

# Water Treatment Microbes

## ARM 1010

### Ammonia Reducing/Nitrifying Microbes

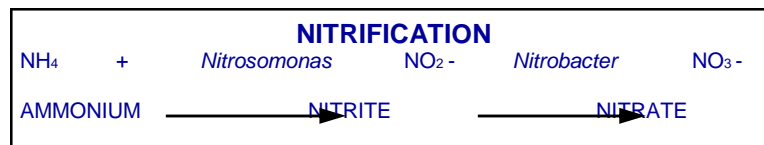


IFM's **ARM 1010** is a liquid blend of the nitrifying strains *Nitrosomonas* and *Nitrobacter*. The product is applicable to aerobic treatment systems and has successfully established nitrification in activated sludge, lagoon and retrofitted physical/chemical unit processes in municipalities, landfills, steel plants, refineries, food processors/renderers, chemical producers and Superfund sites.

Successful applications normally includes a review of solids retention time, dissolved oxygen, pH, carbonate-alkalinity, effluent BOD and the potential impact of inhibitory substrates. Where nitrification is inhibited by the presence of degradable BOD or inhibitory organics, programs targeted towards reducing the organics below inhibitory thresholds are normally recommended prior to or in combination with IFM's **ARM 1010**.

### Specific Benefits

- Rapid recovery from nitrification upsets caused by organic or inhibitory shocks, hydraulic overloads or sudden solids loss.
- Improve nitrification efficiencies, or solidly establish nitrification in chronically under performing systems.
- Provide a nitrifying seed for seasonal start-ups; in-plant seed development for large systems.
- Reduce chlorine consumption caused by nitrite buildup.
- Minimize the impact of under-designed systems on nitrification.
- Retrofit equipment for use as biological ammonium polishing units in low BOD streams.
- Approximate salt tolerance:
  - 100% @ 0 ppt
  - 92% @ 15 ppt
  - 44% @ 25 ppt
  - 11% @ 35 ppt



## General Benefits

- Improved waste system stability and reduced frequency of upsets.
- Reduced effluent organics.
- Enhanced flocculation in activated sludge.
- Higher levels and diversity of protozoa.
- Rapid recovery from load-related and toxic upsets
- Targeted removal of specific organics.
- Reduced impact of production increases or changes in product mix on effluent quality.
- Reduced municipal surcharges.
- More rapid new plant, seasonal, or post-maintenance start up.

## Features

- Contains nitrifying organisms in liquid formulations.
- Specification based on ammonia oxidation rate.
- Concentrates available for easy refrigeration.
- Contains no raw enzymes, surfactants or solvents.
- Adherence to a variety of surfaces

## Product Characteristics

### ARM 1010/ Ammonia Reduction/Nitrifying Microbes (Liquid Concentrate)

Activity	500mg-N/kg/hr. NH <sub>4</sub> -N oxidation rate with a balanced population of <i>Nitrobacter</i>
Stability	4—8 months under refrigeration
pH Range	7.0 - 8.0
Effective Temp. Range	46°-110°F (8° - 44°C)
Appearance	Pinkish-brown heavily turbid liquid
Nitrite	<50 mg/l

### Available Packaging

- 10 pound jugs

### Optimum Conditions for Use

Bacteria in IFM's Nitrifying Microbes products perform within a pH range of 6.5 - 9.0, with the optimum typically near 8.5. Wastewater temperature affects activity, with an approximate doubling in maximum growth rate for each 18°F (10°C) increase in temperature to an approximate upper limit of 104°F (40°C), unless otherwise indicated. Very low activity can be expected below 41°F (5°C).

### Storage and Handling

Refrigerate concentrate upon receipt and throughout period of use. DO NOT FREEZE. Store regular liquids in a cool environment. Avoid excessive skin contact with liquids. Wash hands thoroughly with warm, soapy water after contact. Avoid eye contact.

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