

De-icing essay sample

[Environment](#), [Water](#)



De-icing is defined as the removal of existing, snow, ice, frost, etc., from a surface. De-icing is very important in winter in places in the north and sometimes in really cold places in the autumn. De-icing was first used to de-ice snow and ice on roads to so that all forms of transportation can continue in extreme cold weather and also has an important impact for making the roads safer for traffic. De-icing started around the 1930's and became more popular by the 1960's. Ice or snow can be removed mechanically through pushing or scraping, or by heating, or by using chemicals to lower the freezing point, or by a combination of these methods.

There are many chemicals that are used to de-ice surfaces. Sodium chloride (salt) is used the most for de-icing, because it isn't expensive and always is available in big quantities. It is spread on the icy roads by specially designed snowplows or dump trucks, with sand and gravel. The salt works by dissolving into the rain or sleet on roads and lowering the freezing point, thereby melting the ice and snow or even preventing it from forming. Since salt water freezes at -18 degrees Celsius it is pointless when the temperature goes down below this level. Getting rid of ice has many benefits, but sometimes if you have too many chemicals it can have a bad effect on the environment. Salt water also has a strong tendency to break down objects. It rusts the steel used in most vehicles.

“ Deicing - Wikipedia, the free encyclopedia.” Wikipedia, the free encyclopedia. N. p., n. d. Web. 8 Jan. 2011. .

Everywhere across the U. S during the winter, cities put tons of salt and other deicing materials on roads, streets, motorways, and airport runways.

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The melting snow, ice, and chemicals run into vegetation and soil on sides of roads. After that, they travel into the U. S waterways under the ground. When the salt is put on roadways, it attracts deer, squirrels and other animals which means that animals could get run over by a car more often.

“ The Environmental Literacy Council - Deicing.” The Environmental Literacy Council. N. p., n. d. Web. 8 Jan. 2011.

Usually sand is used instead of salt incase salt isn't available. If too much is used, some of the sand could be found as dust particles in the atmosphere, creating more air pollution. During winter, the U. S stock up on salt and other tools to face de-icing. In the U. S, usually more than \$2. 5 billion is spent on de-icing.

“ LGEAN - Deicing Chemicals.” Local Government Environmental Assistance Network. N. p., n. d. Web. 8 Jan. 2011. .

On the floor, when there is really cold weather and precipitation, de-icing an airplane is very important. Frozen objects cause very important control places to be rough and uneven, which can mess up smooth airflow and making the ability of the wing to get lift almost impossible and increasing drag. This situation can cause drag. “ If large pieces of ice separate when the aircraft is in motion, they can be ingested in engines or hit propellers and cause catastrophic failure.” Frozen objects can easily block control places, stopping them from moving properly. “ Because use of this potentially severe consequence, de-icing is done at airports where the temperature

were likely to be around 0 degrees Celsius.” During flight, most droplets of very cooled water often exist in stratus and cumulus clouds.

They turn into ice when they are hit by the wings of passing airplanes. De-icing techniques are also used to make sure that engine inlets and various other sensors around the edges of the airplane are clear of ice and snow. De-icing on the ground is mostly always done by spraying airplanes with a de-icing fluid made from propylene glycol, almost the same to ethylene glycol antifreeze used in car engine coolants.