

Recommendations for

Names for chemicals used in industry

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Committees responsible for this British Standard

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Chemical Industries' Association
Department of Trade and Industry (Laboratory of the Government Chemist)
Royal Society of Chemistry

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 General principles	1
3 Recommended names for chemicals used in industry	2
4 Recommended names for the commercial description of chemicals	27
Annex A (informative) Structural formulae for radicals	29
Annex B (informative) Computerization and chemical nomenclature	32
Annex C (informative) Bibliography	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Chemicals Standards Policy Committee. It supersedes BS 2474:1983 which is withdrawn. It comprises a list of recommended names for the more important chemicals used in industry, excluding specialized products, e.g. pesticides and pharmaceuticals.

It was first published in 1954 with the aim of modernizing and systematizing industrial chemical nomenclature and, in the absence of an internationally or even a nationally agreed system, it adopted a consistent approach within the standard which utilized the best features of the systems in use at that time.

The second edition, published in 1965, contained, in addition to a considerably expanded main list, new lists giving the recommended names for certain grades of chemical and for steroids. The adoption, where possible, of the recommendations of the International Union of Pure and Applied Chemistry (IUPAC) for the naming of chemicals resulted in extensive changes in nomenclature and an additional section was also included to give guidance on the basic principles of the IUPAC system.

The third edition, published in 1983, differed from the 1965 edition in the following respects.

- a) The list of chemicals was updated to meet the current requirements of the chemical industry.
- b) Systematic names, where used, where possible were aligned with the latest IUPAC recommendations.
- c) When the recommended name was not systematic, e.g. acetic acid, the corresponding systematic name was given, in many cases, in parentheses. In so doing, it was hoped to reconcile industrial usage with the generally accepted educational practice, recommended by the Association for Science Education, of teaching systematic nomenclature exclusively.
- d) The detailed citation of rules of nomenclature was replaced by a summary of “general principles” (clause 2) and an appendix giving structural formulae for radicals (see Annex A). The summary indicates where for various reasons, for example industrial usage, it was decided to deviate from IUPAC recommendations and offers guidance on other general points relevant to the standard. A bibliography was included giving suitable references for users who require more detailed information on the rules of chemical nomenclature (see Annex C).
- e) The list of recommended names for steroids was withdrawn because its application was mainly pharmaceutical, but the names of a few selected steroids were included to illustrate the nomenclature principles involved.
- f) To avoid ambiguity, the term “grades of chemicals” was replaced by “commercial description of chemicals” and the associated list of recommended names was updated.
- g) The prefix “iso” was printed throughout in upright typescript to conform with IUPAC and EEC practice; thus all names beginning with “iso” were listed under “i”.
- h) Stock notation (e.g. iron(II) sulfate) as explained in 2.2 was used for inorganic salts except where the possibility of ambiguity necessitated the use of proportionality.
- i) An appendix on computerization and chemical nomenclature (see Annex B) was included to illustrate the problems likely to be encountered in this field. The inclusion of a Chemical Abstracts Services (CAS) Registry Number against each example received careful consideration. It was decided, however, to defer such action because the list of examples was relatively short and intended to be illustrative rather than comprehensive. In addition, the European Commission inventory of existing commercial chemical substances (EINECS), which had already been published, included CAS numbers and was much more extensive.

This edition introduces a change in nomenclature but it does not reflect a full review or revision of the standard which will be undertaken in due course.

It is technically equivalent to the previous edition except that the spelling of “sulfur”, etc. instead of “sulphur”, etc. has been used for the element and for all derived names. This spelling was adopted by BSI following a decision of the Nomenclature Committee of the Royal Society of Chemistry to fall into line with the rest of the world in this respect. The opportunity has also been taken to correct a number of typographical errors.

The recommended names are printed in bold type. Many of these names are accompanied by others, designated either “non-preferred” (in parentheses) or “deprecated” (in square brackets). Non-preferred names are those that, although in most cases systematically correct, are for various reasons not preferred for use in industry; the list of such names is not necessarily comprehensive. Deprecated names are those that are undesirable and therefore should not be used.

The entries beginning with non-preferred and deprecated names do not cite all the synonyms but show only the preferred name.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 34, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard lists recommended names for the more important chemicals used in industry and gives for guidance, where justified by continuing usage, non-preferred and deprecated names. It does not include names for such specialized products as dyes, pesticides and pharmaceuticals except where the chemicals concerned have more general uses or where it was thought desirable to indicate the nomenclature principles employed. Guidance is given in Annex A on the structural formulae for the radicals used, and in Annex B on producing computerized lists of chemical names.

2 General principles

2.1 General. This clause summarizes the general principles used in this standard in deriving chemical names, particularly where it has been decided for various reasons, such as firmly established industrial usage, to deviate from IUPAC recommendations. More detailed information on the rules of chemical nomenclature may be obtained from the publications listed in the bibliography (see Annex C).

Annex A gives, for guidance, structural formulae for the radicals used.

2.2 Stock notation. In this system the oxidation number of an element is placed in parentheses immediately after the name of the element. This style has been preferred for most salts, especially those of metals of variable valency, e.g. iron(III) chloride for FeCl_3 . The Stock numerals have been omitted in the case of compounds of single valency elements, e.g. calcium fluoride for CaF_2 . The same considerations have governed the choice of preferred names for double salts, e.g. *tetraammonium cerium(IV) sulfate* for $(\text{NH}_4)_4\text{Ce}(\text{SO}_4)_4$, and aluminium potassium dioxido for AlKO_2 , absence of di-, tri-, etc. implying a 1 : 1 ratio. Where complex anions are cited, they are usually followed by the Stock numeral for the central atom, e.g. potassium hexacyanoferrate(III) for $\text{K}_3\text{Fe}(\text{CN})_6$.

