

# 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

#### X 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

## X 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

## X 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](http://www.bloomfieldct.gov/254/Public-Works)

*Safe roads are a shared responsibility*