

# NLB-1050

## TECHNICAL DATA SHEET

NLB-1050 contains a specially designed blend of cold weather hydrocarbon degrading bacteria for use in Canadian cold weather environments. These bacteria are native to Canada and are non-pathogenic, non-opportunistic, and non-toxic, making NLB-1050 a safe and environmentally friendly solution to hydrocarbon contaminated environments.

NLB-1050 is designed to degrade hydrocarbons at 4-10°C at an 80% efficiency rate in comparison to similar products used at warmer temperatures.

### INTENDED USE

NLB-1050 can be used in both in-situ and ex-situ aerobic cold weather treatment of soils and water contaminated with a wide range of hydrocarbons including: F1-F4, BTEX, TPH, PAHs, diesel, gasoline, paraffin, lubricating oils, jet fuel, crude oils and more. This product can be used for remediation of soil biopiles, catch basins, oil water separators, bilge water and fuel spill.

Environmental Conditions for use:

Range	Optimum
Temperature Range: 4° to 40°C	8° to 32°C
pH Range: 6.0-8.5	7.0 - 7.4
Moisture Content: 15-22%	18 - 20%

### APPLICATION RATE TABLE

Volume of Concentrate	Soil Treated m <sup>3</sup>	Volume of Water and Application Rate (L/m <sup>3</sup> )						
		2	3	4	5	6	7	8
220ml	55	110	165	220	275	330	385	440
440ml	110	220	330	440	550	660	770	880
660ml	165	330	495	660	825	990	1155	1320
880ml	220	440	660	880	1100	1320	1540	1760
1L	275	550	825	1100	1375	1650	1925	2200
2L	550	1100	1650	2200	2750	3300	3850	4400
3L	825	1650	2475	3300	4125	4950	5775	6600
4L	1100	2200	3300	4400	5500	6600	7700	8800
5L	1375	2750	4125	5500	6875	8250	9625	11000

### PHYSICAL PROPERTIES

NLB-1050 is a slightly cloudy liquid with a musky odour. It is shipped in 220ml or 1L container sizes to accommodate a wide range of application. This product must be refrigerated during storage. The optimum storage period for this product is not more than 3 months. Once diluted with water the product should be used within 2 weeks to ensure optimum function.

### PREPARATION AND APPLICATION

Please refer to material safety data sheet (MSDS) prior to using this product.

NLB-1050 is produced as a concentrate and must be diluted in dechlorinated water prior to use. The volume of dechlorinated water to be added to make the application solution can be determined using the Application Rate Table below.

Gently shake each container of NLB-1050 to ensure proper resuspension of product and then add to the appropriate volume of dechlorinated water (>8°C). Apply sufficient aeration to this application solution prior to use so as to maintain a dissolved oxygen concentration of 4-10mg/L.

Apply the solution evenly and thoroughly to the contaminated soil or water environment at the appropriate application rate. (See Application Rate Table below).

Monitor and apply sufficient aeration throughout treatment period to ensure oxygen levels are maintained above 15%. Carbon dioxide and VOC levels should also be monitor to assess treatment progress.

*Example: to treat 1100 m<sup>3</sup> of soil at an application rate of 5 L/m<sup>3</sup>, 4L of NLB-1000 concentrate will be diluted in 5500 L of water.*

\* Groundwater Application: Dilute 220ml of NLB-1050 into 220 L of dechlorinated water and apply to source.