2.3 Amines. Some trivial names have been retained, e.g. aniline, anisidine, piperidine, and used as parents for naming derivatives, e.g. 5-nitro-*o*-anisidine. For others, the radical-style, in which ammonia as parent is formally designated as “-amine” in the name, has been preferred. Secondary and tertiary amines are named by citing the nitrogen-attached radicals in alphabetical order before the suffix “amine”, e.g. methyl(diphenyl)amine. The same style is extended to diamines, e.g. ethylenediamine.

Salts have usually been named as cation/anion pairs, e.g. anilinium chloride; piperidinium chloride, when a single cation-site is present.

2.4 Alkanolamines and their derivatives.

Generally, these are named as aminoalcohols but, as exceptions, ethanolamine, diethanolamine, and triethanolamine are retained in recognition of wide industrial usage.

In the case of the latter three compounds, the esters and salts of their organic acid derivatives are indicated by *O*- and *N*- respectively followed by the name of the acid anion. The esters and salts of their inorganic acid derivatives are named similarly with the exception of the hydrohalides, e.g. ethanolamine *O*-oleate, triethanolamine *N*-stearate, but triethanolamine hydrochloride.

2.5 Changes relating to prefixes. Although *sec*- and *tert*- are retained for branched hydrocarbon radicals and are therefore ignored for alphabetization, “iso” is printed in upright characters in all instances and is therefore indexed under “i”.

However, the following prefixes have been *coined* and their use is recommended for reasons of convenience.

a) “*mixo*” is used as a means of succinctly indicating commercial materials that, by virtue of their manufacturing process (e.g. the so-called “oxo” process), are mixtures of isomers having the same functional group, e.g. *mixo*-octyl alcohol.

b) “*tt*-octyl” is used for 1,1,3,3-tetramethylbutyl.

2.6 Numbering systems. IUPAC rules have been strictly followed. Accordingly, additional data such as “-OH at 1”, “-NH₂ at 1” have been eliminated in cresols, toluidines, etc.

2.7 Multiplying prefixes. IUPAC policy on the use of di, tri, tetra, etc. and bis, tris, tetrakis, etc. has been followed, e.g. di(benzothiazol-2-yl) disulfide; bis (1-methylheptyl) phthalate

The term “mono” is used only where it is necessary to avoid ambiguity.

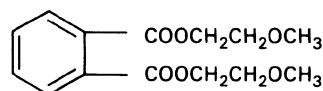
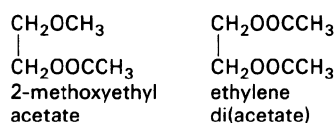
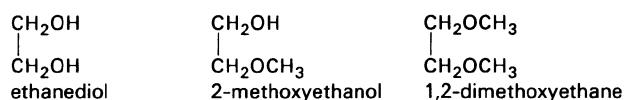
2.8 Stereochemistry. If no stereodesignators are given, the name is taken to cover all possibilities. Where single enantiomers are listed, the Cahn-Ingold-Prelog stereo-designators *R* and *S* have been used. With aminoacids and carbohydrates, the traditional designators *L* and *D* have been retained with their customary meanings.

2.9 Polyhydroxy compounds and their derivatives. Aliphatic polyhydroxy compounds are named diols (not glycols), triols, tetraols, etc.

Esters of diols are named by citing the appropriate diradical followed by the acid anion, e.g. *p*-phenylene di(acetate).

Trivial names such as glycerol, mannitol and pentaerythritol are retained. Their esters are named by adding the name of the acid anion to that of the alcohol without changing the suffix “ol”, e.g. mannitol hexanitrate, glycerol triacetate.

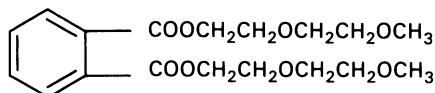
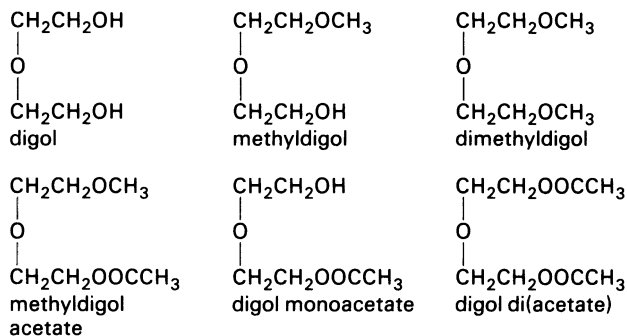
Derivatives of ethanediol are named as follows:



bis(2-methoxyethyl)
phthalate

For considerations of industrial convenience, the following *coined* names are retained: “digol” for 2,2'-oxydiethanol (diethylene glycol) and “trigol” for 2,2'-ethylenedioxydiethanol (triethylene glycol).

The derivatives of digol and similar diols are named as follows:



di(methyl digol) phthalate

2.10 Hydrates. In general, the names do not include the degree of hydration, e.g. sodium carbonate.

3 Recommended names for chemicals used in industry

Key: **recommended**; (non-preferred); [deprecated]

acenaphthene

acenaphthenequinone

[acetal] **1,1-diethoxyethane**

acetaldehyde

acetaldehyde – ammonia [aldehyde ammonia]

acetaldehyde oxime [acetaldoxime]

[acetaldehyde sodium bisulfite]

sodium 1-hydroxyethanesulfonate

[acetaldoxime] **acetaldehyde oxime**

acetamide

(acetamidoacetic acid) **N-acetylglycine**

(3-acetamidoaniline) **3'-aminoacetanilide**

(8-acetamido-2-naphthol) **N-(7-hydroxy-1-naphthyl)**

acetamide

[acetaminomalonic ester] **diethyl acetamidomalonate**

acetanilide

[acet-*p*-chloroanilide] **4'-chloroacetanilide**

[acetdimethylamide] **N, N-dimethylacetamide**

[acet-*N*-ethylanilide] **N-ethylacetanilide**

acetic acid (ethanoic acid)

acetic anhydride

[acetic ether] **ethyl acetate**

[acetin] **glycerol acetate**

[acet-1-naphthylamide] **N-1-naphthylacetamide**

acetoacetanilide

[acetoacetic ester] **ethyl acetoacetate**

acetoacet-*o*-toluidide

[aceto Eugenol] **eugenyl acetate**

acetoin (3-hydroxybutanone)

