MEMORANDUM

SUBJECT: Usage Report/Package in Support of Registration for the Herbicide Penoxsulam (PC 119031)

FROM: Alan Halvorson
Economic Analysis Branch
Biological and Economic Analysis Division (7503C)

THRU: Steve Jarboe, Team Leader
Science Information & Analysis Branch
Biological and Economic Analysis Division (7503C)

TO: Stephen Schaible
Registration Support Branch
Registration Division (7505C)

Reviewer: Jihad Alsadek

Attached is a usage report/package for the chemical penoxsulam. The report included in this package is electronically transmitted to Reviewers or Team Members in the Office of Pesticide Programs (OPP) in support of the Registration process and designed to help in the scientific assessments of this chemical. Reports are written in various formats (Corel, Lotus 1-2-3, MS Word, Excel, Adobe Acrobat), so it is advised to open or save each report to view or print from the appropriate program.

For questions, comments and other usage or label use information requests, please contact the name(s) listed on the memorandum header, the OPP Usage and Label Use Team (our group e-mail address in Lotus Notes), or some of its members: Jihad Alsadek (308-8140), Jenna Carter (308-8370), Steve Jarboe (308-8105), Shariuta Harris (308-8147), or Rafael Prieto (308-8152).
You can also complete the feedback form at your convenience. The Usage and Label Use Team (ULUT) looks forward to hearing from you.
The Usage report electronically-transmitted through a Lotus Notes link is:

Verifying Alternatives and Projections for Reduced - Risk Chemicals

Attachments:

cc: Nicole Zinn
Competitive Markets for Reduced-Risk Candidate Penoxsulam in Aquatics and Turf

The registrant Dow AgroSciences projects that penoxsulam would take a fraction of the total herbicide aquatic acre-treatment market in five years. Dow indicates that use of penoxsulam would lead to an increase in the use of fluridone (partly in IPM programs) and decreases in other alternatives, especially endothall. See Table 1 below for a comparison of the registrant baseline data for hydrilla and hyacinth control with EPA data for the total aquatic market in year 2001.

Table 1. Herbicides Alternatives in Aquatics

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Regis Data(*)</th>
<th>EPA Data(#)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D</td>
<td>1,006</td>
<td></td>
</tr>
<tr>
<td>Fluridone</td>
<td>46</td>
<td>275</td>
</tr>
<tr>
<td>Endothall</td>
<td>337</td>
<td>44</td>
</tr>
<tr>
<td>Diguan</td>
<td>109</td>
<td>34</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>163</td>
<td></td>
</tr>
<tr>
<td>Copper (Kromeen)</td>
<td>123</td>
<td>47</td>
</tr>
<tr>
<td>Others</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,842</td>
<td>103</td>
</tr>
</tbody>
</table>

(*) For hyacinth & hydrilla only markets in base year. (#) For total markets in 2001.

The registrant projects that penoxsulam would take a fraction of the total herbicide turf acre-treatment market in five years, apparently mostly from 2,4-D, dicamba, mectcrop and atrazine. See Table 2 below for a comparison of registrant-given post-emergence alternatives (professionally plus homeowner applied) with corresponding EPA data for (1) post-emergence professional only, and (2) golf turf only for weeds also targeted by penoxsulam. Data for golf was presented because they are the only EPA turf data available by specific pests targeted by penoxsulam.

Table 2. Herbicides Alternatives in Turf

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Pounds A.I. in 1000's</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regis Data(*)</td>
</tr>
<tr>
<td>Atrazine</td>
<td>-</td>
</tr>
<tr>
<td>Mecoprop-p (MCPP)</td>
<td>902</td>
</tr>
<tr>
<td>2,4-D</td>
<td>3,254</td>
</tr>
<tr>
<td>Dicamba</td>
<td>390</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td>4,546</td>
</tr>
<tr>
<td>OTHERS</td>
<td>9,992</td>
</tr>
<tr>
<td>- Tincopry</td>
<td>441</td>
</tr>
<tr>
<td>- Glyphosate</td>
<td>2,971</td>
</tr>
<tr>
<td>- MSMA</td>
<td>699</td>
</tr>
<tr>
<td>- Pendimethalin</td>
<td>-</td>
</tr>
<tr>
<td>- Others (+)</td>
<td>2,705</td>
</tr>
<tr>
<td>TOTAL</td>
<td>20,454</td>
</tr>
</tbody>
</table>

(*) For professional and homeowner post-emergence broadleaf market in 2007. (#) For professional only post-emergence market in 2007 (all weeds). (***) For golf turf only for target weeds buttonweed, chicweed (incl. mouseear), clover (incl. white), daisy (incl. English), dollarweed, ground ivy, lespedeza, oxalis, pennywort and/or spurge (incl. spotted). Some grass herbicides may appear because they are used in combinations which target broadleaves. (+) includes MCPA, clopyralid, asulam, pictoram, bromacil, etc. (-) No data available.

Usage data sources:
- Kline & Co., Professional Markets for Pesticides and Fertilizers: Aquatic Areas 2001
- Kline & Co., Professional Markets for Pesticides and Fertilizers: Year 2000
- EPA proprietary data for 1998 - 2001

Customer's Name: Stephen Schaible
Chemical Name: Penoxsulam
PC Code: 119031
Delivered Product: Reduced-Risk Alternatives for Penoxsulam

We appreciate your feedback. This helps us provide you with a better service. Feedback, in a paragraph, is acceptable too.

1. Did you receive the reports in a timely manner?
   Yes    No

2. Were the data reports helpful in your preliminary review of this chemical (and its associated registrations)?
   Yes    No

   If your answer is No, how could the reports be improved to better help you in your review of this chemical?
   Please type your answer here:

3. Were the reports understandable?
   Yes    No

   If No, please explain.
   Please type your answer here:

4. How do you use the Usage Data Reports and the Label Use (LUIS) Reports?
   Please type your answer here:

5. Do you have any additional comments or questions?
   Please type your answer here:

6. What is your Division/Branch?
   Please type your answer here:

Please respond to:

OPP Usage and Label Use Team

*Last revised on 10/18/2005.*
Chemical: Penoxsulam

PC Code: 119031

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Memo Date: 1/9/2006
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HED Records Reference Center
1/8/2007