INTERNATIONAL STANDARD 1043

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Symbols for terms relating to plastics

Symboles des termes relatifs aux plastiques

First edition — 1975-01-15

UDC 678.5/.8 : 003.62

Ref. No. ISO 1043-1975 (E)

Descriptors : plastics, polymers, copolymers, plasticizers, symbols.

Price based on 4 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 1043 was drawn up by Technical Committee ISO/TC 61, *Plastics.* It results from the combination of ISO Recommendation R 1043-1969 and its Addenda 1 and 2 into one single document.

ISO Recommendation R 1043-1969 had been approved by the Member Bodies of the following countries :

Austria	Iran	South Africa, Rep. of
Belgium	Ireland	Spain
Bulgaria	Israel	Sweden
Canada	Italy	Switzerland
Czechoslovakia	Japan	Thailand
Egypt, Arab Rep. of	Korea, Dem.P.Rep. of	Turkey
Finland	Korea, Rep. of	United Kingdom
Germany	Netherlands	U.S.A.
Greece	Poland	Yugoslavia
Hungary	Portugal	
India	Romania	

The Member Bodies of the following countries had expressed disapproval of the document on technical grounds :

France
New Zealand

Addendum 1 to ISO Recommendation R 1043 was circulated to the Member Bodies in June 1972. It has been approved by the Member Bodies of the following countries :

Austria	Ireland	South Africa, Rep. of
Belgium	Israel	Sweden
Brazil	Italy	Switzerland
Czechoslovakia	Japan	Thailand
Germany	Netherlands	Turkey
Hungary	Poland	United Kingdom
India	Portugal	U.S.A.
Iran	Romania	U.S.S.R.

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Addendum 2 was circulated to the Member Bodies in January 1973. It has been approved by the Member Bodies of the following countries :

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Canada	Japan	Thailand
Czechoslovakia	Netherlands	Turkey
Egypt, Arab Rep. of	New Zealand	United Kingdom
Germany	Poland	U.S.A.
Hungary	Portugal	U.S.S.R.

The Member Body of the following country expressed disapproval of the document on technical grounds :

France

This International Standard cancels and replaces ISO Recommendation R 1043-1969 and Addenda 1 and 2, of which it constitutes a technical revision.

Printed in Switzerland

Symbols for terms relating to plastics

1 SCOPE AND FIELD OF APPLICATION

This International Standard provides uniform symbols for terms relating to plastics.

Abbreviated terminology has evolved through widespread common usage. This compilation of abbreviated nomenclature has been prepared primarily to promote the use of one rather than more than one symbol for a given material, and to avoid the use of the same symbol for more than one material. It includes, in general, those symbols that have come into established use.

When using symbols in publications or other written matter, their first occurrence in the text should be enclosed in parentheses and should be preceded by the written word or words being abbreviated; subsequent references to such words in the text can then be by the appropriate symbols.

2 SYMBOLS FOR HOMOPOLYMERS AND NATURAL POLYMERS

CA	Cellulose acetate
CAB	Cellulose acetate butyrate
CAP	Cellulose acetate propionate
CF	Cresol-formaldehyde
CMC	Carboxymethyl cellulose
CN	Cellulose nitrate
CP	Cellulose propionate
CS	Casein
EC	Ethyl cellulose
EP	Epoxide; epoxy
MF	Melamine-formaldehyde
PA	Polyamide
PB	Polybutene-1
PBTP	Poly(butylene terephthalate)
PC	Polycarbonate
PCTFE	Polychlorotrifluoroethylene
PDAP	Poly(diallyl phthalate)
PE	Polyethylene
PEOX	Poly(ethylene oxide)
PETP	Poly(ethylene terephthalate)
PF	Phenol-formaldehyde
PIB	Polyisobutylene
PMMA	Poly(methyl methacrylate)
PMP	Poly-4-methylpentene-1
POM	Polyoxymethylene; polyformaldehyde
PP	Polypropylene
PPOX	Poly(propylene oxide)
PPSU	Poly(phenylene sulfone)
PS	Polystyrene
PTFE	Polytetrafluoroethylene
PUR	Polyurethane
PVAC	Poly(vinyl acetate)
PVAL	Poly(vinyl alcohol)
PVB	Poly(vinyl butyral)
PVC	Poly(vinyl chloride)
PVDC	Poly(vinylidene chloride)
PVDF	Poly(vinylidene fluoride)
PVF	Poly(vinyl fluoride)
PVFM	Poly(vinyl formal)
PVK	Polyvinylcarbazole
PVP	Polyvinylpyrrolidone
SI	Silicone
UF	Urea-formaldehyde
UP	Unsaturated polyester

