Cold weather conditions can inhibit nitrification. MICROCAT products can help.

Under toxic and/or cold-weather conditions, the growth rate of natural nitrifying populations tends to slow appreciably, allowing ammonia to pass through the system. MICROCAT-XNL synergistically combines the capability of several natural ammonia-oxidizing microbial strains for reseeding nitrifying systems and enhancing performance under toxic, inhibitory or cold-weather conditions. When used on a preventive maintenance basis, MICROCAT-XNL can improve the consistency of ongoing nitrification and improve overall system performance. MICROCAT-XNL is formulated specifically for use by the chemical, food processing, petroleum refining, primary metals, textile and related industries and for use in municipal plants receiving wastes containing ammonia.

**Features**
- Natural, biological products
- Easy to use, safe to handle
- Complete product line for various uses
- Environmentally friendly & sustainable
- Proven performance

**Benefits**
- Save time & money
- Meet effluent permit requirements
- Offset toxicity events
- Improve nitrification during winter
- More efficient plant operation

Contact us for a free assessment.

Bioscience, Inc.
Environmental Products & Services

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bioscience@bioscienceinc.com • www.bioscienceinc.com
MICROCAT-XNL & MICROCAT-XNC are a liquid suspension of preselected, adapted nitrosomonas an nitrobacter microbial strains for use in biological wastewater treatment plants receiving wastes containing ammonia. MICROCAT-XNL is a non-refrigerated liquid, and MICROCAT-XNC is a refrigerated slurry concentrate.

**APPLICATION:** Under toxic and/or cold-weather conditions, the growth rate of natural nitrifying populations tends to slow appreciably, allowing ammonia to pass through the system. MICROCAT-XNL synergistically combines the capability of several natural ammonia-oxidizing microbial strains for reseeding nitrifying systems and enhancing performance under toxic, inhibitory or cold-weather conditions. When used on a preventive maintenance basis, MICROCAT-XNL can improve the consistency of ongoing nitrification and improve overall system performance.

**DIRECTIONS:** MICROCAT-XNL is metered directly to the aeration zone of the waste treatment plant on a preventive maintenance basis. Application programs range from about 30 gallons per MGD per day to one gallon per MGD per day. Your Bioscience, Inc. Technical Representative will provide you with a custom-tailored application program to fit the specific needs of your treatment system. MICROCAT-XNC is used at rates 1/10 or 1/20 those for XNL, saving shipping and handling costs.

**PRODUCT CHARACTERISTICS:**
Appearance: Non-viscous, liquid suspension
Contents: Specialized, preselected microorganisms

**OPTIMUM APPLICATION CONDITIONS:**
<table>
<thead>
<tr>
<th>Condition</th>
<th>Range</th>
<th>Optimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>Range</td>
<td>Optimum</td>
</tr>
<tr>
<td>DO (ppm)</td>
<td>&gt;1</td>
<td>&gt;2</td>
</tr>
<tr>
<td>pH</td>
<td>6.5-9</td>
<td>7.5-8.0</td>
</tr>
<tr>
<td>Temp (°F)</td>
<td>45-105</td>
<td>68-86</td>
</tr>
<tr>
<td>Heavy Metals (ppm)</td>
<td>&lt;0.1</td>
<td>None</td>
</tr>
<tr>
<td>Toxic Organics (ppm)</td>
<td>Trace</td>
<td>None</td>
</tr>
<tr>
<td>Alkalinity (ppm as CaCO₃)</td>
<td>&gt;40</td>
<td>&gt;100</td>
</tr>
</tbody>
</table>

**STORAGE:** Store between 45°F and 105°F in a dry location. DO NOT FREEZE.

**HANDLING:** Avoid inhalation of liquid mist. Avoid exposing skin to strong solution as irritation may result. If material contacts skin or eyes, flush thoroughly and repeatedly with water.

**DISPOSAL:** Dispose of contents and container in accordance with all local, state, and federal regulations.

**PACKAGING:**
- XNL: 5 gallon pail, 55 gallon drum
- XNC: 1 gallon bottles (refrigerated)

See Safety Data Sheet for detailed use and safety information.

MICROCAT® is a registered trademark of Bioscience, Inc.
The information contained in this data sheet is a guide to the use of MICROCAT® products and is based on test and information believed to be reliable. Product content and specifications are subject to change without notice. All information is given to and accepted by user at user's risk and confirmation of its validity and suitability to particular cases should be obtained independently. Bioscience, Inc. makes no guarantee of results and assumes no obligation or liability in connection with the information contained herein. Bioscience, Inc. does not warrant against infringement of, and this data sheet is not to be construed as a license to operate under, any patents.