[acetoisoeugenol] **isoeugenyl acetate**

[aceto- α -naphthalide] **N-1-naphthylacetamide**

[2-aceto-1-naphthol] **1'-hydroxy-2'-acetophenone**

2'-acetophenone (methyl 2-naphthyl ketone)

acetone (propanone)

[acetone cyanohydrin] **2-hydroxy-2-methylpropionitrile**

[acetone glycerin] **2,2-dimethyl-1,3-dioxolan-4-ylmethanol**

acetone oxime [acetoxime]

acetone semicarbazone

[acetone sodium bisulfite]

sodium 2-hydroxypropane-2-sulfonate

acetonitrile (methyl cyanide)

acetophenone

[acetoxime] **acetone oxime**

(3-acetoxyphenol) **3-hydroxyphenyl acetate**

2-acetoxy-*m*-toluic acid [acetyl-*o*-cresotic acid]

[acetyl-*o*-cresotinic acid]

acet-*m*-toluidide

(acetylacetone) **pentane-2,4-dione**

[acetyl butyl ricinoleate] **butyl *O*-acetylricinoleate**

[acetyl-*tert*-butyl-*m*-xylene] **4'-*tert*-butyl-2',**

6'-dimethylacetophenone

[acetylcellulose] **cellulose acetate**

acetyl chloride

[acetyl-*o*-cresotic acid] **2-acetoxy-*m*-toluic acid**

[acetyl-*o*-cresotinic acid] **2-acetoxy-*m*-toluic acid**

N-acetyl-L-cysteine

acetylene (ethyne)

[acetylene dichloride] **1,2-dichloroethylene**

[acetylene diurea] **1,2 : 1,2-diureylene-ethane**

[acetylene tetrabromide] **1,1,2,2-tetrabromoethane**

[N-acetyethanolamine] **N-2-hydroxyethylacetamide**

N-acetylglycine (acetamidoacetic acid)

(*N*-acetyl-DL-methionine, calcium salt)
calcium bis (*N*-acetyl-DL-methioninate)
3-acetyl-6-methyl-2*H*-pyran-2,4(3*H*)-dione [dehydracetic acid]
(*N*-acetyl-*N'*-methylurea) **1-acetyl-3-methylurea**
1-acetyl-3-methylurea (*N*-acetyl-*N'*-methylurea)
[acetyl tributyl citrate] **tributyl *O*-acetyl citrate**
[acrolein] **acrylaldehyde**
[acrolein methyl acetal] **3,3-dimethoxypropene**
acrylaldehyde [acrolein]
acrylic acid (propenoic acid)
acrylonitrile
adenine
adenosine
adenosine 5'-(barium dihydrogen triphosphate)
[barium adenosine triphosphate]
adenosine 5'-(tetrahydrogen triphosphate)
[adenosinetriphosphoric acid]
[adenosinetriphosphoric acid] **adenosine**
5'-(tetrahydrogen triphosphate)
adipamide
adipic acid (hexanedioic acid)
adipoyl dichloride
aesculin (6-β-D-glucopyranosyl-7-hydroxycoumarin)
agarose
β-**alanine** (3-aminopropionic acid)
DL-alanine
[alcohol] **ethanol**
[aldehyde ammonia] **acetaldehyde — ammonia**
alginic acid
allantoin
alloxan
allyl acetate (prop-2-enyl acetate)
allyl alcohol (prop-2-en-1-ol)
allylamine (prop-2-enylamine)
(5-allyl-1,3-benzodioxole) **safrole**
allyl chloride (3-chloropropene)
(2-allylcarbamoylphenoxy)acetic acid
allyl 2,3-epoxypropyl ether (allyl glycidyl ether)
(4-allyl-1-ethoxy-2-methoxybenzene) **ethyl eugenyl ether**
(allyl glycidyl ether) **allyl 2,3-epoxypropyl ether**
(4-allyl-2-methoxyphenyl acetate) **eugenyl acetate**
(4-allyl-2-methoxyphenyl benzyl ether) **benzyl eugenyl ether**
allyl-2-thiourea [thiosinamine]
(4-allylveratrole) **eugenyl methyl ether**
[alum] **aluminium potassium sulfate**
[alumina] **aluminium oxide**
aluminium acetate
aluminium acetate, basic
aluminium ammonium sulfate [ammonium aluminium sulfate] [ammonium alum]
[aluminium *tert*butylate] **aluminium tri-*tert*-butoxide**
[aluminium chlorhydrate] **dialuminium chloride pentahydroxide**
aluminium chloride
dialuminium chloride pentahydroxide [aluminium chlorhydrate]
[aluminium dihydroxide aminoacetate] **aluminium glycinate dihydroxide**
[aluminium glycinate] **aluminium glycinate dihydroxide**
aluminium glycinate dihydroxide [aluminium dihydroxide aminoacetate] [aluminium glycinate]
aluminium hydroxide
aluminium lithium hydride (lithium tetrahydridoaluminate)
[lithium aluminium hydride]
aluminium metaphosphate
aluminium orthophosphate

