PM 33 48301-28 1/13/2000 Pg 1 of 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JAN 13 2000

Abigail Trueblood
ANGUS Chemical Company
1500 E. Lake Cook Road
Buffalo Grove, IL 60089

RE: MYACIDE S-2
EPA Reg. No. 48301-28
Your Amendment Dated 12/7/99

The Amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, to add use directions for "Water-Based Coating Application Tanks" to the section titled "Paints, Latex and Antifoam Emulsion Systems", is acceptable with two comments.

1. As per our letter dated 2/3/99, we stated that your next amendment must include use direction improvements that meet the "FAD" guidelines listed below. Your current use directions are missing many of the details required in each "FAD". We sent you a copy of each "FAD" guideline listed below.

FAD #1 - Cooling Water Systems
FAD #2 - Pulp and Papermill, Process Water Systems
FAD #3 - Secondary Oil Recovery Systems

2. No further Amendments will be processed until you comply with #1 above.

A stamped accepted label is attached for your records.

If you have any questions about the comments in this letter, please feel free to contact myself at 703-308-6342, or Tony Kish at 703-308-9443.

Sincerely,

Marshall Swindell,
Product Manager Team 33,
Regulatory Management Branch I
Antimicrobials Division (7510C)

CONCURRENCES								
SYMBOL								
SURNAME								
DATE								

MYACIDE® S-2

ACTIVE INGREDIENT:	
2-Bromo-2-nitropropane-1,3-diol	40.8%
INERT INGREDIENTS:	59.2%
TOTAL	100.0%

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS
KEEP OUT OF REACH OF CHILDREN

DANGER

CORROSIVE: CAUSES EYE AND SKIN DAMAGE. MAY BE FATAL IF SWALLOWED.

Do not get in eyes, on skin or clothing.
Avoid breathing vapor or mist.
Wash thoroughly with soap and water after handling.
Wear goggles or face shield and rubber gloves when handling.
Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Drink egg whites, gelatin solution, or if these are not available, drink large quantities of water. Call a Physician.

IF INHALED: Remove person to fresh air.

IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes.

IF IN EYES: Immediately flush eyes with plenty of water for 15 minutes. Call a Physician.

NOTE TO PHYSICIAN
Probable mucosal damage may contraindicate the use of gastric lavage.

ANGUS Chemical Company assumes no responsibility when this product is not used in accordance with the instructions and information contained on this label.

ACCEPTED
with COMMENTS
In EPA letter Dated:

JAN 13 2000

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No.
48301-28

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste.

STORAGE AND DISPOSAL

STORAGE AND DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Keep away from heat.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty container and triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities.

See Additional Precautionary Statements on Side Panel.

E.P.A. Reg. No. 48301-28 **A-125G-1**
Est. No. 33753-GBR-003 **Printed in U.S.A.**

ANGUS® ANGUS Chemical Company
1500 E. Lake Cook Road
Buffalo Grove, IL 60089 U.S.A.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

INDUSTRIAL RECIRCULATING WATER SYSTEMS

To control slime-forming bacteria and algae in industrial recirculation cooling towers and evaporative condensers, MYACIDE S-2 may be slug-dosed directly into the sump or basin or it may be added by a suitable chemical pump. Where metering pumps are used, these must be set to deliver the required dose as fast as possible (e.g. within 1 hour). The dosing point should be located close to the outlet from the basin to ensure rapid dispersal around the system.

FREQUENCY AND DOSE: MYACIDE S-2 may be shock-dosed once or twice weekly as a normal routine. Where contamination is heavy, more frequent dosing may be required. In heavily fouled systems, the tower should be drained and cleaned before treating with MYACIDE S-2. MYACIDE S-2 should be shock-dosed at between 0.4-1.6 pt./1000 gallons depending on the condition of the tower, the quality of raw water input, and the amount of bleed off.

PRODUCED WATER

To inhibit the growth of slime-forming or corrosion-inducing sulfate-reducing bacteria in formation water produced by wells together with oil or gas, inject MYACIDE S-2 into the water-containing oil or gas stream at any convenient point. It should be injected as slug doses, not as a continuous feed.

