

SALT APPLICATION

BMP FACTSHEET 5

Rev. 04/2019



DESCRIPTION

"Salt" means salt, salt solutions, salt mixtures, or salt substitutes in solid or liquid form (brine). It includes: Sodium chloride (NaCl), Potassium chloride (KCl), Calcium chloride (CaCl₂), Magnesium chloride (MgCl₂), and mixtures of the same substances with abrasives such as sand, cinder, slag, etc. It is important to follow proper procedures so that pollutants do not migrate with stormwater into our natural waterways. Salt is toxic to many forms of aquatic life and can kill fish and other aquatic organisms. This is a large concern during the winter months when salt is spread on roads, walkways, and parking lots to aid in ice and snow melt. Following procedures will provide compliance with the Industrial Stormwater permit and chloride pollutant limits.

Targeted Pollutants

Sediment	X
Nutrients	
Trash	
Metals	
Bacteria	
Oil & Grease	
Chemicals	
Salt	X

Objectives

Cover	X
Contain	X
Educate	X
Reduce/Minimize	X
Product Substitution	

APPLICATION OF ANY DEICING AGENTS CONTAINING UREA OR ETHYLENE GLYCOL OR OTHER FORMS OF NITROGEN OR PHOSPHOROUS TO PARKING LOTS, ROADWAYS, RUNWAYS, SIDEWALKS OR OTHER PAVED SURFACES IS PROHIBITED per the two stormwater permits issued to Fort Belvoir by Virginia Department of Environmental Quality. See Fort Belvoir Policy Memo #71 for more details.

GUIDELINES

- All salt should be stored "high and dry", in an enclosed structure and in a manner so that it does not come in contact with stormwater.
- Covered containers used for salt storage must be corrosive resistant as salt is extremely corrosive.
- There should be no storm drains in the immediate vicinity of salt storage structures or containers.
- Always use shovels, snow blowers and ice scrapers to remove a majority of the snow and ice first before applying salt to avoid pushing it away.
- Read the manufactures application instruction to determine how much salt should be applied.
- Consider temperature when determining volume of salt to apply. Dry salt becomes ineffective below 15°F; if possible wait until the temperature rises before applying salt.
- Only use the amount that is needed. Simply using more product does not necessarily make snow and ice melt more quickly or completely.
- Use the least toxic materials available for any practices associated with road and street maintenance.
- Sweep up any extra ice melt and save it to use again after another snowfall.
- Avoid using salts as spring approaches to avoid damage to plants that are getting ready to grow.
- Beware of "environmentally safe" designation/labeling of products. These products are still harmful to the environment, just less harmful compared to other products that serve the same purpose.

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DEICING SALTS

There are four primary deicing salts for ice and snow removal:

- 1. Magnesium chloride:** Continues to melt snow and ice until the temperature reaches -15°F. This type of salt release 40% less chloride into the environment than either rock salt or calcium chloride. This is the BEST choice because it is less damaging to concrete and plants, and releases less chloride to the environment
- 2. Potassium Chloride:** Only melts ice when the air temperature is above 15°F, but when combined with other chemicals, it can melt at ice at lower temperatures. It is not a skin irritant and does not harm vegetation. This is a good choice.
- 3. Calcium Chloride:** Comes in the form of rounded white pellets and works at very low temperatures. Concentrations of calcium chloride can chemically attack concrete. It can cause skin irritation if your hands are moist when using it.
- 4. Sodium Chloride (rock salt):** The most common deicing salt and most economical. Rock salt releases the highest amount of chloride when it dissolves. Chloride can damage concrete and metal. It also pollutes streams, rivers and lakes. It should be avoided.

Application rate of dry salt in lbs/per 1000 square foot area during snow or freezing rain.	
Temperature	Amount
30°F	0.75-1.75
25°F-30°F	1.5-2.25
20°F-25°F	2.75-3
15°F-20°F	2.75-3
0°F-15°F	Not recommended
0°F or below	Not recommended

The table to the left shows estimated application rates of dry salt in lbs/per 100 square feet. Please note, the best application rate will be indicated on the manufacturer instructions. In addition, dry salt is NOT RECOMMENDED for temperatures below 0°F as it is not effective.

SPILL RESPONSE PROCEDURES

In the event of a spill or leak follow the appropriate Spill Response Procedures posted at your facility or refer to the BMP Factsheet Overview.

- **Survey the incident** from a safe distance. Identify the source of release and the material being released.
- Call the Ft. Belvoir Fire Department if spills are greater than 5 gallons. If ANY amount of leaked materials has entered a storm drain or waterway call the Ft. Belvoir Fire Department at 703- 781-1800 and DPW Environmental Division (Env.Div.) at 703-806-3694.
- Provide the Safety Data Sheet of the spilled material to the spill response personnel.
- Fill out Spill Incident Report in your SWPPP.
- **REPORT ALL SPILLS TO DPW/ENV. DIV. AND THE FIRE DEPARTMENT!**

REPORT SPILLS TO DPW/ENV. DIV. BY:

- E-mailing your Spill Incident Report to gerald.j.sheehan3.civ@mail.mil
- Calling 703-806-3694