

## FOREWORD TO ANNEX I

### Introduction

Annex I is an index of dangerous substances for which harmonised classification and labelling have been agreed at Community level in accordance with the procedure laid down in Article 4(3) of this Directive.

### Numbering of entries

Entries in Annex I are listed according to the atomic number of the element most characteristic of the substance's properties. A list of the chemical elements, arranged according to atomic number is shown in Table A. Organic substances, because of their variety, have been placed in the usual classes, as shown in Table B.

The Index number for each substance is in the form of a digit sequence of the type ABC-RST-VW-Y, where:

- ABC is either the atomic number of the most characteristic chemical element (preceded by one or two zeros to make up the sequence) or the usual class number for organic substances,
- RST is the consecutive number of the substance in the series ABC,
- VW denotes the form in which the substance is produced or placed on the market,
- Y is the check-digit calculated in accordance with the ISBN (International Standard Book Number) method.

As an example, the Index number for sodium chlorate is 017-005-00-9.

For dangerous substances in the European Inventory of Existing Commercial Chemical Substance (Einecs, OJ No. C 146A, 15.6.1990) the Einecs number is included. This number is a seven-digit system of the type XXX-XXX-X which starts at 200-001-8.

For dangerous substances notified under the provisions of this Directive, the number of the substance in the European List of Notified Substance (Elincs) is included. This number is a seven-digit system of the type XXX-XXX-X which starts at 400-010-9.

For dangerous substances in the list of "No-longer-polymers" (Document, Office for Official Publications of the European Communities, 1997. ISBN 92-827-8995-0) the "No-longer-polymer" number is included. This number is a seven-digit system of the type XXX-XXX-X which starts at 500-001-0.

The Chemical Abstracts Service (CAS) number is also included to assist identification of the entry. It should be noted that the Einecs number includes both anhydrous and hydrated forms of a substance, and there are frequently different CAS numbers for anhydrous and hydrated forms. The CAS number included is for the anhydrous form only, and therefore the CAS number shown does not always describe the entry as accurately as the Einecs number.

Einecs, Elincs, "No-longer-polymer" or CAS numbers are not usually included for entries which comprise more than four individual substances.

### Nomenclature

Wherever possible, dangerous substances are designated by their Einecs, Elincs or "No-longer-polymer" names. Other substances not listed in Einecs, Elincs or the list of "No-longer-polymers" are designated using an internationally recognised chemical name (e.g. ISO, IUPAC). An additional common name is included in some cases.

Impurities, additives and minor components are normally not mentioned unless they contribute significantly to the classification of the substance.

Some substances are described as a mixture of A and B. These entries refer to one specific mixture. In some cases where it is necessary to characterise the substance put on the market, the proportions of the main substances in the mixture are specified.

Some substances are described with a specific percentage purity. Substances containing a higher content of active material (e.g. an organic peroxide) are not included in the Annex I entry and may have other hazardous properties (e.g. explosive). Where specific concentration limits are shown, these apply to the substance or substances shown in the entry. In particular, in the case of entries which are mixtures of substances or substances described with a specific percentage purity, the limits apply to the substance as described in Annex I and not the pure substance.

Article 23(2)(a) requires that for substances appearing in Annex I, the name of the substance to be used on the label should be one of the designations given in the Annex. For certain substances, additional information has been added in square brackets in order to help identify the substance. This additional information need not be included on the label.

Certain entries contain a reference to impurities. An example is Index No. 607-190-00-X: methyl acrylamidomethoxyacetate (containing  $\geq 0,1$  % acrylamide). In these cases the reference in brackets forms part of the name, and must be included on the label.

Certain entries refer to groups of substances. An example is Index No. 006-007-00-5: "hydrogen cyanide (salts of ...) with exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide". For individual substances covered by these entries, the Eines name or another internationally recognised name must be used.

### Format of entries

The following information is given for each substance in Annex I:

(a) *the classification:*

- (i) the process of classification consists of placing a substance in one or more categories of danger (as defined in Article 2(2) of Directive 92/32/EEC) and assigning the qualifying risk phrase or phrases. The classification has consequences not only for labelling but also for other legislation and regulatory measures on dangerous substances;
- (ii) the classification for each category of danger is normally presented in the form of an abbreviation representing the category of danger together with the appropriate risk phrase or phrases. However, in some cases (i.e. substances classified as flammable, sensitising and some substances classified as dangerous for the environment) the risk phrase alone is used;
- (iii) the abbreviation for each of the categories of danger is shown below:
  - explosive: E
  - oxidising: O
  - extremely flammable: F+
  - highly Flammable: F
  - flammable: R10
  - very toxic: T+
  - toxic: T
  - harmful: Xn
  - corrosive: C
  - irritant: Xi
  - sensitising: R42 and/or R43
  - carcinogenic: Carc. Cat. <sup>(1)</sup>
  - mutagenic: Muta. Cat. <sup>(1)</sup>
  - toxic for reproduction: Repr. Cat. <sup>(1)</sup>
  - dangerous for the environment: N or/and R52, R53, R59;
- (iv) Additional risk phrases which have been assigned to describe other properties (see sections 2.2.6 and 3.2.8 of the labelling guide) are shown although they are not formally part of the classification.

