TYPE OF LEAD-ACID BATTERY PLATE PASTE MIX | LEAD OXIDE | MICRONIZED TTMLS ADDITIVE | WATER | SULFURIC ACID | FLOCK | EXPANDER
--- | --- | --- | --- | --- | --- | ---
AUTOMOTIVE POSITIVE PLATE PASTE | 1071 KG (79.52% WEIGHT) | 10.71 KG (0.79% WEIGHT) | 140 KG (10.39% WEIGHT) | 125 KG (9.28% WEIGHT) | 0.5 KG (0.02% WEIGHT) | 0
AUTOMOTIVE BATTERY NEGATIVE PASTE | 1071 KG (78.30% WEIGHT) | 10.71 KG (0.79% WEIGHT) | 140 KG (10.23% WEIGHT) | 135 KG (9.86% WEIGHT) | 0.5 KG (0.03% WEIGHT) | 10.71 KG (0.79% WEIGHT)
INDUSTRIAL POSITIVE PLATE PASTE | 1071 KG (80.09% WEIGHT) | 10.71 KG (0.80% WEIGHT) | 135 KG (79.52% WEIGHT) | 120 KG (8.98% WEIGHT) | 0.5 KG (0.04% WEIGHT) | 0
INDUSTRIAL BATTERY NEGATIVE PASTE | 1071 KG (79.41% WEIGHT) | 10.71 KG (0.79% WEIGHT) | 130 KG (9.64% WEIGHT) | 115 KG (8.53% WEIGHT) | 0.5 KG (0.04% WEIGHT) | 21.4 KG (1.59% WEIGHT)

Abstract: A battery paste additive, and process for making the same comprising micronized seed crystals of tetra basic lead sulfate, is added to battery paste and results in accelerated curing time and other improvements in battery performance. The battery paste additive may be used to produce positive or negative battery plates and may be used with conventional mixing, pasting and curing processes and equipment.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(7) : H01M 4/14, 4/16, 4/20, C01G 21/20
   US CL. : 429/227, 228; 29/2, 623.5; 252/182.1; 423/559, 619
   According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
   Minimum documentation searched (classification system followed by classification symbols)
   U.S.: 429/225-228; 29/2, 623.5; 252/182.1; 423/559, 619

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

   Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
   USPT, USPOPB, EPO, JPO, Derwent
   search terms: tib, tibls, tetra basic (tetrabasic) lead sulfate, sulfuric acid

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 3,765,943 A (BIAGETTI et al) 16 October 1973, see col. 3, line 55; col. 4, line 14.</td>
<td>1-11 30-32 34</td>
</tr>
<tr>
<td>E, A</td>
<td>US 2005/0207969 A1 (FLORES-LIRA et al) 22 September 2005, see the whole document.</td>
<td>1</td>
</tr>
</tbody>
</table>

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
   "A" document defining the general state of the art which is not considered to be of particular relevance
   "B" earlier application or patent published on or after the international filing date
   "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
   "O" document referring to an oral disclosure, use, exhibition or other means
   "P" document published prior to the international filing date but later than the priority date claimed
   "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
   "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
   "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
   "&" document member of the same patent family

Date of the actual completion of the international search: 10 August 2005 (10.08.2005)
Date of mailing of the international search report: 13 DEC 2005

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