



Coal Guard

Coal Guard is a liquid corrosion inhibited natural brine of calcium chloride and trace amounts of magnesium chloride specially formulated to provide the best freeze-proofing and dust control treatment for mining operations. Its non-corrosive nature makes Coal Guard the preferred treatment for companies that ship coal and aggregate by rail or truck.

Quick Facts on Coal Guard

- Non-corrosive, safe and economical blend with corrosion inhibitor
- Can be used year round - in summer as a dust suppressant and in winter for freeze-proofing (effective to temperatures as low as -35°C (-31°F))
- Will not alter the burning properties of coal
- Reduces the formation of liquid ash
- Available in bulk tank truck or rail car

Composition

Calcium Chloride, CaCl_2	21.60%
Magnesium Chloride, MgCl_2	2.7%
Other Chlorides	5.4%
Corrosion Inhibitors	3.0%

Physical Properties

Appearance	Brown Liquid
Odor	Slight
Specific Gravity	1.27 kg/litre
PH	6-10
Miscibility with water	Complete

Freeze-proofing with Coal Guard

Coal Guard applied to the coal surface works by blending with any moisture present on the coal, silo, truck bed and rail car to form brine. The brine created helps protect the coal from freezing on conveyors, in stockpiles and in transit due to the influence of the calcium chloride's low freezing point.

Dust Suppression with Coal Guard

Coal Guard has the edge over water as a dust suppressant because of the hydroscopic qualities of calcium chloride – the result is the most effective coal dust suppressant available. Coal Guard works by actually attracting ambient moisture that then binds the fine particles of coal preventing them from becoming airborne.

Freezing Points of Coal Guard

Percent CaCl ₂ +MgCl ₂	Specific Gravity at 15 °C	Freeze Point	
		°C	°F
0	1.000	0.0	32.0
2	1.018	-1.6	29.1
5	1.037	-3.4	25.9
6	1.047	-4.4	24.1
7	1.056	-5.4	22.3
8	1.066	-6.6	20.1
9	1.077	-7.7	18.1
10	1.087	-8.9	16.0
11	1.098	-10.2	13.6
12	1.108	-11.6	11.2
13	1.120	-13.0	8.6
14	1.131	-14.7	5.6
15	1.142	-16.3	2.7
16	1.154	-18.1	-0.6
17	1.166	-20.0	-4.0
18	1.178	-22.0	-7.6
19	1.191	-24.2	-11.6
20	1.203	-26.5	-15.7
21	1.216	-28.9	-20.0
22	1.23	-31.6	-24.9
23	1.243	-34.4	-29.9
24	1.260	-37.3	-35.1
25	1.271	-38.4	-37.1

Phase Diagram of Coal Guard