(b) *the label, including:*

- (i) the letter assigned to the substance in accordance with Annex II (see Article 23(2)(c)). This acts as an abbreviation for the symbol and for the indication of danger (if these are assigned);
- (ii) the risk phrases, denoted as a series of numbers preceded by the letter R indicating the nature of the special risks, in accordance with Annex III (see Article 23(2)(d)). The numbers are separated by either:

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<sup>(1)</sup> The category of carcinogen, mutagen or toxic for reproduction (i.e. 1, 2 or 3) is shown as appropriate.

- a dash (-) to denote separate statements concerning special risks (R), or
  - an oblique stroke (/) to denote a combined statement, in a single sentence, of the special risks as set out in Annex III;
- (iii) the safety phrases denoted as a series of numbers preceded by the letter S indicating the recommended safety precautions, in accordance with Annex IV (see Article 23(2)(e)). Again the numbers are separated by either a dash or an oblique stroke; the significance of recommended safety precautions are set out in Annex IV. The safety phrases shown apply only to substances; for preparations, phrases are selected according to the usual rules.

Note that for certain dangerous substances and preparations sold to the general public certain S-phrases are mandatory.

S1, S2 and S45 are obligatory for all very toxic, toxic and corrosive substances and preparations sold to the general public.

S2 and S46 are obligatory for all other dangerous substances and preparations sold to the general public other than those that have only been classified as dangerous for the environment.

Safety phrases S1 and S2 are shown in brackets in Annex I and can only be omitted from the label when the substance or preparation is sold for industrial use only.

- (c) *the concentration limits* and associated classifications necessary to classify dangerous preparations containing the substance in accordance with Directive 1999/45/EC.

Unless otherwise shown, the concentration limits are a percentage by weight of the substance calculated with reference to the total weight of the preparation.

Where no concentration limits are given, the concentration limits to be used when applying the conventional method of assessing health hazards are those in Annex II, and when applying the conventional method of assessing environmental hazards are those in Annex III of Directive 1999/45/EC.

## **General Explanatory Notes**

### *Groups of substances*

A number of group entries are included in Annex I. In these cases, the classification and labelling requirements will apply to all substances covered by the description if they are placed on the market, insofar as they are listed in EINECS or ELINCS. Where a substance that is covered by a group entry occurs as an impurity in another substance, the classification and labelling requirements described in the group entry shall be taken into account in the labelling of the substance.

In some cases, there are classification and labelling requirements for specific substances that would be covered by the group entry. In such cases a specific Annex I entry will be present for the substance and the group entry will be annotated with the phrase "except those specified elsewhere in this Annex".

In some cases, individual substances may be covered by more than one group entry. Lead oxalate (EINECS No 212-413-5) is for instance covered by the entry for lead compounds (Index No 082-001-00-6) as well as for salts of oxalic acid (607-007-00-3). In these cases, the labelling of the substance reflects the labelling for each of the two group entries. In cases where different classifications for the same hazard are given, the classification leading to the more severe classification is used for the label of the particular substance (see section on Note A below).

Entries in Annex I for salts (under any denomination) cover both anhydrous and hydrous forms unless specifically specified otherwise.

### *Substances with an ELINCS number*

In Annex I, substances with an ELINCS number have been notified under the provisions of this Directive. A producer or importer who has not previously notified these substances must refer to the provisions of this Directive if he intends to place these substances on the market.

## **Explanation of the notes relating to the identification, classification and labelling of substances**

*Note A:*

The name of the substance must appear on the label in the form of one of the designations given in Annex I (see Article 23(2)(a)).

In Annex I, use is sometimes made of a general description such as "... compounds" or "... salts". In this case, the manufacturer or any other person who markets such a substance is required to state on the label the correct name, due account being taken of the chapter entitled "Nomenclature" of the Foreword:

Example: for BeCl<sub>2</sub> (Einecs No 232-116-4): beryllium chloride.

The Directive also requires that the symbols, indications of danger, R- and S-phrases to be used for each substance shall be those shown in Annex I (Article 23(2)(c), (d) and (e)).

For substances belonging to one particular group of substances included in Annex I, the symbols, indications of danger, R- and S-phrases to be used for each substance shall be those shown in the appropriate entry in Annex I.

For substances belonging to more than one group of substances included in Annex I, the symbols, indications of danger, R- and S-phrases to be used for each substance shall be those shown in both the appropriate entries given in Annex I. In cases where two different classifications are given in the two entries for the same hazard, the classification reflecting the more severe hazard classification is used.

Example:

for substance AB - no individual entry in Annex I:

Annex I group entry for compounds of A:

Repr. Cat. 1; R61 Repr. Cat. 3; R62 Xn; R20/22 R33 N; R50-53

Annex I group entry for compounds of B:

Carc. Cat.1; R45 T; R23/25 N; R51-53

Classification of substance AB thus becomes:

Carc. Cat. 1; R45 Repr. Cat. 1; R61 Repr. Cat. 3; R62 T; R23/25 R33 N; R50-53

*Note B:*

Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different labelling since the hazards vary at different concentrations.

In Annex I entries with Note B have a general designation of the following type: "nitric acid ...%".

In this case the manufacturer or any other person who markets such a substance in aqueous solution must state the percentage concentration of the solution on the label.

Example: nitric acid 45%.

Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

The use of additional data (e.g. specific gravity, degrees Baumé) or descriptive phrases (e.g. fuming or glacial) is permissible.

*Note C:*

Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers.

In Annex I, a general designation of the following type is sometimes used: "xylenol".

In this case the manufacturer or any other person who markets such a substance must state on the label whether the substance is a specific isomer (a) or a mixture of isomers (b).

Example: (a) 2,4-dimethylphenol  
(b) xyleneol (mixture of isomers).

*Note D:*

Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Annex I to this Directive.

However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the manufacturer or any person who places such a substance on the market must state on the label the name of the substance followed by the words "non-stabilised".

Example: methacrylic acid (non-stabilised).

*Note E:*

Substances with specific effects on human health (see Chapter 4 of Annex VI) that are classified as carcinogenic, mutagenic and/or toxic for reproduction in categories 1 or 2 are ascribed Note E if they are also classified as very toxic (T+), toxic (T) or harmful (Xn). For these substances, the risk phrases R20, R21, R22, R23, R24, R25, R26, R27, R28, R39, R68 (harmful), R48 and R65 and all combinations of these risk phrases shall be preceded by the word "Also".

Examples: R45-23 "May cause cancer. Also toxic by inhalation"

R46-27/28 "May cause heritable genetic damage. Also very toxic in contact with skin and if swallowed".

*Note F:*

This substance may contain a stabiliser. If the stabiliser changes the dangerous properties of the substance, as indicated by the label in Annex I, a label should be provided in accordance with the rules for the labelling of dangerous preparations.

*Note G:*

This substance may be marketed in an explosive form in which case it must be evaluated using the appropriate test methods and a label should be provided reflecting its explosive property.

*Note H:*

The classification and label shown for this substance applies to the dangerous property(ies) indicated by the risk phrase(s) in combination with the category(ies) of danger shown. The requirements of Article 6 of this Directive on manufacturers, distributors and importers of this substance apply to all other aspects of classification and labelling. The final label shall follow the requirements of section 7 of Annex VI of this Directive.

This note applies to certain coal- and oil-derived substances and to certain entries for groups of substances in Annex I.

*Note J:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1 % w/w benzene (Einecs No 200-753-7). This note applies only to certain complex coal- and oil-derived substances in Annex I.

*Note K:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1 % w/w 1,3-butadiene (Einecs No 203-450-8). If the substance is not classified as a carcinogen, at least the S-phrases (2-)9-16 should apply. This note applies only to certain complex oil-derived substances in Annex I.

*Note L:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil-derived substances in Annex I.

*Note M:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.005 % w/w benzo[a]-pyrene (Einecs No 200-028-5). This note applies only to certain complex coal-derived substances in Annex I.

*Note N:*

The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen. This note applies only to certain complex oil-derived substances in Annex I.

*Note P:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1 % w/w benzene (Einecs No 200-753-7).

When the substance is classified as a carcinogen, Note E shall also apply.

When the substance is not classified as a carcinogen at least the S-phrases (2-)23-24-62 shall apply.

This note applies only to certain complex oil-derived substances in Annex I.

*Note Q:*

The classification as a carcinogen need not apply if it can be shown that the substance fulfils one of the following conditions:

- a short term biopersistence test by inhalation has shown that the fibres longer than 20 µm have a weighted half-life less than 10 days, or
- a short term biopersistence test by intratracheal instillation has shown that the fibres longer than 20 µm have a weighted half-life less than 40 days, or
- an appropriate intra-peritoneal test has shown no evidence of excess carcinogenicity, or
- absence of relevant pathogenicity or neoplastic changes in a suitable long term inhalation test.

*Note R:*

The classification as a carcinogen need not apply to fibres with a length weighted geometric mean diameter less two standard geometric errors greater than 6µm.

*Note S:*

This substance may not require a label according to Article 23 (see Section 8 of Annex VI).

**Explanation of the notes relating to the labelling of preparations**

The significance of the notes that appear to the right of the concentration limits is as follows:

*Note 1:*

The concentration stated or, in the absence of such concentrations, the general concentrations of Directive 1999/45/EC are the percentages by weight of the metallic element calculated with reference to the total weight of the preparation.

*Note 2:*

The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the preparation.

*Note 3:*

The concentration stated is the percentage by weight of chromate ions dissolved in water calculated with reference to the total weight of the preparation.

*Note 4:*

Preparations containing these substances have to be classified as harmful with R65 if they meet the criteria in Section 3.2.3 in Annex VI.

*Note 5:*

The concentration limits for gaseous preparations are expressed as volume per volume percentage.

*Note 6:*

Preparations containing these substances have to be assigned R67 if they meet the criteria in Section 3.2.8 in Annex VI.

This Note will no longer apply from the date on which the criteria for the use of R67 provided for in Directive 1999/45/EC enter into force.