aluminium oxide [alumina]
aluminium potassium dioxide (potassium aluminate)
(aluminium potassium fluoride) **aluminium tripotassium hexafluoride**
aluminium potassium sulfate [alum] [potash alum]
aluminium sodium dioxide (sodium aluminate)
aluminium tri-*tert*-butoxide [aluminium *tert*butylate]
aluminium tri-isopropoxide
aluminium tripotassium hexafluoride (aluminium potassium fluoride)
aluminon (*tri*ammonium 5,5'-(3-carboxylato-4-oxocyclohexa-2,5-dienylidenemethylene)disalicylate)
[amidol] **4-hydroxy-*m*-phenylenediammonium dichloride**
Key: **recommended**; (non-preferred); [deprecated]
(*m*-aminoacetanilide) **3'-aminoacetanilide**
3'-aminoacetanilide (3-acetamidoaniline)
(*m*-aminoacetanilide)
(aminoacetic acid) **glycine**
1-aminoanthraquinone
4-aminoazobenzene
4'-aminoazobenzene-3,4-disulfonic acid
4-amino-1,1'-azonaphthalene
[naphthaleneazonaphthylamine]
[o-aminoazotoluene] **4-*o*-tolylazo-*o*-toluidine**
3-aminobenzenesulfonic acid [metanilic acid]
(2-aminobenzimidazole) **benzimidazol-2-ylamine**
(2-aminobenzoic acid) **anthranilic acid**
4-aminobenzoic acid
[*m*-aminobenzotrifluoride] α,α,α-trifluoro-*m*-toluidine
(4-aminobiphenyl) **biphenyl-4-ylamine**
(3-aminocarbazole) **carbazol-3-ylamine**
4-amino-6-chloro-2-methylthiopyrimidine
4-amino-2,6-dibromophenol
4-amino-*N,N*-diethylaniline sulfate
(*N,N*-diethyl-*p*-phenylenediamine sulfate)
4-amino-*N,N*-dimethylaniline
(*N,N*-dimethyl-*p*-phenylenediamine)
(4-amino-2',3-dimethylazobenzene) **4-*o*-tolylazo-*o*-toluidine**
2-amino-4,6-dinitrophenol (picramic acid)
(4-aminodiphenylamine) ***N*-(4-aminophenyl)aniline**
(2-aminoethanol) **ethanolamine**
4-(2-aminoethyl)aniline (2-(4-aminophenyl)ethylamine)
[2-aminoethyl barium phosphate] **barium 2-aminoethyl phosphate**
[aminoethylglyoxaline] **histidine**
2-aminoethyl (1-naphthyl)amine
(*N*-1-naphthylethylenediamine)
(2-(1-naphthylamino)ethylamine)
(2-aminoethyl oleate) **ethanolamine *O*-oleate**
4-(2-aminoethyl)phenol (tyramine)
***N*-aminoguanidinium hydrogen carbonate**
(2-aminoheptane) **1-methylhexylamine**
4-aminohippuric acid
(4-amino-2-hydroxybenzoic acid) **4-aminosalicylic acid**
(5-amino-2-hydroxybenzoic acid) **5-aminosalicylic acid**
2-amino-2-hydroxymethylpropane-1,3-diol (trometamol (INN)) [tris buffer] [tris (hydroxymethyl)aminomethane] [tris(hydroxymethyl)methylamine]
6-amino-3-hydroxynaphthalene-1-sulfonic acid
(4-amino-4'-methylazobenzene) **4-(*p*-tolylazo) aniline**
2-amino-2-methylpropan-1-ol
(2-amino-5-methyl-1,3,4-thiadiazole)
5-methyl-1,3,4-thiadiazol-2-ylamine
(2-amino-4-methylthiazole) **4-methylthiazol-2-ylamine**
7-amino-2-naphthol
[2-amino-4-nitroanisole] **5-nitro-*o*-anisidine**
2-amino-4-nitrophenol

2-aminophenol**N-(4-aminophenyl)aniline** (4-aminodiphenylamine)
(phenyl-*p*-phenylenediamine)**4-aminophenylarsonic acid** (*p*-arsanilic acid)(2-(4-aminophenyl)ethylamine) **4-(2-aminoethyl)aniline****4-aminophenylmercury acetate****1-aminopropan-2-ol** [isopropanolamine](3-aminopropionic acid) **β-alanine**(2-aminopyridine) **2-pyridylamine****4-aminosalicylic acid** (4-amino-2-hydroxybenzoic acid)**5-aminosalicylic acid** (5-amino-2-hydroxybenzoic acid)**4-aminotoluene-3-sulfonic acid** (*p*-toluidine-2-sulfonic acid)(3-amino-1,2,4-triazole) **1,2,4-triazol-3-ylamine****ammonia****ammonia solution** [ammonium hydroxide] [all names other than those recommended in clause 4]**ammonium acetate**[ammonium acid pyrophosphate] **diammonium dihydrogen pyrophosphate**[ammonium alum] **aluminium ammonium sulfate**[ammonium aluminium sulfate] **aluminium ammonium sulfate**[ammonium bicarbonate] **ammonium hydrogen carbonate**[ammonium bichromate] **ammonium dichromate**[ammonium borofluoride] **ammonium tetrafluoroborate**(triammonium 5,5'-(3-carboxylato-4-oxocyclohexa-2, 5-dienylidenemethylene)disalicylate) **aluminon**[ammonium ceric nitrate] **ammonium hexanitratocerate(IV)**[ammonium ceric sulfate] **tetraammonium cerium(IV) sulfate****tetraammonium cerium(IV) sulfate** (*tetraammonium cerium tetrakis(sulfate)*) [ammonium ceric sulfate](tetraammonium cerium tetrakis(sulfate)) **tetraammonium cerium(IV) sulfate****ammonium chloride** [sal ammoniac](ammonium chlorostannate) **ammonium hexachlorostannate(IV)****ammonium chromium dioxalate****triammonium citrate****diammonium copper(II) sulfate** [ammonium cupric sulfate][ammonium cupric chloride] **ammonium tetrachlorocuprate(II)**[ammonium cupric sulfate] **diammonium copper(II) sulfate****ammonium dichromate** [ammonium bichromate]**ammonium dihydrogen orthophosphate** [ammonium phosphate, monobasic]**diammonium dihydrogen pyrophosphate** [ammonium acid pyrophosphate](ammonium ferric oxalate) **ammonium trioxalatoferrate(III)**[ammonium ferric sulfate] **ammonium iron(III) sulfate**[ammonium ferrous sulfate] **diammonium iron(II) sulfate****ammonium hexachlorostannate(IV)** (ammonium chlorostannate)

