From: INDEX CHEMICUS, First Cumulative Index, 1961, p.1

# AUTHOR INDEX

## ARTICLE NUMBERS 1 TO 4618

The author index to the INDEX CHEMICUS is prepared by machine methods. For each author a separate punched-card is perforated on a key-punch. The card is then verified (proofread) on a card verifying machine. The cards are alphabetized by an electronic sorting machine. The index itself is printed by passing the file of alphabetized cards through a card-activated printing machine. The printed sheets are then pasted up and photographed for printing.

The article numbers are printed to the left of the author's name in order to conserve printing space. In subsequent cumulations of the author index, by use of a special computer editing program, we intend to print the article numbers immediately to the right of the name. If an author has written more than one article his name is printed only once followed by a list of the appropriate article numbers.

We have tried to be consistent in our transliteration of foreign alphabets. The reader is urged to use a little imagination in locating names which may be transliterated differently in other sources. We have not made a systematic effort to cross reference or standardize entries which appeared in these first fourteen issues of the INDEX CHEMICUS as our primary concern has been to issue a cumulated index as soon as possible.

We believe errors have been kept to a minimum. The first-named author of every article abstracted and indexed by the INDEX CHEMICUS receives a proofing copy. This provides him an opportunity to make corrections where necessary. We are grateful to the many authors who have sent us erratta. In particular, corrections in the spelling of names received in time for publication have been included here. However, those that have been received too late will be included in the next quarterly index as well as in the next large cumulation which will cover all 1960 journals and part of 1961. Approximately 25,000 author entries for 10,000 articles are anticipated.

Please note that entries with misspelled names have not been eliminated from the index even though the correct spelling has been added. This decision is based on the assumption that a reader of the INDEX CHEMICUS may remember the misspelled name. We sincerely urge readers to send us any additional errors which are detected as our methods allow us to incorporate corrections in subsequent editions without difficulty.

In the first several issues of the INDEX CHEMICUS "et al" was used for articles with more than three authors. However, this policy has been abandoned and all authors names are given. Further, all omitted names were subsequently added to this cumulated index.

BINDING INSTRUCTIONS

Librarians are advised to bind the register portion of the INDEX CHEMICUS without covers and without the green individual issue indexes. Since all index entries refer to serial numbers continuous paging is not necessary. We also suggest that you do not bind this author index or the molecular formula indexes as these will become obsolete upon publication of the next large cumulation – sometime in 1961. This first large cumulation covers the first fourteen issues – up to and including Volume Two, Number Two.

While it is true that the INDEX CHEMICUS uses a volume numbering system this is really only of significance to the new subscriber. Our volume number and/or calendar year does not reflect the dates of the original journals. To search an abstracting or indexing journal for its calendar year is not the same as covering the literature for that year. Keep in mind that the INDEX CHEMICUS began its coverage of the literature with the first issue of each journal that bears a 1960 imprint.

The INDEX CHEMICUS began publication in July 1960. As a result we had to process double the normal publication load. However, the rapid increase in chemical publication requires that we now remain permanently on a twice-monthly rather than monthly schedule.

Most readers have indicated a preference for quarterly indexes. We intend to again include an index with each twice monthly issue as soon as the remaining backlog of 1960 articles is completely processed. At the present time we are publishing three or four issues per month which makes the publication of individual issue indexes almost superfluous as "quarterly" indexes also appear on an accelerated schedule. This work is being facilitated by use of large scale computing equipment.

Please see page 33 for additional comments concerning the preparation of the molecular formula index.

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From: INDEX CHEMICUS, First Cumulative Index, 1961, p.33

# Index Chemicus

# MOLECULAR FORMULA INDEX

## NEW CHEMICAL COMPOUNDS 1-01 TO 4618-03

The molecular formula index to the INDEX CHEMICUS is prepared by machine methods. To do this with standard equipment requires that certain typographical compromises must be made. Subscripts are not used. However, the use of the formula index is quite simple. Indeed, some readers have commented that the tabular format is easier and faster to use than the conventional format where the carbon and hydrogen atoms are repeated for all compounds.

The reader may be interested to know some of the procedures used in preparing this index. One punched-card is prepared for each new compound containing article and line number followed by the molecular formula. The Hill system is used, i.e., carbon and hydrogen first, followed by the remaining elements in alphabetic order. All cards are verified (proofread) on a card verifying machine. All formulas are sent to the author for a final check on accuracy of indexing.

The requirements of simplified card punching and card sorting on standard equipment necessitated a card format which ultimately results in a printed format which is quite usable but not entirely without its shortcomings. Essentially the pattern of punching used in the first fourteen issues of the INDEX CHEMICUS is as follows: Two columns of alphabetics, two columns of numerics, two alphabetics, two numerics, etc. Four columns are required for each element. This is necessary in order to accommodate two letter abbreviations such as Br, Mn, Cl, etc. Since there are compounds which may contain more than 9 atoms of Br, or some other element, it is necessary to allow space for two numerics. Hence, four columns are needed in order to punch BR12, CL14, MN22, etc. This fixed field method of punching has several disadvantages. The key-punch operators, with some difficulty at first, waste time skipping columns whenever O, N, S are punched. These elements represent well over 90% of the punching. Furthermore, the spacing required also results in a printed format which is strange to the reader and sometimes confusing. Thus in C20H38N2O the reader might believe the chemical contains twenty nitrogen atoms rather than two with one atom of oxygen. This impression is avoided by leaving a blank printing position after each four column field but this tends to spread the formula out and wastes printing space by increasing column width.

The advantage of fixed-field punching is to be found in the average lower punching time. A special program control on the punch can be employed in fixed-field punching which is not possible if formulas are punched as they are typed. Further, the sorting of cards in a fixed field can be done with standard sorters. In spite of these advantages, all future cards will be punched in a pattern which corresponds exactly to the typewritten formula that appears in the INDEX CHEMICUS register. While this will slow down keypunching somewhat, and increase the work in card verification, the improved format will justify the cost. We have worked out a method of sorting these *variable length* cards using the IBM 108 sorter. However, we are now in the process of converting the entire file to magnetic tape to facilitate further prompt preparation of the cumulated indexes. In this process the "old" cards, i.e., the cards for the first fourteen issues will be edited by computer to eliminate the space needed in the fixed-field format. The computer program will also detect any inconsistencies in punching which can result as for example when thallium (Tl) is punched T-1 because a lower case L looks exactly the same as a number 1.

The formula index is printed by passing the cards through a card activated printer which only has upper case characters making it necessary to use all caps for thallium (TL), chlorine (CL), etc. This also avoids the confusion mentioned above.

The editing features available on the high speed printers offer an advantage in that groupings and indentation can be obtained automatically. This saves the reader time when looking for a particular carbon-hydrogen combination. This is facilitated further by the use of bold face headings. The machine is instructed to leave extra spacing so that these headings can be inserted. One important deviation in chemical conventions is in our use of C—1 rather than C and H—1 rather than H in organic compounds. This facilitates sorting compounds which do not contain either C or H. Otherwise the machine cannot distinguish a compound containing one carbon or hydrogen atom from those which contain none.

### SALTS

Amine salts are indexed as the free amine regardless of how the author has reported it. Even if only the salt has been prepared it is the free amine which is indexed. Picrates of tertiary amines are indexed under the free amine. However, true quaternary picrates are indexed as such and in many instances are also indexed under the free base. Replacement salts of acids are indexed as the acid.

- An asterisk preceding the serial number indicates that the index entry is a correction of an error.

☐ A box preceding a compound number indicates that the compound was not listed in the original indexing of the article. It has been assigned the next consecutive line number.