FRAC) Classification	40
Physical State	Colourless to grey crystalline powder


Formulations:

Property 	Value
Example manufacturers of products using this active	<ul style="list-style-type: none"> • BASF • FCC
Example products using this active	<ul style="list-style-type: none"> • Invader • Paraat • Forum • Acrobat
Associated substances	<ul style="list-style-type: none"> • mancozeb • chlorothalonil • folpet
UK LERAP status	None
Formulation and application details	Often available as a dispersible concentrate formulation.

ENVIRONMENTAL FATE

Property 	Value	Source/Quality Score/Other Information 	Interpretation 
Solubility - In water at 20°C (mg l ⁻¹)	28.95	A5	Low
Solubility - In organic solvents at 20°C (mg l ⁻¹)	100400	C4 - Acetone	-
	112	C4 - Hexane	-




		39000		C4 - Methanol	-
		49500		C4 - Toluene	-
Melting Point (°C)		137.2		L3	-
Boiling Point (°C)		-		-	-
Degradation point (°C)		280		A5	-
Flashpoint (°C)		Not highly flammable		A5	-
Octanol-water partition coefficient at pH 7, 20°C	P:	4.79 X 10 ⁰²		Calculated	-
	Log P:	2.68		B5	Low
Bulk density (g ml ⁻¹)/Specific gravity		1.32		B5	-
Dissociation constant (pKa) at 25°C		-1.3		A5	-
	Note:	Note: Calculated, Very strong acid			
Vapour pressure at 25°C (mPa)		9.85 X 10 ⁻⁰⁴		B5	Volatile
Henry's law constant at 25°C (Pa m ³ mol ⁻¹)		2.04 X 10 ⁻⁰⁵		V3	Non-volatile
Henry's law constant at 20°C (dimensionless)		8.41 X 10 ⁻⁰⁹		K3	Non-volatile
Soil degradation (days) (aerobic)	DT50 (typical):	57		A5	Moderately persistent
	DT50 (lab at 20°C):	56.7		A5	Moderately persistent
	DT50 (field):	44		A5	Moderately persistent
	DT90 (lab at 20°C):	-		-	-
	DT90 (field):	-		-	-
	Note:	EU dossier lab studies v range 41-96 days, field studies range 34-54 days; Other sources: DT50 92 days (DW4)			
Aqueous photolysis DT50 (days) at pH 7	Value:	97		A5	Stable
	Note:	Seasonal variation: DT50 28 days summer, 86-107 days spring			
Aqueous hydrolysis DT50 (days) at 20°C and pH 7	Value:	70		K4	Moderately persistent
	Note:	Stable pH 4 to pH 9			
Water-Sediment DT50 (days)		38		A5	Moderately fast
Water phase only DT50 (days)		10		A5	Moderately fast
GUS leaching potential index		2.56		Calculated	Transition state
SCI-GROW groundwater index (µg l ⁻¹) for a 1 kg ha ⁻¹ or 1 l ha ⁻¹ application rate 	Value:	1.70 X 10 ⁻⁰¹		Calculated	-
	Note:	-			

Potential for particle bound transport index 	-	Calculated	Medium
Koc - Organic-carbon sorption constant (ml g ⁻¹)	348	B5	Moderately mobile
	pH sensitivity: None		
	Note: Other sources: 428 mL/g (DW4)		
Freundlich isotherm	Kf: 4.17	B5	-
	¹ / _n : 0.86		-
	Note: Mean of 4 soils. Sandy loamy silt OC=0.96% Kf=4.51; Sandy loam OC=2.26% Kf=7.21; Sand OC=0.7% Kf=2.31; Silty sand OC=0.96 Kf=2.63		
Maximum UV-vis absorption L mol ⁻¹ cm ⁻¹	[200nm = 45000; 205nm = 30000; 221nm = 16000; 242nm = 20000; 286nm = 9100; 312nm = 4500]	A5	-

Other known metabolites:

Metabolite name and reference	Aliases	Formation Medium / Rate	Estimated Maximum Occurrence Fraction
4-[(E)-and(Z)-beta-(p-chlorophenyl)-3-hydroxy-4-methoxycinnamoyl]morpholine	dimethomorph metabolite Z67	Plant; Animal	-
4-[(E)-and(Z)-beta-(p-chlorophenyl)-4-hydroxy-3-methoxycinnamoyl]morpholine	dimethomorph metabolite Z69	Plant; Animal	-
4-chloro-3',4'-dimethoxy-benzophenone	dimethomorph metabolite Z7	Plant	-
4-[3-(4-chlorophenyl)-3,3,4-dimethoxy-phenyl]-1-oxo-2-propenyl]-2-oxo-morpholine	dimethomorph metabolite Z37	Plant	-
N-[3-(4-chlorophenyl)-3,3,4-dimethoxyphenyl]-1-oxo-2-propenyl-glycine	dimethomorph metabolite CUR 7117	Animal	-

ECOTOXICOLOGY




Property 	Value	Source/Quality Score/Other Information 	Interpretation 
Bio-concentration factor	BCF: - CT50 (days): Not available	A5 Low risk	-
Bioaccumulation potential	-	Calculated	Low
Mammals - Acute oral LD50 (mg kg ⁻¹)	3900	A5 Rat	Low
Mammals - Short term dietary NOEL (mg kg ⁻¹):	15	A5 Rat	High