NOTE – IUPAC rules for source-based names of polymers specify that when "poly" is followed by more than one word, enclosing marks are used. The IUPAC practice is followed in this document. In common usage the enclosing marks are often omitted.

3 SYMBOLS FOR COPOLYMERS (see annex, A.4)

ABS	Acrylonitrile/butadiene/styrene
A/MMA	Acrylonitrile/methyl methacrylate
A/S/A	Acrylonitrile/styrene/acrylate
E/EA	Ethylene/ethyl acrylate
E/P	Ethylene/propylene
E/VAC	Ethylene/vinyl acetate
FEP	Perfluoro (ethylene/propylene); tetrafluoroethylene/hexafluoropropylene
S/B	Styrene/butadiene
S/MS	Styrene/α-methylstyrene
VC/E	Vinyl chloride/ethylene
VC/E/MA	Vinyl chloride/ethylene/methyl acrylate
VC/MA	Vinyl chloride/methyl acrylate
VC/VAC	Vinyl chloride/vinyl acetate
VC/VDC	Vinyl chloride/vinylidene chloride

4 SYMBOLS FOR PLASTICIZERS (see notes 1 and 2)

ASE	Alkylsulfonic acid ester
BBP	Benzyl butyl phthalate
BOA	Benzyl octyl adipate (Benzyl 2-ethylhexyl adipate)
DBP	Dibutyl phthalate
DCP	Dicapryl phthalate

DEP	Diethyl phthalate
DHP	Diheptyl phthalate
DHXP	Dihexyl phthalate
DIBP	Diisobutyl phthalate
DIDA	Diisodecyl adipate
DIDP	Diisodecyl phthalate
DINA	Diisononyl adipate
DINP	Diisononyl phthalate
DIOA	Diisooctyl adipate
DIOP	Diisooctyl phthalate
DITDP	Diisotridecyl phthalate
DMP	Dimethyl phthalate
DNP	Dinonyl phthalate
DOA	Dioctyl adipate (Di-2-ethylhexyl adipate)
DOIP	Dioctyl isophthalate (Di-2-ethylhexyl isophthalate)
DOP	Dioctyl phthalate (Di-2-ethylhexyl phthalate)
DOS	Dioctyl sebacate (Di-2-ethylhexyl sebacate)
DOTP	Dioctyl terephthalate (Di-2-ethylhexyl terephthalate)
DOZ	Dioctyl azelate (Di-2-ethylhexyl azelate)
DPCF	Diphenyl cresyl phosphate
DPOF	Diphenyl octyl phosphate
ELO	Epoxidized linseed oil
ESO	Epoxidized soya bean oil
ODP	Octyl decyl phthalate
TCEF	Trichloroethyl phosphate
*TCF	Tricresyl phosphate, tritolyl phosphate (TTP)
TIOTM	Triisooctyl trimellitate
TOF	Trioctyl phosphate (Tri-2-ethylhexyl phosphate)
TOPM	Tetraoctyl pyromellitate (Tetra-2-ethylhexyl pyromellitate)
TOTM	Trioctyl trimellitate (Tri-2-ethylhexyl trimellitate)
TPF	Triphenyl phosphate

NOTES

1 Unless otherwise indicated, the alkyl groups are *n*-alkyl groups and the phthalates are esters of *o*-phthalic acid.

2 The letter P may be used in place of F for "phosphate" in plasticizer symbols.

* It is normal practice in the United Kingdom to use P in place of F to signify "phosphate". However, the abbreviation "TCP" is not acceptable because it is a registered trade-mark in the United Kingdom. Consequently, the abbreviation TTP (derived from the chemical name "tritolyl phosphate") has been adopted.