(diammonium hexachlorostannate) [stannic ammonium chloride]

(diammonium hexachlorostannate) **ammonium hexachlorostannate(IV)****diammonium hexafluorosilicate** [ammonium silicofluoride]**ammonium hexanitratocerate(IV)** [ammonium ceric nitrate]**ammonium hydrogen carbonate** [ammonium bicarbonate]**diammonium hydrogen orthophosphate** [ammonium phosphate, dibasic](diammonium hydrogen phosphite) **diammonium phosphonate****ammonium hydrogen tartrate**[ammonium hydroxide] **ammonia solution**(ammonium hypophosphite) **ammonium phosphinate**(diammonium iron bis(sulfate)) **diammonium iron(II) sulfate****diammonium iron(II) sulfate** (*diammonium iron bis(sulfate)*) [ammonium ferrous sulfate]**ammonium iron(III) sulfate** [ammonium ferric sulfate] [ferric alum]**ammonium metavanadate****ammonium molybdate**(diammonium nickel bis(sulfate)) **diammonium nickel(II) sulfate**[ammonium nickel sulfate] **diammonium nickel(II) sulfate****diammonium nickel(II) sulfate** (*diammonium nickel bis(sulfate)*) [ammonium nickel sulfate]**ammonium nitrate****triammonium orthophosphate** [ammonium phosphate, tribasic](ammonium permonosulfate) **ammonium peroxomonosulfate****ammonium peroxodisulfate** [ammonium persulfate]**ammonium peroxomonosulfate** (ammonium permonosulfate)[ammonium persulfate] **ammonium peroxodisulfate**[ammonium phosphate, dibasic] **diammonium hydrogen orthophosphate**[ammonium phosphate, monobasic] **ammonium dihydrogen orthophosphate**[ammonium phosphate, tribasic] **triammonium orthophosphate****ammonium phosphinate** (ammonium hypophosphite)[ammonium phosphite, dibasic] **diammonium phosphonate****diammonium phosphonate** (*diammonium hydrogen phosphite*) [ammonium phosphite, dibasic]**ammonium pyrrolidine-1-carbodithioate** (ammonium pyrrolidin-1-ylthioformate) [ammonium pyrrolidinedithiocarbamate¹⁾] [ammonium tetramethylenedithiocarbamate][ammonium pyrrolidinedithiocarbamate¹⁾] **ammonium pyrrolidine-1-carbodithioate**(ammonium pyrrolidin-1-ylthioformate) **ammonium pyrrolidine-1-carbodithioate**[ammonium silicofluoride] **diammonium hexafluorosilicate****ammonium sodium hydrogen orthophosphate** [microcosmic salt]**ammonium sulfate** [sulfate of ammonia][ammonium sulfocyanide] **ammonium thiocyanate****diammonium tartrate****ammonium tetrachlorocuprate(II)** [ammonium cupric chloride]**ammonium tetrafluoroborate** [ammonium borofluoride][ammonium tetramethylenedithiocarbamate] **ammonium pyrrolidine-1-carbodithioate****ammonium thiocyanate** [ammonium sulfocyanide]**ammonium trioxalatoferrate(III)** (ammonium ferric oxalate)[*n*-amyl acetate] **pentyl acetate****amyl alcohol**²⁾[*n*-amyl alcohol] **pentan-1-ol**[*sec*-amyl alcohol] **pentan-2-ol**[*tert*-amyl alcohol] **2-methylbutan-2-ol****α-amylase**[*n*-amyl bromide] **1-bromopentane**[*tert*-amyl bromide] **2-bromo-2-methylbutane**[α-*n*-amylcinnamaldehyde] **α-pentylcinnamaldehyde**[6-*n*-amyl-*m*-cresol] **6-pentyl-*m*-cresol**[*n*-amyl cyanide] **hexanenitrile**¹⁾ This is a misnomer.²⁾ The name "amyl alcohol" is reserved for the commercial mixture of C₅ alcohols.

[*n*-amyl ethyl ketone] **octan-3-one**
 [amyl mercaptan] **3-methylbutane-1-thiol**
 [2-*n*-amylloxyacetophenone] **2'-pentyloxyacetophenone**
aniline (phenylamine)
 (aniline hydrochloride) **anilinium chloride**
anilinium chloride (aniline hydrochloride) (phenylammonium chloride)
 [anisalcohol] **4-methoxybenzyl alcohol**
anisaldehyde [anistic aldehyde] [aubepine]
anistic acid
 [anistic aldehyde] **anisaldehyde**
***p*-anisidinium chloride**
 (anisoine) **4,4'-anisoine**
 [*p*-anisoine] **4,4'-anisoine**
4,4'-anisoine (anisoine) [*p*-anisoine]
anisole
 [*p*-anisyl acetate] **4-methoxybenzyl acetate**
 [*p*-anisyl alcohol] **4-methoxybenzyl alcohol** [anisalcohol]
anthracene
anthranilic acid (2-aminobenzoic acid)
anthraquinone
 (anthraquinone-2-sulfonic acid) **9,10-dihydro-9,10-dioxoanthracene-2-sulfonic acid**
 [anthrarufin] **1,5-dihydroxyanthraquinone**
anthrone
 (antimony(III) chloride) **antimony trichloride**
 (antimony(V) chloride) **antimony pentachloride**
antimony chloride oxide [antimony oxychloride]
 (antimony(V) oxide) **diantimony pentaoxide**
 antimony oxychloride] **antimony chloride oxide**
antimony pentachloride (antimony(V) chloride)
diantimony pentaoxide (antimony(V) oxide) [antimony pentoxide]
 [antimony pentoxide] **diantimony pentaoxide**
antimony potassium oxide tartrate [potassium antimony tartrate] [tartar emetic]
antimony trichloride (antimony(III) chloride)
 (antu (ISO)) **1-(1-naphthyl)-2-thiourea**
 [β-apo-2-carotenal] **8'-apo-β-caroten-8'-al**
 [β-8'-apocarotenal] **8'-apo-β-caroten-8'-al**
8'-apo-β-caroten-8'-al [β-apo-2-carotenal] [β-8'-apocarotenal]
L-arabinose
D-arginine hydrochloride
 (*p*-arsanilic acid) **4-aminophenylarsonic acid**
arsenic³⁾ [arsenic metal]
arsenic acid
 [arsenic metal] **arsenic**³⁾
 [arsenic oxide] **diarsenic pentaoxide**
 (arsenic(III) oxide) **diarsenic trioxide**
diarsenic pentaoxide [arsenic oxide]
diarsenic pentasulfide (arsenic(V) sulfide)
 (arsenic(V) sulfide) **diarsenic pentasulfide**
diarsenic trioxide (arsenic(III) oxide) [arsenious acid⁴⁾]
 [arsenous oxide]
 [arsenious acid⁴⁾] **diarsenic trioxide**
 [arsenous oxide] **diarsenic trioxide**
L-ascorbic acid
L-asparagine
DL-aspartic acid
 [aubepine] **anisaldehyde**
 [auric chloride⁵⁾] **gold(III) chloride**

