



# S-69 P, S-69 PMF, and S-69 B

## Powder VpCI® Water Treatment Building Blocks



### PRODUCT DESCRIPTION

S-69 Powders are Vapor phase Corrosion Inhibitors (VpCI®) developed as corrosion prevention additives for the water treatment industry. These building blocks provide multimetal protection, including galvanized steel and yellow metals. The VpCIs form a strong monomolecular layer on the metal surface that protects in all three phases-liquid, vapor, and the vapor-liquid interface. S-69 Powders provide water treatment companies with the ability to incorporate Cortec® VpCI technology into their specific formulations.

Note: S-69 Powder is also available in a molybdenum free version: S-69 PMF. In addition, a lower pH version exists as S-69 B, which contains a borate based buffer.

### TYPICAL APPLICATIONS

S-69 Powders are anticorrosion additives to water treatment formulations to replace chromates, nitrites, phosphonates, and other types of restricted corrosion inhibitors. Powder should be pre-diluted, forming a clear homogenous solution prior to addition into the system being treated.

### DOSAGE RATES

- a) Closed loop-fresh water  
Concentration of S-69 Powders under operating conditions for a closed loop system formulation start at 1500 ppm - 2000 ppm.
- a) Closed loop-brine  
Concentration of S-69 Powders under operating conditions for a closed loop system formulation is 1-5 %.
- c) Open loop-fresh water  
Concentration varies with formulations but can be used a low as 10-15 ppm in continuous feeds.

### FEATURES

- Protects carbon steels, zinc, stainless steel, galvanized steel, copper, and other metals
- Use S-69 B for aluminum protection
- Prevents corrosion and pitting
- Effective for open and closed loop cooling systems
- Contains contact and vapor phase corrosion inhibitors
- Can be used as a corrosion inhibitor additive in the majority of water treatment programs
- Compatible with the majority of commercially available biocides and antiscalants
- Nitrite, chromate, and heavy metal free
- Readily water-soluble powder for easy application
- Environmentally friendly formulation
- Easily traceable utilizing a Molybdenum test kit. S-69 P contains 2.1% Mo by weight, in the form of  $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$  (at 5.2% of total formulation). See reversed side for Mo vs. S-69P concentration chart

### EPA/600/4-90/027F

#### Acute 48-hour Static-renewal toxicity test:

EE#	Appendix	Sample ID	NOEC/LOEC, ppm	
			D.pulex	P.Promelas
E-17766-01	A	S-69P	10,000/>10,000	10,000/>10,000

### TYPICAL PROPERTIES

Appearance White to off-white powder  
pH of S-69 P 10-12.5 (1% aqueous)

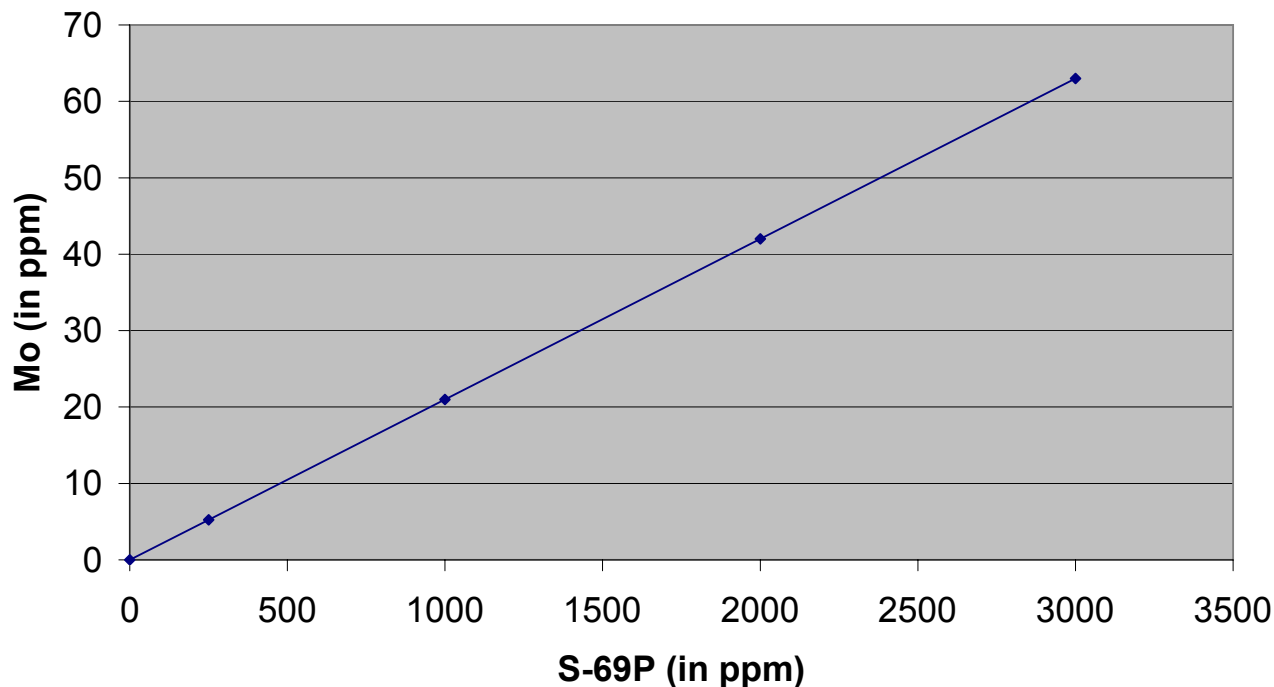
ppm in DI Water	Conductivity
1000	~600 $\mu\text{S}$
2000	~1700 $\mu\text{S}$
3000	~2000 $\mu\text{S}$
5000	~2700 $\mu\text{S}$

pH of S-69 B 8.5-9.5 (1% aqueous)

ppm in DI Water	Conductivity
250	~136 $\mu\text{S}$
2000	~259 $\mu\text{S}$
1000	~498 $\mu\text{S}$



## Theoretical concentration of Molybdenum vs. S-69P



### FOR INDUSTRIAL USE ONLY

**KEEP OUT OF REACH OF CHILDREN**

**KEEP CONTAINER TIGHTLY CLOSED**

**NOT FOR INTERNAL CONSUMPTION**

**CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION**

### PACKAGING AND STORAGE

S-69 Powders are packaged in 5 lb (2.27 kg) boxes and 50 lb (22.7 kg) and 100 lb (45.3 kg) drums. They should be stored in a tightly closed container. The shelf life is 2 years.

### LIMITED WARRANTY

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