

# Use of **ICE B'GONE®** Liquid Deicers

The main usage of liquid deicers is to treat piles of rocksalt, sand, aggregate, rocksalt/sand mixtures, rocksalt/aggregate mixtures. The volume employed is usually 8 gallons per ton.

The treated salt is then spread, normally, at a rate of 200 lbs. per lane-mile. In some instances 300 lbs. or even 400 lbs. may be used depending upon the amount and type of snowfall, freezing rain, etc. experienced.

# B.O.D.

## BIOLOGICAL OXYGEN DEMAND

Biological oxygen demand (BOD) values are meant to be used in the evaluation of a large scale spill into streams, lakes, rivers or other surface waters. Laboratory BOD tests can be found in the Environmental Protection Agency (EPA) or the American Public Health Association (APHA) protocols. The organizations such as the Strategic Highways Research Program (SHRP) and the Pacific Northwest States (PNS) group do not have requirements nor tests for BOD values.

### BIOLOGICAL OXYGEN DEMAND VALUES FOR

**ICE B'GONE®**

LIQUID DEICERS

Table I

<b>Deicer</b>	<b>Biological Oxygen Demand kg oxygen/kg deicer</b>
Ice B'Gone I	0.258
Ice B'Gone II (90/10)	0.040
Ice B'Gone II(80/20)	0.067

## OXYGEN USED (FROM BOD VALUES) BY



## LIQUID AFTER 10 STORM EVENTS

The figures in Table II are made more meaningful when compared with the oxygen consumed by other activities. Straight run gasoline consists of a mixture of C<sub>4</sub> to C<sub>10</sub> hydrocarbons and Table III is calculated from the oxygen demand of octane C<sub>8</sub>H<sub>18</sub> as used in an automobile which obtains 20 miles per gallon. Therefore this automobile would consume 0.4774 kgs of oxygen for traversing just one mile of road.

Table II

Deicer	Treated Salt Spreading Rates In Lbs/Lane-Mile/Storm Event		
	200	300	400
Ice B'Gone I - O <sub>2</sub> kg/sq.ft. - O <sub>2</sub> kg/lane-mile	0.00023 9.71	0.00034 14.57	0.00046 19.46
Ice B'Gone II (90/10) - O <sub>2</sub> kg/sq.ft. - O <sub>2</sub> kg/lane-mile	0.000036 1.54	0.000055 2.31	0.000073 3.08
Ice B'Gone II (80/20) - O <sub>2</sub> kg/sq.ft. - O <sub>2</sub> kg/lane-mile	0.000062 2.63	0.000093 3.94	0.00012 5.26

# OXYGEN DEMAND BY AUTOMOBILES

Table III gives the number of automobiles traveling over the same one mile section of road which had been treated 10 times with Rock Salt / **ICE B'GONE**® deicer.

Table III

## Number of Automobiles Traveling Over One Mile of Road Treated 10 Times

Deicer	Treated Salt Spreading Rates Lbs/Lane Mile/Storm Event		
	200	300	400
Ice B'Gone I	20.3	30.8	40.8
Ice B'Gone II (90/10)	3.2	4.8	6.4
Ice B'Gone II (80/20)	5.5	8.2	11.0

From this table it is apparent that less than one hour of traffic would consume the same amount of oxygen that a full winters road treatment of rock salt/Ice B'Gone deicer would.