TABLA A – TABEL A – TABELLE A – ΠΙΝΑΚΑΣ Α – TABLE A – TABLEAU A – TABELLA A – TABEL A –  
TABELA A – TABELL A – TAULUKKO A

Lista de los elementos químicos clasificados por su número atómico (Z)

Liste over grundstoffer, ordnet efter deres atomvægt (Z)

Liste der chemischen Elemente, geordnet nach der Ordnungszahl (Z)

Κατάλογος χημικών στοιχείων ταξινομημένων σύμφωνα με τον ατομικό τους αριθμό (Z)

List of chemical elements listed according to their atomic number (Z)

Liste des éléments chimiques classés selon leur numéro atomique (Z)

Elenco degli elementi chimici ordinati secondo il loro numero atomico (Z)

Lijst van chemische elementen, gerangschikt naar atoomgewicht (Z)

Lista dos elementos químicos ordenados segundo o seu número atómico (Z)

Lista över grundämnen, ordnade efter deras atomnummer (Z)

Alkuaineiden luettelo, järjestyksluvun mukaan (Z)



Z	Symb.	DE	DA	EL	EN	ES	FR	IT	NL	PT	SV	FI
1	H	Wasserstoff	Hydrogen	Υδρογόνο	Hydrogen	Hidrógeno	Hydrogène	Idrogeno	Waterstof	Hidrogénio	Väte	Vety
2	He	Helium	Helium	Ήλιο	Helium	Helio	Hélium	Elio	Helium	Hélio	Helium	Helium
3	Li	Lithium	Lithium	Λίθιο	Lithium	Litio	Lithium	Litio	Lithium	Lítio	Litium	Litium
4	Be	Beryllium	Beryllium	Βηρύλλιο	Beryllium	Berilio	Béryllium (Glucinium)	Berillio	Beryllium	Berílio	Beryllium	Beryllium
5	B	Bor	Bor	Βόριο	Boron	Boro	Bore	Boro	Boor	Boro	Bor	Boori
6	C	Kohlenstoff	Carbon (kulstof)	Άνθρακας	Carbon	Carbono	Carbone	Carbonio	Koolstof	Carbono	Kol	Hiili
7	N	Stickstoff	Nitrogen	Άζωτο	Nitrogen	Nitrógeno	Azote	Azoto	Stikstof	Azoto	Kväve	Typpi
8	O	Sauerstoff	Oxygen (ilt)	Όξυγόνο	Oxygen	Oxígeno	Oxygène	Ossigeno	Zuurstof	Oxigénio	Syre	Happi
9	F	Fluor	Fluor	Φθόριο	Fluorine	Flúor	Fluor	Fluoro	Fluor	Flúor	Fluor	Fluori
10	Ne	Neon	Neon	Νέον	Neon	Neón	Néon	Neon	Neon	Néon	Neon	Neon
11	Na	Natrium	Natrium	Νάτριο	Sodium	Sodio	Sodium	Sodio	Natrium	Sódio	Natrium	Natrium
12	Mg	Magnesium	Magnesium	Μαγνήσιο	Magnesium	Magnesio	Magnésium	Magnesio	Magnesium	Magnésio	Magnesium	Magnesium
13	Al	Aluminium	Aluminium	Αργύλλιο	Aluminium	Aluminio	Aluminium	Alluminio	Aluminium	Alumínio	Aluminium	Alumiini
14	Si	Silicium	Silicium	Πυρίτιο	Silicon	Silicio	Silicium	Silicio	Silicium	Silício	Kisel	Pii
15	P	Phosphor	Phosphor	Φωσφόρος	Phosphorus	Fósforo	Phosphore	Fosforo	Fosfor	Fósforo	Fosfor	Fosfori
16	S	Schwefel	Svovl	Θείο	Sulphur	Azufre	Soufre	Zolfo	Zwavel	Enxofre	Svavel	Rikki
17	Cl	Chlor	Chlor	Χλώριο	Chlorine	Cloro	Chlore	Cloro	Chloor	Cloro	Klor	Kloori

Z	Symb.	DE	DA	EL	EN	ES	FR	IT	NL	PT	SV	FI
18	Ar	Argon	Argon	Αργό	Argon	Argón	Argon	Argon	Argon	Árgon	Argon	Argon
19	K	Kalium	Kalium	Κάλιο	Potassium	Potasio	Potassium	Potassio	Kalium	Potássio	Kalium	Kalium
20	Ca	Calcium	Calcium	Λαβέστιο	Calcium	Calcio	Calcium	Calcio	Calcium	Cálcio	Kalcium	Kalsium
21	Sc	Scandium	Scandium	Σκάνδιο	Scandium	Escandio	Scandium	Scandio	Scandium	Escândio	Skandium	Skandium
22	Ti	Titan	Titan	Τιτάνιο	Titanium	Titanio	Titane	Titanio	Titaan	Titânio	Titan	Titaani
23	V	Vanadium	Vanadium	Βανάδιο	Vanadium	Vanadio	Vanadium	Vanadio	Vanadium	Vanádio	Vanadin	Vanadiini
24	Cr	Chrom	Chrom	Χρόμιο	Chromium	Cromo	Chrome	Cromo	Chroom	Crómio	Krom	Kromi
25	Mn	Mangan	Mangan	Μαγγάνιο	Manganese	Manganeso	Manganèse	Manganese	Mangaan	Manganês	Mangan	Mangaani
26	Fe	Eisen	Jern	Σίδηρος	Iron	Hierro	Fer	Ferro	Ijzer	Ferro	Järn	Rauta
27	Co	Kobalt	Cobalt	Κοβάλτιο	Cobalt	Cobalto	Cobalt	Cobalto	Kobalt	Cobalto	Kobolt	Koboltti
28	Ni	Nickel	Nikkel	Νικέλιο	Nickel	Níquel	Nickel	Nichel	Nikkel	Níquel	Nickel	Nikkeli
29	Cu	Kupfer	Kobber	Χαλκός	Copper	Cobre	Cuivre	Rame	Koper	Cobre	Koppar	Kupari
30	Zn	Zink	Zink	Ψευδάργυρος	Zinc	Zinc	Zinc	Zinco	Zink	Zinco	Zink	Sinkki
31	Ga	Gallium	Gallium	Γάλλιο	Gallium	Galio	Gallium	Gallio	Gallium	Gálio	Gallium	Gallium
32	Ge	Germanium	Germanium	Γερμάνιο	Germanium	Germanio	Germanium	Germanio	Germanium	Germânio	Germanium	Germanium
33	As	Arsen	Arsen	Αρσενικό	Arsenic	Arsénico	Arsenic	Arsenico	Arseen	Arsénio	Arsenik	Arseeni
34	Se	Selen	Selen	Σελήνιο	Selenium	Selenio	Sélénium	Selenio	Selenium	Selénio	Selen	Seleeni
35	Br	Brom	Brom	Βρόμιο	Bromine	Bromo	Brome	Bromo	Broom	Bromo	Brom	Bromi

