MAATF

APC Holdings
KMG-Bernuth, Inc.
Luxembourg-Pamol, Inc.

November 28, 2005 Our Ref.: 051128-321
Via E-Mail

Mr. R. Lance Wormell
Special Review and Reregistration Division (MC 7508C)
Office of Pesticide Programs
U.S. Environmental Protection Agency
1801 South Bell Street
Arlington, VA 22202

Re: Response to EPA's Questions of November 18, 2005

Dear Mr. Wormell,

On behalf of the Methanearsonic Acid (MAA) Research Task Force, I am sending responses to the six questions you sent us on November 18, 2005. Please note that because of the Holiday week we could not complete all the answers. We will try to complete and send the remaining information as quickly as possible.

Please do not hesitate to contact me should you have any questions.

Sincerely,

M. Eldan

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Attachments

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Assumptions for EPA organic arsenic herbicides preliminary risk assessments (November 18, 2005)

1. **EPA's question:**

   On p.16 of the Task Force response document, in the recently added DSMA application rate for grass grown for seed, the lb DSMA hexahydrate/acre rate is lower than the lb DSMA/acre rate. However, since DMSA hexahydrate * 0.63 = DSMA, the hexahydrate rate should be higher than the DSMA rate. EPA cannot ascertain whether these numbers were simply reversed or what the appropriate application rate is for this use pattern. EPA will assume that the DSMA hexahydrate and DSMA were inadvertently transposed and that a correction will be made in the final master label.

   MAATF Response:

   Indeed, these numbers were inadvertently transposed. The molecular weight of DSMA is 184. The molecular weight of DSMA hexahydrate is 292. The recommended rate of DSMA hexahydrate for grass grown for seeds by broadcast application is 6.99 lbs/Acre. In terms of DSMA, this is:

$$\frac{6.99 \text{ lbs} \times 184}{292} = 4.4 \text{ lbs}$$

2. On p. 19 of the response document, the MAA equivalents calculated by the Task Force for CAMA cannot be verified by EPA. According to EPA's calculations, the molecular weight of MAA is 138.962 and of CAMA is 179.042. Using those molecular weights, the equivalent application rates in terms of MAA for CAMA would be:

   2.5 lb CAMA/A = 1.9 lb MAA/A (not 2.2)
   5 lb CAMA/A = 3.9 lb MAA/A (not 4.4)
   4.182 lb CAMA/A = 3.2 lb MAA/A (not 3.6)

   EPA will assume that the Agency-calculated values are correct.

   MAATF Response:

   The molecular weight of CAMA is 318. The MAA equivalents on the proposed CAMA master label (page 19 of the document submitted on November 14) are correct.

3. EPA has submitted a question regarding how to calculate the cacodylic acid equivalent when cacodylic acid labels provide both the percent of cacodylic acid (DAA) and sodium cacodylate (which are considered toxicologically identical), but the labels don't provide the pounds of cacodylic acid equivalent per gallon. On page 2 of the Task Force response, it states:

   Most of the cacodylate products consist of a mixture of cacodylic acid and its sodium salt. To calculate the, the following formula should be used:

   $$([CA] + [SCA] \times 138/160) \times d \times 3.8/0.4536$$

   Where:
   [CA] - The concentration of cacodylic acid in the product, in percent [SCA] - The concentration of sodium cacodylate in the product, in percent
   138 - The molecular weight of cacodylic acid 160 - The molecular weight of sodium cacodylate d - The specific gravity of the formulation
   3.8 - Conversion factor from liters to gallons
   0.4536 - Conversion factor from kilograms to pounds

   (a) EPA does not have access to the specific gravity of each formulation, but it assumes that specific gravity is very similar among the liquid formulations of cacodylic acid. EPA requests that the Task Force provide the range of likely specific gravity values for liquid formulations. Since it is unlikely that the specific gravity of each liquid formulation can be obtained quickly, EPA will use a direct proportion using information from the labels that do provide the cacodylic acid equivalent information.
   (b) EPA also believes the formula submitted by the Task Force may be in error, since EPA assumes that only the SCA should be multiplied by the ratio of molecular weights.

   MAATF Response:

   (a) The specific gravities of the relevant products of Luxembourg-Pamol, Inc. are given in the following table. The specific gravities of other products can be calculated from these values using a direct proportion.

Specific gravity of cacodylate products

Label no.	Product Name	Content	Specific Gravity
42519-4	Cacodylate 3.25	Sodium cacodylate: 28.4% Cacodylic acid: 4.9%	1.32
42519-5	Cacodylate 3.1	Sodium cacodylate: 27.24% Cacodylic acid: 4.70%	1.3-1.32
42519-8	Sodium cacodylate solution	Sodium cacodylate: 29.0% Cacodylic acid: 5.0%	1.32
42519-9	Herb all	MSMA: 26% Sodium cacodyalte: 10.5% Cacodylic acid: 1.8%	Formula not relevant. Product contains MSMA
42519-10	Leaf all	Sodium cacodylate: 27.4% Cacodylic acid: 4.70%	1.32
42519-11	Cacodylate 2.48	Sodium cacodylate: 22.7% Cacodylic acid: 3.9%	1.27

(b) The formula submitted by the Task Force, i.e.:

$$\left([CA] + [SCA] \times \frac{138}{160} \right) \times d \times \frac{3.8}{0.4536}$$

is correct and equals the following formula:

$$\left([SCA] \times \frac{138}{160} + [CA] \right) \times d \times \frac{3.8}{0.4536}$$

It is correct that only the concentration of the salt should be multiplied by the molecular weights ratio.

4. Currently MSMA and DSMA may be applied to golf courses by broadcast or spot treatment. Available information indicates that MSMA and DSMA are "typically" applied as spot treatments on golf courses. Does the MAATF intend to limit MSMA and DSMA use on golf courses to spot treatments only?

   MAATF Response:

   The Master Labels for MSMA and DSMA intended to limit MSMA and DSMA use on golf courses to spot treatment only. They will be corrected to express that more clearly.

5. The proposed cacodylic acid master label submitted in response to EPA's November 3, 2005 questions specifies 2 applications at a maximum of 1.2 lbs. cacodylic acid per acre for use in cotton defoliation. EPA originally intended to assess 1 application per year. Based on the master label, EPA will assess 2 applications per year.

   MAATF Response:

   The recommendation of 2 applications on the proposed cacodylic master label is an error. It will be corrected on the next version, which will be submitted shortly.

6. In the response to EPA's November 3, 2005 questions the MAATF indicated that granular formulations are not supported for reregistration. Would the MAATF members be willing to revise labels to prohibit formulation into granular products?

   MAATF Response:

   The MAATF members will revise the labels to prohibit formulation into granular products to be used directly on the plants. Granular products to be used in solutions will be allowed.