

## Additin® RC 8220 Specialty Product

### Type

Non-ferrous metal deactivator

### Technical Data

Composition	Benzotriazole
Product description	pale yellow fine granules
Density (100°C)	approx. 1190 kg/m <sup>3</sup>
Bulk density	approx. 500 kg/m <sup>3</sup>
Vapour pressure (70°C)	approx. 3 x 10 <sup>-3</sup> mbar

### Application

- Metal-working fluids (water-based and neat oil)
- Hydraulic fluids
- Gear, turbine and compressor oils
- Cooling water (open systems)
- Cool-/heating circuits (closed systems)
- VCI-paper
- Glycol-based antifreeze concentrates
- Metal polishes, waxes
- Acid cleaning agents
- Disinfectants
- Automatic dishwashing detergents (powder, tabs)
- Greases
- Slideway oils

Additin® RC 8220 is a low smell non-ferrous metal deactivator. It is widely used where staining and corrosion of copper and cobalt, including their alloys, as well as of nickel needs to be avoided. Additin® RC 8220 forms an extremely thin, stable and virtually colorless film on the metal surface by chemisorption which protects the metal. Copper ions can also cause pitting on metals such as aluminium, zinc, iron and steel. Problems of this kind can be avoided by using Additin® RC 8220.

By inhibition of copper ions decreases their negative effect on oxidation stability of lubricants and elastomers. Furthermore Additin® RC 8220 exhibits a positive synergy with anti-oxidants that prolongs the lifetime of the products.

Additin® RC 8220 can be combined with other corrosion inhibitors, such as sodium benzoates, silicates, nitrites, nitrates, molybdates, phosphates and organic phosphorus compounds, and increases their effectiveness.

Additin® RC 8220 is effective at very low concentration (see table below, "Typical treatment levels"). Additin® RC 8220 is stable not only in neutral media, but also in strong mineral acids and alkalis. Optimum effectiveness is in most cases achieved in the pH range between 2 and 10. Additin® RC 8220 has an excellent thermal stability and is also effective at elevated temperatures.



Treatment with Additin® RC 8220 generally has no negative effect on the heat exchange between the metal and heat transfer medium as well as the electrical properties of metal surfaces. Subsequent operations such as soldering, coating and electrolytic processes are, in fact, made easier and more effective.

Besides benzotriazole we also supply tolyltriazole (Additin® RC 8221) and 50% solution of tolyltriazole sodium salt in water (Additin® RC 5800) as well as a dissolved tolyltriazole (Additin® RC 5801). If an improved oil solubility is required we recommend the liquid tolyltriazole derivative Additin® RC 8239.

### Solubility

% by wt. at 20°C:

Acetone	45.0	Methyl ethyl ketone	45.0
Benzene	0.9	Methyl isobutyl ketone	25.5
Dichlormethane	18.0	Mineral oil	0.05
Ethanol	57.0	Propylene glycol	46.5
Ethanolamine	28.0	Tetrachloromethane	0.1
Ethylene glycol	50.5	Toluene	0.7
Heptanol	33.5	Water	1.9
Isopropanol	53.5	White spirit	0.04
Methanol	67.5		

### Fields of application and recommended treatment levels

Application	% by wt. Additin® RC 8220
Cooling water (open systems)	0.0002 - 0.001
Cool-/heating circuits (closed systems)	0.02 - 0.04
VCI-paper	0.5 - 2.5
Glycol-based antifreeze concentrates	0.05 - 0.15
Hydraulic fluids	0.05 - 0.2
Metal-working fluids	0.02 - 0.1
Metal polishes, waxes	0.5 - 5.0
Acid cleaning agents	1.0 - 2.0
Disinfectants	0.05 - 0.3
Automatic dishwashing detergents (powder, tabs)	0.2 - 0.5

### Packing Unit

20 kg boxes, 100 kg drums



## Storage Conditions

If correctly stored and kept in the original sealed package, the shelf life is approx. 12 month. Additin® RC 8220 tends to form lumps, particularly in containers which have already been opened and at elevated temperatures.

## Handling

The current safety data sheet of Additin® RC 8220 should be observed. This contains further information on labelling, transport and storage as well as information on handling, product safety, toxicity and ecology.

® = registered trade mark

Additin® RC 8220 is on EINECS and TSCA inventory.

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