Z	Symb.	DE	DA	EL	EN	ES	FR	IT	NL	PT	SV	FI
36	Kr	Krypton	Krypton	Κρυπτό	Krypton	Kryptón	Krypton	Krypton	Krypton	Krípton	Krypton	Krypton
37	Rb	Rubidium	Rubidium	Ρουβήδιο	Rubidium	Rubidio	Rubidium	Rubidio	Rubidium	Rubídio	Rubidium	Rubidium
38	Sr	Strontium	Strontium	Στρόντιο	Strontium	Estroncio	Strontium	Stronzio	Strontium	Estrôncio	Strontium	Strontium
39	Y	Yttrium	Yttrium	Ύττριο	Yttrium	Itrio	Yttrium	Ittrio	Yttrium	Ítrio	Yttrium	Yttrium
40	Zr	Zirkon	Zirconium	Ζιρκόνιο	Zirconium	Circonio	Zirconium	Zirconio	Zirkonium	Zircónio	Zirkonium	Zirkonium
41	Nb	Niob	Niobium	Νιόβιο	Niobium	Niobio	Niobium	Niobio	Niobium	Nióbio	Niob	Niobium
42	Mo	Molybdän	Molybden	Μολυβδένιο	Molybdenum	Molibdeno	Molybdène	Molibdeno	Molybdeen	Molibdénio	Molybden	Molybdeeni
43	Tc	Technetium	Technetium	Τεχνήτιο	Technetium	Tecnecio	Technetium	Tecnezio	Technetium	Tecnécio	Teknetium	Teknetium
44	Ru	Ruthenium	Ruthenium	Ρουθήνιο	Ruthenium	Rutenio	Ruthénium	Rutenio	Ruthernium	Ruténio	Rutenium	Rutenium
45	Rh	Rhodium	Rhodium	Ρόδιο	Rhodium	Rodio	Rhodium	Rodio	Rodium	Ródio	Rodium	Rodium
46	Pd	Palladium	Palladium	Παλλάδιο	Palladium	Paladio	Palladium	Palladio	Palladium	Paládio	Palladium	Palladium
47	Ag	Silber	Sølv	Άργυρος	Silver	Plata	Argent	Argento	Zilver	Prata	Silver	Hopea
48	Cd	Cadmium	Cadmium	Κάδμιο	Cadmium	Cadmio	Cadmium	Cadmio	Cadmium	Cádmio	Kadmium	Kadmium
49	In	Indium	Indium	Ίνδιο	Indium	Indio	Indium	Indio	Indium	Índio	Indium	Indium
50	Sn	Zinn	Tin	Κασσίτερος	Tin	Estaño	Étain	Stagno	Tin	Estanho	Tenn	Tina
51	Sb	Antimon	Antimon	Αντιμόνιο	Antimony	Antimonio	Antimoine	Antimonio	Antimoon	Antimónio	Antimon	Antimoni
52	Te	Tellur	Telur	Τελουρίο	Tellurium	Telurio	Tellure	Tellurio	Telluur	Telúrio	Tellur	Telluuri
53	I	Jod	Jod	Ιόδιο	Iodine	Yodo	Iode	Iodio	Jood	Iodo	Jod	Jodi

