

BIO-STAR™ Nitrobac+

Nitrification

Bio-STAR™ Nitrobac+ is a liquid blend of nitrifying bacteria of the strains *Nitrosomonas* and *Nitrobacter*. This product was specifically developed for aerobic wastewater treatment systems and allows a rapid and successful establishment of nitrification in aerated lagoons and activated sludge processes for municipal and industrial wastewater, landfills, steel plants, refineries, refineries, food processors/renderers, and chemical producers.

To have a successful use of the product, it is preferable to make a review of the solids retention time, dissolved oxygen, pH, carbonate alkalinity, influent BOD and the potential impact of inhibitory substrates. When nitrification is inhibited by a too high BOD or by inhibiting substances, it is recommended to set up a program to first reduce these concentrations below the inhibition thresholds. This step is necessary to establish or re-establish the nitrification process prior to using **Bio-STAR™ Nitrobac+**.

BENEFITS:



- Extends the nitrification period in cold weather.
- Improve nitrification efficiency or solidly establish nitrification in chronically under performing systems.
- Allows rapid recovery of nitrification caused by organic overload, shock inhibitors, hydraulic overload, or sudden loss of solids.
- Provides seeding for seasonal start-ups.
- Helps reduce chlorine consumption caused by nitrite build-up.
- Minimizes the impact on nitrification of under-designed systems.

BIO-STAR™ Nitrobac+

CHARACTERISTICS:

- Specification based on ammonia oxidation rate.
- Adherence to a variety of surfaces for biofilm formation.
- Contains no raw enzymes, surfactants or solvents.
- Contains nitrifying organisms in a liquid formula.

Bacteria Type	Nitrosomonas and Nitrobacter
Biological pathways	Aerobic
Activity (NH ₄ ⁺ oxidation rate)	500mg-N/kg/hr
Pathogenic bacteria	Salmonella/Shigella free
pH range	6.5 – 8.5
Temperature range	8° – 44° C
Appearance	Turbid liquid
Stability	4-8 months refrigerated

All its components are registered on the Canada's Domestic Substances List and BIO-STAR Nitrobac+ subscribes to the very principles of sustainable development.

OPTIMAL CONDITIONS

Bio-STAR™ Nitrobac+ nitrifying bacteria work efficiently at a pH between 6.5 and 9.0, the optimum being near 8.5. The wastewater temperature also affects their maximum growth rate which doubles for each increase of 10°C, with an upper limit around 40°C. Under 10°C, the activity is very low.

STORAGE AND HANDLING

Refrigerate the product upon receipt and maintain refrigerated throughout its use. **DO NOT FREEZE.** Avoid excessive skin contact. Wash hands with soap. Avoid eye contact.