

# UCC Name Search Logic

Name searches in the UCC search website are optimized to return relevant results even when the search criteria do not exactly match the records available in the database. These types of searches normalize the information that is being supplied by the searching party such that when the criteria is applied to the records in the UCC database, matches can be correctly identified despite small differences in the way the data was originally supplied on the UCC document. In order to achieve the most effective searches, it is important to understand how search criteria is normalized and compared against data in the database. The GSCCCA stores UCC name data in normalized format for searching, but in the original (keyed) format for displaying.

There are two name based searches – these are the Basic Name Search and the Secured Party Search. Both of these searches apply the same name normalization algorithm when searching the database. The search algorithm varies depending on the specific search options selected. Some of the search options such as “date range” and “county” function only as filters, limiting the results by eliminating records that do not fit the criteria set by these filters. Other options such as the selection of “Individual” vs. “Organization” actually affect the way the data is normalized and searched by the system.

## Searches for an Individual

The following algorithm is applied to the supplied search criteria during a name search on an individual:

- 1) When searching for an individual, last name and first name are required, middle name is optional.
- 2) Each part of the name(first, middle, last) is normalized individually according to the following algorithm
  - a. Commas are replaced with spaces
  - b. Leading and trailing spaces are removed
  - c. Apostrophes are removed
  - d. For last names only:
    - i. Noise words in the last name field are removed (see discussion of noise words).
    - ii. The following characters are removed from the last name:
      1. All Spaces
      2. Hyphens (-)
      3. Underbars (\_)
  - e. All non-alphanumeric characters (such as \*, &, %, etc) are replaced with spaces.
  - f. Any resulting double or multiple space characters are compressed into single spaces.
  - g. Noise words are removed (see discussion of noise words).
- 3) If the EXACT SEARCH option is specified, the system will construct a search string as follows:

- a. The search string begins with the concatenation of the normalized last name, a single space, and the normalized first name  
(i.e., **LAST\_NAME** **FIRST\_NAME**)
- b. If a middle name is provided, the search string is also concatenated with a single space, followed by the normalized middle name.  
(i.e., **LAST\_NAME** **FIRST\_NAME** **MIDDLE\_NAME**)

The system will match any record that EXACTLY matches the search string defined above, OR any record that BEGINS WITH the search string.

- 4) If the STEM SEARCH option is specified, the search will match any record that meets **ALL** of the following conditions:
  - a. The normalized last name EXACTLY matches the normalized last name of the record in the database, **OR** the normalized last name matches the START of a normalized last name in the database
  - b. **AND**, The normalized first name EXACTLY matches the normalized first name of the record in the database, **OR** the normalized first name matches the START of a normalized first name in the database
  - c. **AND**, The normalized middle name EXACTLY matches the normalized middle name in the database, **OR** the normalized middle name matches the START of a normalized middle name in the database.

## Searches for an Organization

The following algorithm is applied to the supplied search criteria during a name search on an organization:

- 1) The organization name provided is normalized according to the following algorithm.
  - a. Commas are replaced with spaces
  - b. Leading and trailing spaces are removed
  - c. Apostrophes are removed
  - d. All non-alphanumeric characters (such as \*, &, %, etc) are replaced with spaces.
  - e. Any resulting double or multiple space characters are compressed into single spaces.
  - f. All single characters separated by spaces are combined into a single word
  - g. Noise words are removed (see discussion of noise words).
- 2) If the EXACT SEARCH option is specified, the search will match any record that has a normalized organization name EXACTLY equal to the normalized version of the organization name provided.

