

Winter Road Treatment Guide

Town of Bloomfield Department of Public Works

Understanding How We Keep Your Roads Safe

Types of Deicing Materials

Liquid Brine (Pre-Wetted Salt Solution)

A saltwater solution (typically 23% sodium chloride) applied as a liquid spray before or during winter weather events.

✓ Advantages

- Prevents ice from bonding to pavement
- Works faster than dry salt
- Uses 30-50% less material
- More environmentally friendly
- Cost-effective for prevention

✗ Limitations

- Only effective above 15°F (-9°C)
- Must be applied before snow/ice
- Can be washed away by heavy rain
- Not effective for heavy accumulation

Best used for: Anti-icing applications before winter weather begins

Treated Salt (Enhanced Formula)

Rock salt coated with a liquid solution, often containing magnesium chloride ($MgCl_2$) or calcium chloride ($CaCl_2$), with anti-caking agents and colored dyes for visibility.

✓ Advantages

- Lowers freezing point significantly
- Better adhesion to pavement (less bounce/scatter)
- Starts melting faster than untreated salt
- Works down to 0°F or even -10°F

- • Green or blue dyes show application coverage
- • Anti-caking agents prevent clumping

✗ Limitations

- • More expensive than untreated salt
- • Additives vary by supplier
- • May require special handling
- • Higher cost per ton

Best used for: Cold weather deicing operations and improved performance in extreme conditions

Untreated Salt (Dry Rock Salt)

Pure sodium chloride crystals applied dry without any additives or moisture.

✓ Advantages

- • Least expensive option
- • Easy to store long-term
- • Widely available
- • No special equipment needed
- • Long shelf life

✗ Limitations

- • Needs moisture to activate
- • High bounce and scatter rates
- • Less effective below 20°F (-7°C)
- • Can damage vegetation
- • Takes longer to work

Best used for: Heavy snow accumulation and budget-conscious operations

⚡ Key Principle

The right material at the right time and temperature makes all the difference in road safety and environmental protection.

Application Methods

Anti-Icing (Preventive)

Liquid Brine Application

When: 24-48 hours before storm arrival

Rate: 20-40 gallons per lane mile

Method: Spray bars apply thin film to dry pavement

Purpose: Creates chemical barrier preventing ice bond

Deicing (Reactive)

Treated Salt

Rate: 150-350 lbs per lane mile

Timing: During or immediately after snowfall

Untreated Salt

Rate: 150-400 lbs per lane mile

Timing: After snow accumulation begins

Truck Metering Operations

Computerized Metering Systems

Modern salt trucks use sophisticated computer systems to control material application rates. Here's how they work:

Ground Speed Control

GPS monitors truck speed and automatically adjusts material flow to maintain consistent coverage per mile, regardless of speed changes.

Application Rate Setting

Operators set target rates (lbs/lane mile) based on temperature, precipitation type, and road conditions.

Temperature Sensors

Pavement and air temperature sensors help operators select optimal application rates for current conditions.

Data Logging

Systems record location, time, material used, and rates for accountability and route optimization.

Key Components

Auger/Conveyor System

Controls the flow of material from the hopper to the spreader. Variable speed motors adjust delivery based on target rates.

Spinner/Spreader

Rotating disk or auger that distributes material across the road surface.

Spread width typically ranges from 10-30 feet depending on settings and spinner speed.

Environmental Considerations

Our Commitment

Using the right amount of the right material at the right time protects both your safety and our environment.

Reducing Environmental Impact:

- • Calibrated metering prevents over-application and waste
- • Liquid brine for anti-icing reduces total salt usage
- • GPS tracking ensures efficient coverage without overlap
- • Temperature-based application protocols prevent ineffective applications
- • Training programs emphasize precision and environmental stewardship

What Residents Should Know

Timing Matters

You may see trucks treating roads before snow arrives—that's anti-icing in action, preventing ice from forming.

Drive Safely

Even treated roads need time to work. Reduce speed and increase following distance during winter weather.

Protect Your Property

Keep vegetation back from road edges and consider using calcium chloride near plants instead of sodium chloride.

Report Issues

See an untreated area or hazardous condition? Contact the Bloomfield Department of Public Works at (860) 243-1487 immediately.

Questions about winter road maintenance?

Town of Bloomfield Department of Public Works

21 Southwood Drive, Bloomfield, CT 06002

Phone: (860) 243-1487 | Fax: (860) 243-1539

Hours: Monday - Friday, 7:00 AM to 3:30 PM

Visit us online at www.bloomfieldct.gov/254/Public-Works

Safe roads are a shared responsibility