Z	Symb.	DE	DA	EL	EN	ES	FR	IT	NL	PT	SV	FI
54	Xe	Xenon	Xenon	Ξένο	Xenon	Xenón	Xénon	Xenon	Xenon	Xénon	Xenon	Ksenon
55	Cs	Caesium	Cæsium	Καίσιο	Caesium	Cesio	Césium	Cesio	Cesium	Césio	Cesium	Cesium
56	Ba	Barium	Barium	Βάριο	Barium	Bario	Baryum	Bario	Barium	Bário	Barium	Barium
57	La	Lanthan	Lanthan	Λανθάνιο	Lanthanum	Lantano	Lanthane	Lantano	Lanthaan	Lantânio	Lantan	Lantaani
58	Ce	Cer	Cerium	Διμήτριο	Cerium	Cerio	Cérium	Cerio	Cerium	Cério	Cerium	Cerium
59	Pr	Praseodym	Praseodym	Πρασεοδύμιο	Praseodymium	Praseodimio	Praséodyme	Praseodimio	Praseodymium	Praseodímio	Praseodym	Praseodymi
60	Nd	Neodym	Neodym	Νεοδύμιο	Neodymium	Niodimio	Néodyme	Neodimio	Neodymium	Neodímio	Neodym	Neodyymi
61	Pm	Promethium	Promethium	Προμήθειο	Promethium	Prometio	Prométhium	Promezio	Promethium	Promécio	Prometium	Prometium
62	Sm	Samarium	Samarium	Σαμάριο	Samarium	Samario	Samarium	Samario	Samarium	Samário	Samarium	Samarium
63	Eu	Europium	Europium	Ευρώπιο	Europium	Europio	Europium	Europio	Europium	Európio	Europium	Europium
64	Gd	Gadolinium	Gadolinium	Γαδολίνιο	Gadolinium	Gadolinio	Gadolinium	Gadolinio	Gadolinium	Gadófnio	Gadolinium	Gadolinium
65	Tb	Terbium	Terbium	Τέρβιο	Terbium	Terbio	Terbium	Terbio	Terbium	Térbio	Terbium	Terbium
66	Dy	Dysprosium	Dysprosium	Δυσπρόσιο	Dysprosium	Disprosio	Dysprosium	Disprosio	Dysprosium	Disprósio	Dysprosium	Dysprosium
67	Ho	Holmium	Holmium	Όλμιο	Holmium	Holmio	Holmium	Olmio	Holmium	Hólmio	Holmium	Holmium
68	Er	Erbium	Erbium	Έρβιο	Erbium	Erbio	Erbium	Erbio	Erbium	Érbio	Erbium	Erbium
69	Tm	Thulium	Thulium	Θούλιο	Thulium	Tulio	Thulium	Tulio	Thulium	Túlio	Tulium	Tulium
70	Yb	Ytterbium	Ytterbium	Υτέρβιο	Ytterbium	Iterbio	Ytterbium	Itterbio	Ytterbium	Itérbio	Ytterbium	Ytterbium
71	Lu	Lutetium	Lutetium	Λουτήτιο	Lutetium	Lutecio	Lutétium	Lutezio	Lutetium	Lutécio	Lutetium	Lutetium

Z	Symb.	DE	DA	EL	EN	ES	FR	IT	NL	PT	SV	FI
72	Hf	Hafnium	Hafnium	Άφνιο	Hafnium	Hafnio	Hafnium	Afnio	Hafnium	Háfnio	Hafnium	Hafnium
73	Ta	Tantal	Tantal	Ταντάλιο	Tantalum	Tántalo	Tantale	Tantalio	Tantaal	Tântalo	Tantal	Tantaali
74	W	Wolfram	Wolfram	Βολφράμιο (Τουγκοτένιο)	Tungsten	Volframio	Tungstène	Tungsteno	Wolfram	Tungsténio	Wolfram	Volframi
75	Re	Rhenium	Rhenium	Ρήνιο	Rhenium	Renio	Rhénium	Renio	Renium	Rénio	Rhenium	Renium
76	Os	Osmium	Osmium	Όσμιο	Osmium	Osmio	Osmium	Osmio	Osmium	Ósmio	Osmium	Osmium
77	Ir	Iridium	Iridium	Ιρίδιο	Iridium	Iridio	Iridium	Iridio	Iridium	Írdio	Iridium	Iridium
78	Pt	Platin	Platin	Λευκόχρυσος	Platinum	Platino	Platine	Platino	Platinum	Platina	Platina	Platina
79	Au	Gold	Guld	Χρυσός	Gold	Oro	Or	Oro	Goud	Ouro	Guld	Kulta
80	Hg	Quecksilber	Kviksølv	Υδράργυρος	Mercury	Mercurio	Mercure	Mercurio	Kwik	Mercúrio	Kviksilver	Elohopea
81	Tl	Thallium	Thalium	Θάλλιο	Thallium	Talio	Thallium	Tallio	Thallium	Tálio	Tallium	Tallium
82	Pb	Blei	Bly	Μόλυβδος	Lead	Plomo	Plomb	Piombo	Lood	Chumbo	Bly	Lyijy
83	Bi	Wismuth	Bismuth	Βισμούθιο	Bismuth	Bismuto	Bismuth	Bismuto	Bismuth	Bismuto	Vismut	Vismutti
84	Po	Polonium	Plonium	Πολόνιο	Polonium	Polonio	Polonium	Polonio	Polonium	Polónio	Polonium	Polonium
85	At	Astat	Astat	Αστάτιο	Astatine	Astato	Astate	Astato	Astaat	Astato	Astat	Astatiini
86	Rn	Radon	Radon	Ραδόνιο	Radon	Radón	Radon	Radon	Radon	Rádon	Radon	Radon
87	Fr	Francium	Francium	Φράγκιο	Francium	Francio	Francium	Francio	Francium	Frâncio	Francium	Frankium
88	Ra	Radium	Radium	Ράδιο	Radium	Radio	Radium	Radio	Radium	Rádio	Radium	Radium
89	Ac	Actinium	Actinium	Ακτίνιο	Actinium	Actinio	Actinium	Attinio	Actinium	Actínio	Aktinium	Aktinium

