Notification and Assessment under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) of KB-1® Anaerobic Dechlorinating Consortium containing *Dehalococcoides* spp. (Q&A summary)

What is it?

- KB-1® is a mixed population of micro-organisms (consortium) that are naturally occurring and was isolated from a Southern Ontario site that was contaminated with a type of industrial solvents called chlorinated ethenes.
- The micro-organisms in KB-1® work together to make contaminated soil and water less polluted by breaking down these industrial solvents in a process called bioremediation.

How is it used?

- KB-1® is directly injected between 1.5 and 60 metres below the surface of the ground to bioremediate soil, aquifers and groundwater contaminated with chlorinated ethenes.

Why did the Government of Canada assess it?

- A micro-organism that is not on the *Domestic Substances List* (DSL) is considered "new", and the Government of Canada must assess its potential to harm human health and the environment before it is manufactured in or imported into Canada. KB-1® was not on the DSL in April of 2008 when this notification was initiated.
- The Government of Canada conducted an assessment of KB-1® because SiREM, a division of Geosyntec Consultants (Geosyntec), submitted a notification of its intention to manufacture (grow) this new micro-organism for use in the bioremediation of groundwater and soil contaminated with chlorinated ethenes.
- This assessment was done under the *New Substances Notifications Regulations (Organisms)*, as required by Section 106 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999).

How is it released to the environment?

- The micro-organisms in KB-1® are already present in the Canadian environment.
- The 'manufactured' KB-1® consortium will be directly injected into contaminated subsurface soil, aquifers and groundwater.

How are Canadians exposed to it?

- Based on the intended use (direct injection underground), the general population in Canada is not expected to be exposed to KB-1®.

What are the results of the assessment?

- The Government of Canada has conducted a science-based risk assessment of KB-1®.
- Risk assessments address potential for harm to the general population in Canada (not including workplace exposures) and the environment.
- None of the micro-organisms found in KB-1® are known to harm humans, animals or plants.
- Most micro-organisms in KB-1® need specific nutrients and will not grow when exposed to air (oxygen). These requirements are expected to limit environmental distribution and the general population's exposure to KB-1®.
- The intended use of KB-1® is not considered harmful to human health or the environment, and the Government of Canada has concluded that KB-1® is not entering the environment in a quantity or under conditions that constitute a danger to the environment or humans.
- It is likely that some micro-organisms present in KB-1® in small quantities were not identified, and because KB-1® was not directly tested for harmful effects on animals, some uncertainty remains towards its potential to harm some animals if it is used differently than originally intended by the notifier.

What is the Government of Canada doing?

- Although exposure of the general Canadian population and of the Canadian environment to KB-1® is limited, the Government of Canada acted to ensure that remaining uncertainties are resolved and risks will be reassessed before any new use that could result in increased exposure to KB-1®.
- Therefore, the Government of Canada published a *Significant New Activity (SNAc)* Notice in the *Canada Gazette*, Part I: Vol. 142, No. 28 (SNAC # 15050), which requires that any use of KB-1® other than its injection into contaminated groundwater will be notified to the Government so that the new activity can be reassessed.
- As a result of the risk assessment of this Schedule 1 activity, and the above SNAc action, KB-1 was added to the Domestic Substances List on August 20, 2008.