	(ppm diet):	-		-
Birds - Acute LD50 (mg kg ⁻¹)		> 2000	B5 <i>Colinus virginianus</i>	Moderate
Birds - Short term dietary (LC50/LD50)		> 728.3 mg/kg bw/day	A5 <i>Colinus virginianus</i>	-
Fish - Acute 96 hour LC50 (mg l ⁻¹)		3.4	A5 <i>Oncorhynchus mykiss</i>	Moderate
Fish - Chronic 21 day NOEC (mg l ⁻¹)		0.056	A5 <i>Oncorhynchus mykiss</i>	-
Aquatic invertebrates - Acute 48 hour EC50 (mg l ⁻¹)		> 10.6	A5 <i>Daphnia magna</i>	Moderate
Aquatic invertebrates - Chronic 21 day NOEC (mg l ⁻¹)		0.005	Q2 <i>Daphnia magna</i>	-
Aquatic crustaceans - Acute 96 hour LC50 (mg l ⁻¹)		12.0	F3 <i>Americamysis bahia</i>	Moderate
Sediment dwelling organisms - Acute 96 hour LC50 (mg l ⁻¹)		-	-	-
Sediment dwelling organisms - Chronic 28 day NOEC, static, water (mg l ⁻¹)		-	-	-
Sediment dwelling organisms - Chronic 28 day NOEC, sediment (mg kg ⁻¹)		-	-	-
Aquatic plants - Acute 7 day EC50, biomass (mg l ⁻¹)		-	-	-
Algae - Acute 72 hour EC50, growth (mg l ⁻¹)		29.2	B5 <i>Scenedesmus subspicatus</i>	Low
Algae - Chronic 96 hour NOEC, growth (mg l ⁻¹)		9.8	Q2 Unknown species	Low
Honeybees - Acute 48 hour LD50 (µg bee ⁻¹)		> 32.4	A5 Oral	Moderate
Earthworms - Acute 14 day LC50 (mg kg ⁻¹)		> 500	A5 <i>Eisenia foetida</i> , corr	Moderate
Earthworms - Chronic 14 day NOEC, reproduction (mg kg ⁻¹)		60.0	A5 <i>Eisenia foetida</i> , corr	Moderate
Other soil macro-organisms - e.g. Collembola	LR50 / EC50 / NOEC / % Effect	-	-	-
Other arthropod (1)	LR50 g ha ⁻¹ :	>1800	48 hour A5 <i>Aphidius rhopalosiphi</i> , adult	Harmless at 1 kg ha ⁻¹
	% Effect:	-	-	-
Other arthropod (2)	LR50 g ha ⁻¹ :	>1800	7 day A5 <i>Typhlodromus pyri</i> ,	Harmless at 1 kg ha ⁻¹

			protonymph	
	% Effect:	-	-	-
Soil micro-organisms		Nitrogen mineralisation: No significant effect Carbon mineralisation: No significant effect	A5 [Dose: 6 kg ha ⁻¹]	-
Mesocosm study data	NOEAEC mg l ⁻¹ :	-	-	-
	NOEAEC mg l ⁻¹ :	-	-	-

HUMAN HEALTH AND PROTECTION

General:

Property 	Value	Source/Quality Score/Other Information 	Interpretation 
Mammals - Acute oral LD50 (mg kg ⁻¹)	3900	A5 Rat	Low
Mammals - Dermal LD50 (mg kg ⁻¹ body weight)	> 2000	A5 Rat	-
Mammals - Inhalation LC50 (mg l ⁻¹)	> 4.42	A5 Rat	-
ADI - Acceptable Daily Intake (mg kg ⁻¹ bw day ⁻¹)	0.05	A5 Dog, SF=100	-
ARfD - Acute Reference Dose (mg kg ⁻¹ bw day ⁻¹)	0.6	A5 Rat, SF=100	-
AOEL - Acceptable Operator Exposure Level - Systemic (mg kg ⁻¹ bw day ⁻¹)	0.15	A5 Rat, SF=100	-
Dermal penetration studies (%)	20	A5	-
Dangerous Substances Directive 76/464	-	-	-
Exposure Limits	-	-	-
Exposure Routes	Public: - Occupational: [Risk of exposure acceptable under label recommendations for use for personal protection clothing and equipment]		
Examples of European MRLs (mg kg ⁻¹)	Value: Dried hops: 50; Grapes: 2.0; Potatoes: 0.05 Note: [A5 EU dossier proposals] For the EU pesticides database click here		
Drinking Water MAC (µg l ⁻¹)	-	-	-

Health issues:








Carcinogen	Endocrine disrupter	Reproduction / development effects	Acetyl cholinesterase inhibitor	Neurotoxicant	Respiratory tract irritant	Skin irritant	Eye irritant
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X - ? X X ✓ ✓ ✓

General human health issues [May cause acute lung injury if inhaled]

- ✓ : Yes, known to cause a problem
 X : No, known not to cause a problem
 ? : Possibly, status not identified
 - : No data

Handling issues:

Property 	Value	Source/Quality Score/Other Information 	Interpretation 
General 	[Not explosive], [IMDG Transport Code is usually 9]		
EC Risk Classification 	[N - Dangerous for the environment: R51, R53]		
EC Safety Classification 	S61		
WHO Classification	U	-	Unlikely to present acute hazard in normal use
US EPA Classification (formulation)	III	-	Caution - Slightly toxic
UN Number	Usually 3077		
Waste disposal & packaging 	[Usually Packaging Group III (minor danger)]		

TRANSLATIONS

Language	Name
English	dimethomorph
French	dimethomorphe
German	Dimethomorph
Danish	dimethomorph
Italian	dimetomorf
Spanish	dimetomorf
Greek	-
Slovenian	dimetomorf
Polish	dimetomorf
Swedish	dimetomorf
Hungarian	dimetomorf
Dutch	dimethomorf

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 Contact: aeru@herts.ac.uk

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