FREQUENCY AND DOSE: Depending on severity and rapidity of contamination, MYACIDE S-2 should be slug-dosed from once a week to once a month with 0.036-0.072 pt./barrel.

INDUSTRIAL PROCESS WATER

Use MYACIDE S-2 to effectively control bacterial and algal growth in industrial process water, including closed circuit machine cooling (injection molding, etc.) and stored (non-potable) water, as well as to reduce the biofouling of pipework, heat exchangers, condenser tubes, and to minimize microbially produced corrosion. Dosing should be carried out into the sump/tank of the process water system. Shock-dosing is preferred. MYACIDE S-2 can also be used as an intermittent, flush treatment during regular maintenance cleaning of water tanks (non-potable) or equipment.

FREQUENCY AND DOSE: In open systems, shock-dosing should be carried out on a once weekly to once monthly basis, depending on the degree of contamination. In closed circuit systems, with little possibility of re-infection or loss of MYACIDE S-2 because of makeup or dilution, less frequent dosing (once monthly/twice monthly) should be sufficient. Dosing should be carried out to give an initial concentration of 100 ppm MYACIDE S-2 (0.8 lb./1000 gallons). When the above treatment has been successful, dosing can be lowered to a minimum of 20 ppm MYACIDE S-2 (0.16 pt./1000 gallons). For intermittent treatment of industrial process waters during routine maintenance, MYACIDE S-2 should be used at 200 ppm (1.6 pt./1000 gallons) and a contact time of at least one hour.

OIL FLOODING/INJECTION WATERS

To control growth of slime-forming or corrosion-inducing sulfate-reducing bacteria in oil well injection waters, inject MYACIDE S-2 at dose at any convenient point.

FREQUENCY AND DOSE: Depending on severity and rapidity of contamination, MYACIDE S-2 should be used from once a week to once a month at a concentration of 0.4-1.6 pt./1000 gallons.

PIPELINE MAINTENANCE

To control aerobic and anaerobic bacteria, particularly sulfate-reducing bacteria, growth in oil and gas related production piping and transportation systems, inject MYACIDE S-2 directly into the pipeline or add to the hydrocarbon phase. Addition of the MYACIDE S-2 will produce long-term water concentrations by a diffusion process.

FREQUENCY AND DOSE: Slug treatments are recommended and can vary from daily to monthly to control growth. MYACIDE S-2 should be dosed at a rate which will achieve concentrations of 50-400 ppm in the aqueous phase. Higher concentrations may be used to allow diffusion into the aqueous phase. Dose will depend on the volume of crude oil and the expected water fraction.

DRILLING FLUIDS AND WORKOVER AND COMPLETION FLUIDS

For use in oil and gas well drilling muds, and brines, inhibiting growth of cellulolytic, slime-forming or sulfate-reducing bacteria MYACIDE S-2 may be dosed directly into the mud or brine.

FREQUENCY AND DOSE: A single slug dose once to three times each 24 hours. Dosing may be less frequent where the contamination is low. Each slug dose should be 0.036 to 0.072 pt./barrel total mud volume.

INJECTION FLUIDS

To control contamination and corrosion from bacterial sources in fluids/waste fluids that are disposed of through injection into an approved well following approved guidelines, add MYACIDE S-2 to each volume of fluid prior to injection.

FREQUENCY AND DOSE: MYACIDE S-2 should be added at a rate of 100-200 ppm (0.036-0.072 pt./barrel) based on the water percent of the injection fluid.

ENHANCED OIL RECOVERY (EOR) FLUIDS

For effective control of bacterial growth and eliminating degradation of EOR gels and fluids used in the oil and gas industry, add MYACIDE S-2 during mixing or by injection during the EOR procedure.

FREQUENCY AND DOSE: MYACIDE S-2 should be added throughout the EOR operation. MYACIDE S-2 should be added at the rate of 100-200 ppm (0.036-0.072 pt./barrel) depending on the quality of the makeup water.

WELL SQUEEZE FLUIDS

For the effective control of aerobic and anaerobic bacteria in squeeze fluids and downhole well bore areas, add MYACIDE S-2 during pre-mixing of the well squeeze fluid or by direct injection at the well head during the well squeeze procedure.

