

Product Information

www.wateradditives.com

Belclene® 200 - the Industry Standard Antiscalant for Calcium Carbonate Control in Severe Service Conditions

Introduction

Belclene 200 antiscalant is used to inhibit calcium carbonate deposition in severe service industrial water systems and other related applications. The active ingredient of Belclene 200 is a polymaleic acid.

Typical physical properties

Appearance	Clear amber liquid
Odour	Slight
Solids content	47-53%w/w
Specific gravity	1.16-1.19
pH (undiluted)	<2
Viscosity at 25°C	12-30 cPs (10-25 cSt)
Boiling point range	100-102°C (212-214°F)
Freeze point range	-5 to -12°C (23-10°F)
Solubility in:	
water	Miscible
ethylene glycol	Miscible
methanol	Miscible
50% caustic soda	Readily neutralised with the evolution of heat
Steam volatility	Does not steam distil
pH limitations	To avoid precipitation, formulate below pH 2.5 or above pH 8.0. At in use concentrations Belclene 200 is stable at any pH.

Thermal stability (TGA)

Thermogravimetric analysis has shown that Belclene 200 is stable up a temperature of 300°C (572°F).

Chemical reactivity/compatibility

Belclene 200 is not affected by chlorine or other oxidising biocides under normal use conditions. Test for compatibility with long chain nitrogen compounds, aliphatic amine and quaternary ammonium compounds.

Logistics

Classification

Irritant for supply
Corrosive for conveyance
IATA class 8 UN No 3265
IMDG class 8 UN No 3265
HDPE XL-ring Mauser drum
Capacity 220 l
Height 935 mm
Diameter 580 mm
Gross weight 249.5 kg
Net weight 240.0 kg

Packaging

Regulatory approvals

FDA(USA)

21 CFR 173.310 – boiler additives
21 CFR 173.45 – beet and cane sugar
21 CFR 573 – poultry watering systems
G5: cooling and retort water
G6: boilers, steamlines possible food contact
G7: boilers, steamlines, cooling systems no food contact
A1: cleaning compounds; meat/poultry plants
Japanese discharge regulations

USDA (USA)

MITI (Japan)

Toxicology data

Acute oral LD ₅₀ (rats)	>12500 mg/kg
Eye irritation (rabbits)	Irritant (EEC guidelines)
Skin irritation (rabbits)	Non-irritant (EEC guidelines)
Toxicity to fish:	
96-hr LC ₅₀ (rainbow trout)	>100 mg/l
96-hr LC ₅₀ (carp)	>100 mg/l

Ecological data

96-hr LC ₅₀ (brown shrimp)	580 mg/l
48-hr LC ₅₀ (daphnia magna)	>1000 mg/l
48-hr LC ₅₀ (sludge inhibition)	>1000 mg/l
COD	1199 mg O ₂ /g
TOC	1050 mg O ₂ /g
Biodegradability	19% in 28 days (OECD 302B screening test)

Patents

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