3) If the STEM SEARCH option is specified, the search will match any record that exactly matches the normalized organization name. The search will also match any record that contains the start of each word in the normalized organization name if the words or associated stems in the record exist in the SAME ORDER as the normalized organization name. For example, performing a search on “Tech Expert” will match the following examples:

- a. Technology Expert
- b. Technology Experts
- c. Tech Experts
- d. Technology of the Expert Searcher

### Noise Words

Certain words can interfere with the results of a search if they are not used in a consistent way. Individual and Organization names are entered into the GSCCCA database exactly how they appear on the original document. Without special consideration, the search criteria must be formatted in exactly the same way as it was entered into the database in order for the search to match the record. However, since a searcher may not know how a filing party chose to list names on the document, it can sometimes be a challenge to find particular records. To provide for relevant results even when the searcher does not know the precise way a name is listed on the UCC document, the search algorithm identifies certain common “noise words” and removes those words for the purpose of searching. The following chart is a list of all noise words currently defined in the UCC system. The system identifies whether a word is a noise word or not based on the following criteria:

- 1) The word itself
- 2) Whether the search is for an individual or an organization
- 3) The location of the word in the search criteria if the search criteria contain more than one word (FIRST WORD, any MIDDLE word, or the LAST WORD).

*NOTE: In all cases, a word is NOT CONSIDERED NOISE if it is the only word used in the search criteria.*

	Noise Word Rules for Individuals			Noise Word Rules for Businesses		
	Remove If First Word	Remove if Middle Word	Remove if Last Word	Remove If First Word	Remove if Middle Word	Remove if Last Word
<b>A</b>	NO	NO	NO	NO	YES	YES
<b>AKA</b>	YES	YES	YES	YES	YES	YES
<b>AN</b>	NO	NO	NO	YES	YES	YES
<b>AND</b>	NO	NO	NO	NO	YES	YES
<b>ASSN</b>	NO	NO	NO	NO	YES	YES
<b>ASSOC</b>	NO	NO	NO	NO	YES	YES

ASSOCIATES	NO	NO	NO	NO	YES	YES
ASSOCIATION	NO	NO	NO	NO	YES	YES
ASSOCS	NO	NO	NO	NO	YES	YES
AT	NO	NO	NO	NO	YES	YES
CO	NO	NO	NO	NO	YES	YES
COMPANIES	NO	NO	NO	NO	YES	YES
COMPANY	NO	NO	NO	NO	YES	YES
COMPANYS	NO	NO	NO	NO	YES	YES
COOP	NO	NO	NO	NO	YES	YES
COOPERATIVE	NO	NO	NO	NO	YES	YES
CORP	NO	NO	NO	NO	YES	YES
CORPORATION	NO	NO	NO	NO	YES	YES
DBA	NO	NO	NO	YES	YES	YES
DIV	NO	NO	NO	NO	YES	YES
DIVISION	NO	NO	NO	NO	YES	YES
FDBA	YES	YES	YES	YES	YES	YES
FKA	YES	YES	YES	YES	YES	YES
FOR	NO	NO	NO	NO	YES	YES
IN	NO	NO	NO	NO	YES	YES
INC	NO	NO	NO	NO	YES	YES
INCORPORATED	NO	NO	NO	NO	YES	YES
IS	NO	NO	NO	NO	YES	YES
LC	NO	NO	NO	NO	YES	YES
LIMIT	NO	NO	NO	NO	YES	YES
LIMITED	NO	NO	NO	NO	YES	YES
LLC	NO	NO	NO	NO	YES	YES
LLP	NO	NO	NO	NO	YES	YES
LMTD	NO	NO	NO	NO	YES	YES
LP	NO	NO	NO	NO	YES	YES
LTD	NO	NO	NO	NO	YES	YES
MD	NO	NO	NO	NO	YES	YES
MDPA	NO	NO	NO	NO	YES	YES
OF	NO	NO	NO	NO	YES	YES
ON	NO	NO	NO	NO	YES	YES
PA	NO	NO	NO	NO	YES	YES
PARTNER	NO	NO	NO	NO	YES	YES
PARTNERS	NO	NO	NO	NO	YES	YES
PARTNERSHIP	NO	NO	NO	NO	YES	YES
PC	NO	NO	NO	NO	YES	YES
PROFESSIONAL	NO	NO	NO	NO	YES	YES
PTNR	NO	NO	NO	NO	YES	YES

THE	NO	NO	NO	YES	YES	YES
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In addition to the words listed above, the following words / phrases are always removed for the purpose of searching:

1. LIMITED LIABILITY
2. LIMITED-LIABILITY
3. LTD LIABILITY