FREQUENCY AND DOSE: MYACIDE S-2 should be used for each well squeeze operation to ensure best results. Add MYACIDE S-2 at a rate of 0.42-3.36 pt./1000 gallons, depending on the quality of the makeup water.

FRACTURING FLUIDS

MYACIDE S-2 reduces bacterial contamination and degradation of fracturing gels and fluids used as well stimulants in the oil and gas industry. Add MYACIDE S-2 directly to the water phase at any stage of the fracturing operation, for example, at the pre-mixing stage or by direct injection at the well head in commingled mix/injection procedures.

FREQUENCY AND DOSE: MYACIDE S-2 should be used for each fracturing operation to ensure best results. Add MYACIDE S-2 at a rate of 0.8-1.6 pt./1000 gallons, depending on the quality of the makeup water.

WATER BOTTOMS IN OIL OR TRANSPORTATION TANKS

For effective control of bacterial contamination in water bottoms, in crude, and refined hydrocarbon storage systems. Above and below ground storage tanks and large marine systems are all suitable for treatment. MYACIDE S-2 may be injected directly into the water bottom or may be sprayed over the surface of the hydrocarbon phase and allowed to percolate through.

FREQUENCY AND DOSE: Direct addition to the water phase by injection or percolation should be carried out every 30-60 days depending on the severity of the problem. Addition to the hydrocarbon phase will result in longer term protection by gradual diffusion from the hydrocarbon phase into the water phase (depending on storage conditions). Incorporate MYACIDE S-2 at a rate which will achieve concentrations of 100-200 ppm in the aqueous phase. Larger quantities may be added when dosing the hydrocarbon phase to allow diffusion of active ingredient into the water bottom during the long term.

METALWORKING FLUIDS

MYACIDE S-2 is recommended for use in soluble oils, semi-synthetic, and synthetic fluids. It should be added directly to the sump (with agitation). A dose of 500 ppm, is recommended for initial treatment, higher levels up to 2000 ppm, but no greater for louver systems. After addition of MYACIDE S-2, the system should be circulated for about one hour before shut down.

IN DILUTED FLUIDS: A concentration of 500 to 2000 ppm of MYACIDE S-2 in the fluid is sufficient to control gross microbial growth. For example, add 1.0 gallon of MYACIDE S-2 per 1000 gallons fluid to obtain a dose level of 1000 ppm in the field.

MAINTENANCE DOSAGE: Add 200-400 ppm of MYACIDE S-2 to maintain control of the system.

IN CONCENTRATES: MYACIDE S-2 may be incorporated in metalworking fluid concentrate by the manufacturer. However, the manufacturer should determine the storage stability of MYACIDE S-2 in the concentrate to ensure that incompatibility will not affect its efficacy. The amount to be incorporated will depend on the dilution factor recommend for the concentration.

PAPER MILL PROCESS WATER

To control slime-forming bacteria in paper or paperboard process water systems, MYACIDE S-2 may be dosed at a convenient point early in the process system. Suitable dosing points are the machine chest, constant head box or backwater loop system.

FREQUENCY AND DOSE: MYACIDE S-2 should be shock-dosed once, twice or three times daily in quantities sufficient to meet the required dose based on the daily production of finished products. Dose at between 0.04 and 1.0 pint per ton of finished paper or paperboard depending on the complexity of the system, quality of raw paper and type and degree of contamination.

PAPER MILLS - BULK PULP

To preserve bulk quantities of pulp in paper and paperboard manufacturing systems or to prevent foul odors and general biodeterioration of stock when it is stored in bulk for any period of time, add MYACIDE S-2 directly into the hydropulper, machine chest or stock chest.

FREQUENCY AND DOSE: In general, a single slug dose will provide control for up to 3 days or longer depending upon the initial level of contamination in the stock. In situations where contamination is high, repeat dosing every 1-7 days may be required. MYACIDE S-2 should be dosed at between 0.8-3.2 pt./1000 gallons per ton of stock depending on the type and degree of contamination.

