



When It Comes to Dust Control, Mineral Well Brine Provides Superior Value - The Low Cost, High-Quality Solution!

Liquid Calcium Chloride has long been recognized as a superior compound for dust control. **Mineral Well Brine** is a liquid chloride product derived from naturally occurring salt obtained from the Sylvania reservoir, one mile below ground level.

The science behind the effectiveness of high-quality Mineral Well Brine is fairly simple: concentration of hygroscopic Calcium Chloride (CaCl_2) and Magnesium Chloride (MgCl_2) salts in solution are the key chemicals for dust control.

Why Liquid Calcium Chloride is effective:

- Binds aggregate particles together by attracting moisture from the air and ground
- Has a stabilizing effect to reduce frost damage and overall road wear

What is the difference between 9% calcium chloride, 16%, 26%, and 38%?

- The higher the number, the higher the calcium and/or magnesium chloride content
- Third-party scientific studies have shown that it takes approximately 1.7 gallons of 26% Mineral Well Brine to equal the chloride content of 1 gallon of 38% Calcium Chloride
- It takes 5.3 gallons of 9% Oil Field Brine to equal the chloride content of 1 gallon of 38% Calcium Chloride
- It takes 3.1 gallons of 9% Oil Field Brine to equal the chloride content of 1 gallon of Mineral Well Brine

Why provide a Dust Control Program for your unpaved roads?

- Gravel roads are made of a variety of stone sizes and clay, which act as a binder to stabilize crushed stone. Dust particles are essential to the stability of a road, but when they blow away gravel roads begin to break down leaving behind potholes and ruts.
- Airborne or fugitive dust is created by traffic on dry road surfaces; besides being a nuisance, it contributes to road deterioration and causes aggregate or road gravel loss of up to 80% per year, resulting in increased road maintenance costs.
- A dust control program helps provide increased safety by improving driver visibility. In most locations, county road agencies must treat gravel roads several times a year in order to keep dust under control by applying moisture to the road surface to help fine particles adhere to each other.
- Unpaved road maintenance is entirely weather dependent, so dust control schedules flow with the weather.

When is it best to apply liquid calcium chloride?

- Following grading
- After a light rain





What is a typical application rate?

- ▶▶ Our trucks’ applicators use a pressurized pump system with calibrated nozzles that allow a targeted application, typically:
 - 1,000 gallons per mile per 10 foot pass
 - 2,000 gallons per mile per (2) 10 foot passes

Know your Liquids - Not all brines are the same! What are the risks associated with the use of “Oil Field” Brine?

- ▶▶ May contain as little as 9% hygroscopic Calcium Chloride and Magnesium Chloride salt material, and may also contain potentially harmful hydrocarbons and carcinogens.
- ▶▶ Has been known to contaminate drinking water supplies

Are Mineral Well Brine dust control treatments eco-friendly?

- ▶▶ Yes, they reduce the amount of aggregate being mined from gravel quarries
- ▶▶ Yes, they reduce airborne particulates

We believe that not only do we have high-quality Mineral Well Brine which controls dust – our typical liquid product contains about 25% CaCl₂ and MgCl₂ content – we also provide customers cost effective solutions to their dust problems.

In the state of Michigan, we have found that when customers compare Dust Control Effectiveness per Mile of gravel road, high quality mineral well brine provides a significant savings to manufactured CaCl₂ and oil field brine. The oil field brine is typically less costly per gallon but when customers calculate “dust control effectiveness”, the cost of oil field brine is typically nearly double that of mineral well brine and 20% more than manufactured CaCl₂.

Price Comparison

Liquid Chloride Product	Volume needed to deliver 1 Gallon of 38% Calcium Chloride	Representative Bid Price Per Gallon	Equivalent Price Per Product Gallon
Mineral Well Brine	1.7 gallons	\$0.18	\$0.31
LIQUIDOW™ Calcium Chloride	1.0 gallons	\$0.54	\$0.54
Oil Field Brine	5.3 gallons	\$0.11	\$0.58

Truckload Pricing

Mineral Well Brine typically provides a 40% to 50% better value than 38% Liquid Calcium Chloride and Oil Field Brine.