2-azafluoranthene
 [7-azaindole] **1,7-diazaindene**
azelaic acid
azobenzene
 [azobenzenephénylhydrazine-β-sulfonic acid]
***N'*-4-phenylazophénylhydrazine-*N*-sulfonic acid**
4,4'-azodianiline (4,4'-diaminoazobenzene)
 [α-azoisobutyronitrile] **2,2'-dimethyl-2,2'-azodi(propiononitrile)**
 [α-azoisopropyl cyanide] **2,2'-dimethyl-2,2'-azodi(propiononitrile)**
azoxybenzene
barbital (INN) (barbitone) (5,5-diethylbarbituric acid)
barbital sodium (INN) (barbitone sodium)
 (barbitone) **barbital (INN)**
 (barbitone sodium) **barbital sodium (INN)**
 [barium adenosine triphosphate] **adenosine 5'-(barium dihydrogen triphosphate)**
barium 2-aminoethyl phosphate [2-aminoethyl barium phosphate] [ethanolamine phosphoric acid, barium salt]
barium bis(*N*-phenylsulfanilate) (barium diphenylamine-4-sulfonate)
barium carbonate
barium chloride
 (barium diphenylamine-4-sulfonate) **barium bis(*N*-phenylsulfanilate)**
 [barium fructose 1,6-diphosphate] **D-fructose 1,6-di(barium phosphate)**
 (barium hydrogen phosphite) **barium phosphonate**
barium hydroxide
barium oxide [baryta]
barium peroxide
barium phosphonate (barium hydrogen phosphite)
barium sulfate
 [baryta] **barium oxide**
 [benzal acetone] **4-phenylbutenone**
 [benzalaniline] **benzylidenedianiline**
 [benzal chloride] **α,α-dichlorotoluene**
benzaldehyde
benzamide
4-benzamido-2,5-diethoxybenzenediazonium zinc chloride
benzanilide
 (benz[de]anthracen-7-one) **benzanthrone**
benzanthrone (benz[de]anthracen-7-one)
benzene
 [benzeneazo-*p*-cresol] **2-(phenylazo)-*p*-cresol**
 (benzene-1,2-dicarboxylic acid) **phthalic acid**
 (benzene-1,3-diol) **resorcinol**
 Key: **recommended**; (non-preferred); [deprecated]
 [benzene hexachloride] **1,2,3,4,5,6-hexachlorocyclohexane**
benzenesulfonamide
benzenesulfonic acid
benzenesulfonyl chloride
***N'*-benzenesulfonylnicotinohydrazide**
 (*N*-benzenesulfonyl-*N'*-nicotinoylhydrazine)
 (*N*-benzenesulfonyl-*N'*-nicotinoylhydrazine)
***N'*-benzenesulfonylnicotinohydrazide**
benzenethiol [thiophenol]
benzene-1,2,4-tricarboxylic acid [trimellitic acid]

³⁾ The use of "arsenic" to describe the product As₂O₃ (diarsenic trioxide) is strongly deprecated.

⁴⁾ This is the IUPAC name for H₃AsO₃.

⁵⁾ "Auric chloride, brown" is used commercially for tetrachloroauric acid and "auric chloride, yellow" is used commercially for sodium tetrachloroaurate.