Z	Symb.	DE	DA	EL	EN	ES	FR	IT	NL	PT	SV	FI
90	Th	Thorium	Thorium	Θόριο	Thorium	Torio	Thorium	Torio	Thorium	Tório	Torium	Torium
91	Pa	Protactinium	Protactinium	Πρωτακτίνιο	Protactinium	Protactinio	Protactinium	Protoactinio	Protactinium	Protactínio	Protaktinium	Protaktinium
92	U	Uran	Uran	Ουράνιο	Uranium	Uranio	Uranium	Uranio	Uranium	Urânio	Uran	Uraani
93	Np	Neptunium	Neptunium	Νεπτούνιο (Ποσειδόνιο)	Neptunium	Neptunio	Neptunium	Nettunio	Neptunium	Neptúnio	Neptunium	Neptunium
94	Pu	Plutonium	Plutonium	Πλουτόνιο	Plutonium	Plutonio	Plutonium	Plutonio	Plutonium	Plutónio	Plutonium	Plutonium
95	Am	Americium	Americium	Αμερίκιο	Americium	Americio	Américium	Americio	Americium	Americío	Americium	Amerikium
96	Cm	Curium	Curium	Κιούριο	Curium	Curio	Curium	Curio	Curium	Cúrio	Curium	Curium
97	Bk	Berkelium	Berkelium	Μπερκέλιο	Berkelium	Berkelio	Berkélium	Berkelio	Berkelium	Berquélio	Berkelium	Berkelium
98	Cf	Californium	Californium	Καλιφόρνιο	Californium	Californio	Californium	Californio	Californium	Califórnio	Californium	Kalifornium
99	Es	Einsteinium	Einsteinium	Αϊνστάϊνιο	Einsteinium	Einstenio	Einsteinium	Einstenio	Einsteinium	Einsteinio	Einsteinium	Einsteinium
100	Fm	Fermium	Fermium	Φέρμιο	Fermium	Fermio	Fermium	Fermio	Fermium	Férmio	Fermium	Fermium
101	Md	Mendelevium	Mendelevium	Μεντελέβιο	Mendelevium	Mendelevio	Mendélium	Mendelevio	Mendelevium	Mendelévio	Mendelevium	Mendelevium
102	No	Nobelium	Nobelium	Νομπέλιο	Nobelium	Nobelio	Nobélium	Nobelio	Nobelium	Nobélio	Nobelium	Nobelium
103	Lw	Lawrentium	Lawrentium	Λαυρένσιο	Lawrencium	Laurencio	Lawrentium	Lawrencio	Laurentium	Laurêncio	Lawrentium	Lawrensium

TABLA B – TABEL B – TABELLE B – ΠΙΝΑΚΑΣ B – TABLE B – TABLEAU B – TABELLA B – TABEL B –  
TABELA B – TABELL B - TAULUKKO B

Clasificación especial para las sustancias orgánicas

Særlig inddeling af organiske stoffer

Spezielle Anordnung für die organischen Stoffe

Ειδική ταξινόμηση των οργανικών ουσιών

Special classification for organic substances

Classification particulière aux substances organiques

Classificazione speciale per le sostanze organiche

Speciale indeling voor de organische stoffen

Classificação especial para as substâncias orgánicas

Särskild indelning av organiska ämnen

Erytysryhmät orgaanisille aineille





601	<p>Hidrocarburos Carbonhydrider (kulbrinter) Kohlenwasserstoffe Υδρογονάνθρακες Hydrocarbons Hydrocarbures Idrocarburi Koolwaterstoffen Hidrocarbonetos Kolväten Hiilivedyt</p>	606	<p>Cetonas y derivados Ketoner og deres derivater Ketone und ihre Derivate Κετόνες και παράγωγά τους Ketones and their derivatives Cétones et dérivés Chetoni e derivati Ketonen en derivaten Cetonas e derivados Ketoner och deras derivat Ketonit ja niiden johdannaiset</p>
602	<p>Hidrocarburos halogenados Halogensubstituerede carbonhydrider Halogen-Kohlenwasserstoffe Αλογονοπαράγωγα υδρογονανθράκων Halogenated hydrocarbons Dérivés halogénés des hydrocarbures Derivati idrocarburi alogenati Gehalogeneerde koolwaterstoffen Hidrocarbonetos halogenados Halogenerade kolväten Halogenoidut hiilivedyt</p>	607	<p>Ácidos orgánicos y derivados Organiske syrer og deres derivater Organische Säuren und ihre Derivate Οργανικά οξέα και παράγωγά τους Organic acids and their derivatives Acides organiques et dérivés Acidi organici e derivati Organische zuren en derivaten Ácidos orgánicos e derivados Organiska syror och deras derivat Orgaaniset hapot ja niiden johdannaiset</p>
603	<p>Alcoholes y derivados Alkoholer og deres derivater Alkohole und ihre Derivate Αλκοόλες και παράγωγά τους Alcohols and their derivatives Alcools et dérivés Alcoli e derivati Alcoholen en derivaten Álcoois e derivados Alkoholer och deras derivat Alkoholit ja niiden johdannaiset</p>	608	<p>Nitrilos Nitriler Nitrile Νιτρίλια Nitriles Nitriles Nitrili Nitrillen Nitrilos Nitriler Nitriilit</p>
604	<p>Fenoles y derivados Phenoler og deres derivater Phenole und ihre Derivate Φαινόλες και παράγωγά τους Phenols and their derivatives Phénols et dérivés Fenoli e derivati Fenolen en derivaten Fenóis e derivados Fenoler och deras derivat Fenolit ja niiden johdannaiset</p>	609	<p>Derivados nitrados Nitroforbindelser Nitroverbindungen Νιτροενώσεις Nitro compounds Dérivés nitrés Nitroderivati Nitroverbindungen Derivados nitrados Kväveföreningar Nitroyhdisteet</p>
605	<p>Aldehídos y derivados Aldehyder og deres derivater Aldehyde und ihre Derivate Αλδεΐδες και παράγωγά τους Aldehydes and their derivatives Aldéhydes et dérivés Aldeidi e derivati Aldehyden en derivaten Aldeidos e derivados Aldehyder och deras derivat Aldehydit ja niiden johdannaiset</p>	610	<p>Derivados cloronitrados Chlornitroforbindelser Chlornitroverbindungen Χλωρονιτροενώσεις Chloronitro compounds Dérivés chloronitrés Cloronitro derivati Chloornitroverbindungen Derivados cloronitrados Klorinitroföreningar Kloorinitroyhdisteet</p>

