amides

1. Derivatives of oxoacids $R_kE(=O)_l(OH)_m$ ($l \neq 0$) in which an acidic hydroxy group has been replaced by an amino or substituted amino group. Chalcogen replacement analogues are called thio-, seleno- and telluro-amides. Compounds having one, two or three acyl groups on a given nitrogen are generically included and may be designated as primary, secondary and tertiary amides, respectively, e.g.

\[
\text{benzamide,}
\]

\[
\text{N,N-dimethylmethanesulfonamide,}
\]

\[
\text{secondary amides (see imides),}
\]

\[
\text{tertiary amides,}
\]

\[
\text{phenylphosphonamidic acid}
\]
Notes:
1. Amides with NH₂, NHR and NR₂ groups should not be distinguished by means of the terms primary, secondary and tertiary.
2. Derivatives of certain acidic compounds RₙE(OH)ₓ, where E is not carbon (e.g. sulfenic acids, RSOH, phosphinous acids, R₂POH) having the structure RₙE(NR₂)ₓ may be named as amides but do not belong to the class amides proper, e.g. CH₃CH₂SNH₂ ethanesulfenamide or ethylsulfanylamine.

2. The term applies also to metal derivatives of ammonia and amines, in which a cation replaces a hydrogen atom on nitrogen. Such compounds are also called azanides, e.g.

\[
\text{Li} \quad \text{N} \quad \text{H}
\]

lithium diisopropylamide, synonym lithium diisopropylazanide.

See also: carboxamides, lactams, peptides, phosphoramides, sulfonamides

Source:
PAC, 1995, 67, 1307 (Glossary of class names of organic compounds and reactivity intermediates based on structure (IUPAC Recommendations 1995)) on page 1315

See also:
PAC, 1993, 65, 1357 (Revised nomenclature for radicals, ions, radical ions and related species (IUPAC Recommendations 1993)) on page 1357