benzene-1,3,5-tricarboxylic acid [trimesic acid]
benzene-1,2,3-triyl triacetate (1,2,3-triacetoxybenzene) [pyrogallol triacetate]
benzene-1,2,4-triyl triacetate (1,2,4-triacetoxybenzene) [triacetylhydroxyhydroquinone]
 (benzhydryl cyanide) **diphenylacetonitrile**
benzidine
benzidine-2,2'-disulfonic acid
benzil (diphenyl diketone) (1,2-diphenylethanedione)
benzilic acid
benzimidazole
benzimidazol-2-ylamine (2-aminobenzimidazole)
 (1,2-benzisothiazol-3(2*H*)-one 1,1-dioxide) **saccharin**
benzoic acid
benzoin
 (benzoin α -oxime) **benzoin (Z)-oxime**
benzoin (Z)-oxime (benzoin α -oxime)
benzonitrile [phenyl cyanide]
benzophenone
 [3,4-benzoquinoline] **phenanthridine**
***p*-benzoquinone** [quinone]
benzothiazole
 [benzothiazole-2-sulfencyclohexylamide]
***N*-cyclohexylbenzothiazole-2-sulfenamide**
benzothiazole-2-thiol (2-mercaptobenzothiazole)
 (1,2-benzothiazol-3(2*H*)-one 1, 1-dioxide, sodium salt) **saccharin sodium**
benzotriazole
 [benzotrichloride] α,α,α -**trichlorotoluene**
 (benzoylacetone) **1-phenylbutane-1,3-dione**
benzoyl chloride
 (2-benzoylethanol) **3-hydroxypropiophenone**
benzoyl peroxide
 (*N*-benzoyl-*o*-toluidine) **benzo-*o*-toluidide**
benzo-*o*-toluidide (*N*-benzoyl-*o*-toluidine)
benzyl alcohol
benzylamine
***N*-benzylaniline**
benzyl benzoate
 (benzyl chloride) α -**chlorotoluene**
5-benzyl-*o*-cresol
 (benzyl cyanide) **phenylacetonitrile**
***N*-benzyl-*N,N*-dimethylanilinium chloride**
 (benzyl dimethyl(phenyl)ammonium chloride)
 (benzyl dimethyl(phenyl)ammonium chloride)
***N*-benzyl-*N,N*-dimethylanilinium chloride**
benzyl(dodecyl)dimethylammonium chloride
 [benzyl-lauryldimethylammonium chloride]
benzyl ethyl ether
benzyl eugenyl ether (4-allyl-2-methoxyphenyl benzyl ether)
 [eugenol benzyl ether]
benzyl 4-hydroxybenzoate
 (benzylideneacetone) **4-phenylbutenone**
4-benzylideneaminophenol
benzylideneaniline [benzalaniline]
 (benzylidene dichloride) α,α -**dichlorotoluene**
benzyl isoeugenyl ether
 (benzyl 2-methoxy-4-prop-1-enylphenyl ether) [isoeugenol benzyl ether]
 [benzyl-lauryldimethylammonium chloride]
benzyl (dodecyl)dimethylammonium chloride
 (benzyl 2-methoxy-4-prop-1-enylphenyl ether) **benzyl isoeugenyl ether**
 (benzyl methyl ketone) **phenylacetone**
***N*-benzyloxycarbonyl-L-alanine** [carbobenzoxy-L-alanine]

***N*-benzyl-*N*-alanine-phenylhydrazinium(1+) chloride**
benzyl phenyl ketone (deoxybenzoin) [desoxybenzoin]
***S*-benzylthiuronium chloride**
 [beryllia] **beryllium oxide**
beryllium oxide [beryllia]
beryllium sulfate
betaine hydrochloride
 (*o*-bianisidine) **3,3'-dimethoxybenzidine**
 (bicyclo[2.2.1]hepta-2,5-diene) **8,9,10-trinorborna-2,5-diene**
bilirubin
1,1'-binaphthyl-2,2'-diol [2,2'-dihydroxy-1,1'-binaphthyl]
biotin
biphenyl [diphenyl]
biphenyl-2,2'-dicarboxylic acid [diphenic acid]
biphenyl-2-ol (*o*-phenylphenol) [2-hydroxybiphenyl]
biphenyl-4-ylamine (4-aminobiphenyl) [*p*-xenylamine]
biphenyl-4-yl isocyanate [4-isocyanatobiphenyl]
 [*p*-xenylcarbimide]
2,2'-bipyridyl
 (bis(4-aminodiphenyl)amine) **4,4'-iminodibenzamidine**
4,4'-bis(dimethylamino)benzhydryl alcohol
 (di-(4-dimethylaminophenyl)methanol)
4,4'-bis(dimethylamino)benzophenone
bis(α,α -dimethylbenzyl) peroxide [dicumyl peroxide]
bis(2,3-dimethylcyclohexyl) oxalate
bis(2-ethylbutyl) phthalate
 bis(2-ethylhexyl) phthalate [dioctyl phthalate⁶⁾]
 (2-bis(2-hydroxyethyl)aminoethyl stearate) **triethanolamine**
***O*-stearate**
 (1,7-bis(4-hydroxy-3-methoxyphenyl)hepta-1,6-diene-3,5-dione)
curcumin
bis(4-hydroxy-*N*-methylanilinium) sulfate (metol)
 [4-methylaminophenol sulfate]
1,3-bis(hydroxymethyl)urea [dimethylolurea]
3,3-bis(4-hydroxy-1-naphthyl)phthalide
 (1-naphtholphthalalein)
bis(3-methoxybutyl) phthalate [butylene glycol monomethyl ether phthalate]
bis(2-methoxyethyl) phthalate [methyl glycol phthalate]
bis(4-methylcyclohexyl) phthalate
bis(1-methylheptyl) phthalate [dioct-2-yl phthalate]
bismuth chloride oxide [bismuth oxychloride]
bismuth nitrate, basic [bismuth oxynitrate] [bismuth subnitrate]
 [bismuth oxychloride] **bismuth chloride oxide**
 [bismuth oxynitrate] **bismuth nitrate, basic**
bismuth potassium sodium tartrate
bismuth sodium trioxide (sodium bismuthate)
 [bismuth subnitrate] **bismuth nitrate, basic**
bis(1-phenylethyl) ether
4,4'-bis-*o*-toluidine [*o*-toluidine]
bis(3,5,5-trimethylhexyl) phthalate [dinonyl phthalate⁶⁾]
 [*NO*-bis(trimethylsilyl)acetamide] **trimethylsilyl**
***N*-(trimethylsilyl)acetimidate**
 (bis(2,4,6-trinitrophenyl)amine) **dipicrylamine**
biuret
 [boracic acid] **orthoboric acid**
 [borax] **disodium tetraborate**
 (boric acid) **orthoboric acid**
 (boric oxide) **diboron trioxide**
 (bornan-2-one) **camphor**
borneol
bornyl salicylate
boron orthophosphate
boron tribromide

⁶⁾ This is industrial usage: comparable situations apply for adipates, sebacates, etc.

