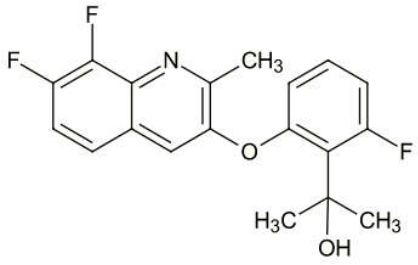
Science evaluation

Ipflufenoquin and Kinoprol 20 SC

1.0 The active ingredient, its properties and uses

1.1 Identity of the active ingredient

Active substance	Ipflufenoquin
Function	Fungicide
Chemical name	
1. International Union of Pure and Applied Chemistry (IUPAC)	2-{2-[(7,8-difluoro-2-methyl-3-quinolyl)oxy]-6-fluorophenyl}propan-2-ol
2. Chemical Abstracts Service (CAS)	2-[(7,8-difluoro-2-methyl-3-quinolinyl)oxy]-6-fluoro-α,α-dimethylbenzenemethanol
CAS number	1314008-27-9
Molecular formula	$C_{19}H_{16}F_3NO_2$
Molecular weight	347.3
Structural formula	
Purity of the active ingredient	99.2%

1.2 Physical and chemical properties of the active ingredients and end-use product

Technical product—Kinoprol technical

Property	Result
Colour and physical state	Pale yellow powder
Odour	Odourless
Melting range	114.4-115.5°C
Boiling point or range	450°C

Property	Result
Density	1.3904 g/cm^3
Vapour pressure at 20°C	7.26 × 10^{-3} mPa at 20°C
Ultraviolet (UV)-visible spectrum	No absorption above 400 nm
Solubility in water at 20°C	10.3 mg/L (pH 7.0)
Solubility in organic solvents at 20°C	Solvent — Solubility (g/L) Hexane — 2.83 Heptane — 2.76 Xylene — 118 Toluene — 182 Dichloromethane — > 250 Methanol — > 250 Ethanol — 187 Octanol — 65.5 Acetone — > 250 Ethyl Acetate — > 250
n-Octanol-water partition coefficient (K_{ow})	log K_{ow} = 3.89
Dissociation constant (pK_a)	pK_a = 2.18
Stability (temperature, metal)	Stable at 54°C for at least 14 days, 40°C for at least 6 months. Stable in the presence of zinc. Unstable when exposed to potassium permanganate (the active is a reducing agent).

End-use product—Kinoprol 20 SC

Property	Result
Colour	Off-white
Odour	Paint-like
Physical state	Liquid
Formulation type	Suspension
Label concentration	200 g/L
Container material and description	0.25-1050 L plastic bottle, jug, or tote
Density	1.0845 g/cm^3
pH of 1% dispersion in water	6.75 (1% w/v)
Oxidizing or reducing action	No oxidizing or reducing action
Storage stability	Stable at 54°C for 14 days in polyethylene bottles
Corrosion characteristics	Corrosion of the PE bottle after storage for 2 weeks at 54°C was not observed
Explodability	Not explosive