

hard acid

Also contains definition of: soft acid

A Lewis acid with an acceptor centre of low polarizability. Other things being approximately equal, complexes of hard acids and bases or soft acids and bases have an added stabilization (sometimes called 'HSAB' rule). For example the hard O- (or N-) bases are preferred to their S- (or P-) analogues by hard acids. Conversely a soft acid possesses an acceptor centre of high polarizability and exhibits the reverse preference for coordination of a soft base. These preferences are not defined in a quantitative sense.

See also: class (a) metal ion

Source:

PAC, 1994, 66, 1077 (*Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994)*) on page 1120