

Product Information

www.wateradditives.com

Belclene® 500 – Zinc Synergist Corrosion Inhibitor

General Product Information

Belclene 500 polymer is a halogen resistant, mild steel corrosion inhibitor used in conjunction with zinc for industrial water systems.

The active ingredient is a polyphosphinocarboxylic acid.

Typical physical properties

Appearance	Pale yellow liquid
Odor	Slight
Solids content	33-37%
Specific gravity	1.15 - 1.19
pH (undiluted solution)	2.0 - 3.0
pH of 1% solution	2.9
Viscosity at 25%	6 - 18 cPs (5-15 cSt)
Boiling point range	100 - 101°C (212-214°F)
Freezing point range	0 to -10°C (32-14°F)
Solubility in:	
Water	Miscible
Ethylene glycol	Miscible
Methanol	Miscible
50% caustic	Miscible
soda	
pH limitations	To avoid precipitation, formulate below pH 3.0 or above pH 9.0. Belclene 500 can be used in any system water at any pH.

Chemical reactivity

Belclene 500 is not affected by chlorine or other oxidising agents under normal use conditions.

Compatibility

Test for compatibility with long chain nitrogen compounds, aliphatic amines and quaternary ammonium compounds.

Steam volatility

Belclene 500 does not steam distil.

Logistics

Classification	Corrosive for conveyance Not classified for supply IATA class 8 UN No1760 IMDG class 8 UN No 1760
Packaging	HDPE 220 XL-ring Mauser drum
Height	935 mm
Diameter	580 mm
Gross weight	258.5 kg
Net weight	200.0 kg

Regulatory approvals

FDA (USA)	21 CFR 173.310 Boiler additives
USDA (USA)	G5: cooling and retort water G6: boilers, steam lines, cooling systems; possible food contact G7: boilers, steam lines, cooling systems; no food contact
MITI (Japan)	Japanese discharge regulations

Toxicology data

Acute oral LD ₅₀ (rats)	>5000 mg/kg
Skin irritation (rabbits)	non irritant
Eye irritation (rabbits)	non irritant
Toxicity to fish:	
96-hr LC ₅₀ (rainbow trout)	>100 mg/l

Ecological data

EC ₅₀ (daphnia magna)	>1000 mg/l
EC ₅₀ (algae inhibition)	51 mg/l

Further details on safety and handling are available in the materials safety data sheet on this product.

Patents

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