ADHESIVES

For the control of microbial contamination, add 0.2-1.0 pint of MYACIDE S-2 per 100 lb total formulation weight. The addition is the best accomplished by adding the MYACIDE S-2 to any water to be incorporated into the formulation.

WATER-BASED PRINTING INKS AND FOUNT SOLUTIONS

To inhibit the growth of spoilage bacteria during the storage and use of water-based printing inks and fount solutions. For in-can preservation, add MYACIDE S-2 at any convenient point during the manufacturing process. Ideally, it should be added as a final step after any heating stage and when the product has cooled to below 40°C. To control bacterial spoilage during the use of fount solutions, MYACIDE S-2 should be shock-dosed at a suitable point in the fount reservoir where there is adequate flow or turbulence to ensure quick mixing. MYACIDE S-2 may be shock-dosed once or twice weekly as a normal routine. Where conditions indicate, more frequent shock-dosing may be required.

IN-CAN PRESERVATION: MYACIDE S-2 should be dosed at 200 to 1000 ppm based on the final formulation volume (1.6 to 8 pt./1000 gallons).

FOUNT SOLUTIONS: MYACIDE S-2 should be shock-dosed at between 40 and 200 ppm (0.32 to 1.6 pt./1000 gallons) depending on the contamination levels in the fount reservoir.

STARCH, PIGMENT AND EXTENDER SLURRIES

To inhibit the growth of spoilage bacteria during the manufacture, storage and distribution of water-based suspension concentrates, MYACIDE S-2 may be dosed at or close to the end of the manufacturing process in a quantity of the process water. If the manufacturing process involves a heating stage, the MYACIDE S-2 should be added after this stage when the product has cooled to below 40°C.

FREQUENCY AND DOSE: MYACIDE S-2 should be dosed at 200 to 1000 ppm based on the final formulation volume (1.6 to 8 pt./1000 gallons).

~~PAINTS, LATEX AND ANTIFOAM EMULSION~~ SYSTEMS

To provide in-can preservation and prevent bacterial spoilage during shelf-life storage of acrylic, styrene-acrylic, polyvinyl acetate and other latex emulsion concentrates and [illegible] based paints. Also for the preservation of silicone and [illegible] emulsion systems, add MYACIDE S-2 at any convenient point during the manufacturing process. Ideally it should be added as a final step just prior to packing of the product into bulk or sales packs. If [illegible] stage is involved in the manufacture, add MYACIDE S-2 after this stage when the product has cooled [illegible] 40°C.

FREQUENCY AND DOSAGE: MYACIDE S-2 should be dosed at 200 to 1000 ppm based on the final formulation volume (1.6 to 8 pt./1000 gallons).

ABSORBENT CLAYS,CORN COBS AND GROUND WOOD

Impregnate absorbent clays,corn cobs or ground wood with MYACIDE S-2 to inhibit the growth of odor-causing bacteria. The suggested application rate is 50-1250ppm (0.08-2.0 oz.av.) per 100 pounds absorbent material.

ANGUS CHEMICAL COMPANY

ACCEPTED
with COMMENTS
In EPA Letter Dated:
JAN 13 2000
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. 48301-28

Recommended doses expressed as ppm are ppm product as sold.

A-1250-2

PAINTS,WATER-BASED COATING APPLICATION TANKS, AND LATEX AND ANTIFOAM EMULSION SYSTEMS

To provide in-can preservation and prevent bacterial spoilage during storage of acrylic,styrene-acrylic,polyvinyl actetate and other emulsion concentrates and latex emulsion based paints. Also for the preservation of silicon and other antifoam emulsion systems, and to prevent spoilage of in-service paint application tanks. Add MYACIDE S-2 at any convenient point during the manufacturing process. Ideally, it should be added as a final step just prior to packing of the product into bulk or sales packs. If a heating stage is involved in the manufacture, add MYACIDE S-2 after this stage when the product has cooled below 40°C. Addition to application tanks should be by slug dosing the tank as needed to prevent bacterial spoilage.
FREQUENCY AND DOSE: MYACIDE S-2 should be dosed at 200-1000ppm based on the final formulation volume (1.6 –8pt. /1000gallons).

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JAN 13 2000

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No.
48301-28