diboron trioxide (boric oxide)	[butylated hydroxytoluene] 2,6-di-<i>tert</i>-butyl-<i>p</i>-cresol butylbenzene
bromic acid	(<i>tert</i> -butyl bromide) 2-bromo-2-methylpropane
bromine	6-<i>tert</i>-butyl-<i>m</i>-cresol
bromoacetic acid	(<i>N'</i> -butyl- <i>N,N</i> -diethylurea) 3-butyl-1,1-diethylurea
2-bromoacetophenone (phenacyl bromide)	3-butyl-1,1-diethylurea (<i>N'</i> -butyl- <i>N,N</i> -diethylurea)
4'-bromoacetophenone	butyldigol acetate (2-(2-butoxyethoxy)ethyl acetate)
4-bromoaniline	[diethylene glycol monobutyl ether acetate]
2-bromoanisole	4'-<i>tert</i>-butyl-2',6'-dimethylacetophenone
2-bromobenzoic acid	[acetyl <i>tert</i> butyl- <i>m</i> -xylene]
3-bromobornan-2-one (3-bromocamphor) [camphor bromide]	4'-<i>tert</i>-butyl-2',6'-dimethyl-3',5'-dinitroacetophenone
2-bromobutyric acid	(musk ketone)
(3-bromocamphor) 3-bromobornan-2-one	[butylene glycol] butane-1,3-diol
bromochlorodifluoromethane	[butylene glycol monomethyl ether] 3-methoxybutan-1-ol
1-bromododecane [lauryl bromide]	[butylene glycol monomethyl ether acetate] 3-methoxybutyl acetate
bromoethane (ethyl bromide)	[butylene glycol monomethyl ether acid phthalate]
2-bromoethanol [ethylene bromohydrin]	3-methoxybutyl hydrogen phthalate
bromoform	[butylene glycol monomethyl ether phthalate]
bromomethane (methyl bromide)	bis(3-methoxybutyl) phthalate
1-bromo-3-methylbutane [isoamyl bromide]	butyl 2,3-epoxypropyl ether (butyl glycidyl ether)
2-bromo-2-methylbutane [<i>tert</i> amyl bromide]	(butyl glycidyl ether) butyl 2,3-epoxypropyl ether
2-bromo-2-methylpropane (<i>tert</i> -butyl bromide)	4-<i>tert</i>-butyl-3-methoxy-2,6-dinitrotoluene (musk ambrette ⁷⁾)
1-bromonaphthalene	(4- <i>tert</i> -butyl-3-methoxytoluene) 2-<i>tert</i>-butyl-5-methylanisole
1-bromo-2-nitrobenzene	2-<i>tert</i>-butyl-5-methylanisole (4- <i>tert</i> -butyl-3-methoxytoluene)
α-bromo-4-nitrotoluene (4-nitrobenzyl bromide)	<i>tert</i>-butyl perbenzoate
2-bromo-octane [capryl bromide]	4-<i>tert</i>-butylphenol
1-bromopentane [<i>n</i> -amyl bromide]	5-<i>tert</i>-butyl-2,4,6-trinitro-<i>m</i>-xylene (musk xylene) [musk xylol]
2-bromopentane [α -methylbutyl bromide]	butyraldehyde
(4-bromophenacyl bromide) 2,4'-dibromoacetophenone	butyric acid (butanoic acid)
4-bromophenylhydrazinium(1+) chloride	[butyric ether] ethyl butyrate
2-bromopropane (isopropyl bromide)	butyryl chloride
β-bromostyrene	
<i>N</i>-bromosuccinimide	[cacodylic acid] dimethylarsinic acid
brucine sulfate	cacotheline
buta-1,3-diene	[cadmium borofluoride] cadmium tetrafluoroborate
butane	cadmium dipotassium tetraiodide
butane-1,3-diol [butylene glycol]	cadmium sulfate
butane-1,4-diol [tetramethylene glycol]	cadmium tetrafluoroborate [cadmium borofluoride]
butanedione [diacetyl]	caesium chloride
butanedione dioxime (dimethylglyoxime)	[caffeic acid] 3,4-dihydroxycinnamic acid
butanedione monoxime [diacetyl monoxime]	caffeine
butane-1-thiol	(calciferol) ergocalciferol (INN)
(butanoic acid) butyric acid	(calciferyl-3,5-dinitrobenzoate)
butan-1-ol	ergocalciferol 3-(3,5-dinitrobenzoate) (INN)
butan-2-ol [<i>sec</i> butyl alcohol]	(calcium acetylde) calcium carbide
butanone (ethyl methyl ketone) [MEK]	calcium bis(<i>N</i>-acetyl-DL-methioninate)
but-1-ene	(<i>N</i> -acetyl-DL-methionine, calcium salt)
<i>cis</i>-but-2-ene	calcium bis(4-hydroxybenzenesulfonate) [calcium sulfocarbolate]
<i>trans</i>-but-2-ene	tricalcium bis(orthophosphate) (<i>tricalcium</i>
but-3-en-3-olide (diketen(e))	diorthophosphate ⁸⁾) [calcium phosphate, tribasic] [tricalcium phosphate]
butenone (methyl vinyl ketone)	calcium carbide (calcium acetylde)
2-butoxyethanol	calcium carbonate [precipitated chalk] [chalk, precipitated]
(2-(2-butoxyethoxy)ethyl acetate) butyldigol acetate	calcium digluconate (calcium gluconate)
2-butoxyethyl acetate	calcium dihydrogen ditartrate
butyl acetate	calcium dihydrogen pyrophosphate
<i>sec</i>-butyl acetate	(<i>tricalcium</i> diorthophosphate ⁸⁾) tricalcium bis(orthophosphate)
<i>tert</i>-butyl acetate	
butyl <i>o</i>-acetylricinoleate [acetyl butyl ricinoleate]	
[<i>sec</i> butyl alcohol] butan-2-ol	
[<i>tert</i> butyl alcohol] 2-methylpropan-2-ol	
butylamine	
butylammonium chloride	

⁷⁾ The name "musk ambrette" is also used commercially for hexadec-7-en-16-olide.

⁸⁾ The trade name "tricalcium diorthophosphate" is also used for commercially available material of approximate composition $3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{Ca}(\text{OH})_2$.