611	<p>Derivados azoicos y azoxi Azoxy- og azoforbindelser Azoxy- und Azoverbindungen Άζωξυ- και άζω-ενώσεις Azoxy- and azo compounds Dérivés azoxy et azoïques Azossi- e azoderivati Azoxy- en azoverbindingen Derivados azoxi e azóicos Azoxi- och azoföreningar Atsoksi- ja atsoyhdisteet</p>	616	<p>Amidas y derivados Amider og deres derivater Amide und ihre Derivate Αμιδια και παράγωγά τους Amides and their derivatives Amides et dérivés Ammidi e derivati Amiden en derivaten Amidas e derivados Amider och deras derivat Amidit ja niiden johdannaiset</p>
612	<p>Derivados aminados Aminer Aminoverbindungen Αμινοενώσεις Amine compounds Dérivés aminés Aminoderivati Aminoverbindingen Derivados aminados Aminer Amiiniyhdisteet</p>	617	<p>Peróxidos orgánicos Organiske peroxider Organische Peroxide Οργανικά υπεροξειδια Organic peroxides Peroxydes organiques Perossidi organici Organische peroxiden Peróxidos orgânicos Organiska peroxider Orgaaniset peroksidit</p>
613	<p>Bases heterocíclicas y derivados Heterocykliske baser og deres derivater Heterocyclische Basen und ihre Derivate Ετεροκυκλικές βάσεις και παράγωγά τους Heterocyclic bases and their derivatives Bases hétérocycliques et dérivés Basi eterocicliche e derivati Heterocyclische basen en hun derivaten Bases heterocíclicas e derivados Heterocykliska baser och deras derivat Heterosykliset emäkset ja niiden johdannaiset</p>	647	<p>Enzimas Enzymer Enzyme Ένζυμα Enzymes Enzymes Enzimi Enzymen Enzimas Enzymer Entsyymit</p>
614	<p>Glucósidos y alcaloides Glycosider og alkaloider Glycoside und Alkaloide Γλυκοζίτες και αλκαλοειδή Glycosides and alkaloids Glucosides et alcaloïdes Glucosidi e alcaloidi Glycosiden en alkaloïden Glicósidos e alcalóides Glykosider och alkaloider Glykosidit ja alkaloidit</p>	648	<p>Sustancias complejas derivadas del carbón Komplekse kulderivater Aus Kohle abgeleitete komplexe Stoffe Σύνπλοκες ουσίες παραγόμενες από άνθρακα Complex substances derived from coal Substances complexes dérivées du charbon Sostanze complesse derivate dal carbone Complexe steenkoolderivaten Substâncias complexas derivadas do carvão Komplexa kolderivat Monimutkaiset hiilijohdannaiset</p>
615	<p>Cianatos e isocianatos Cyanater og isocyanater Cyanate und Isocyanate Κυανικές και ισοκυανικές ενώσεις Cyanates and isocyanates Cyanates et isocyanates Cianati e isocianati Cyanaten en isocyanaten Cianatos e isocianatos Cyanater och isocyanater Syanaatit ja isosyanaatit</p>	649	<p>Sustancias complejas derivadas del petróleo Komplekse oliederivater Aus Erdöl abgeleitete komplexe Stoffe Σύνπλοκες ουσίες παραγόμενες από πετρέλαιο Complex substances derived from petroleum Substances complexes dérivées du pétrole Sostanze complesse derivate dal petrolio Complexe aardoliederivaten Substâncias complexas derivadas do petróleo Komplexa oljederivat Monimutkaiset öljyjohdannaiset</p>

650 Sustancias diversas  
Diverse stoffer  
Verschiedene Stoffe  
Διάφορες ουσίες  
Miscellaneous substances  
Substances diverses  
Sostanze diverse  
Diversen  
Substâncias diversas  
Diverse ämnen  
Muut aineet