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Plastics — Symbols —

**Part 3:
Plasticizers**

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Plastiques — Symboles —

Partie 3: Plastifiants

ISO 1043-3:1988

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Reference number
ISO 1043-3:1988 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1043-3 was prepared by Technical Committee ISO/TC 61, *Plastics*.

Together with ISO 1043-1 and ISO 1043-2, it cancels and replaces ISO 1043 : 1978, of which it constitutes an extension and a partial revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Plastics — Symbols —

Part 3: Plasticizers

1 Scope and field of application

1.1 This part of ISO 1043 provides uniform symbols for terms relating to plasticizers. It includes, in general, only those symbols that have come into established use.

1.2 The purpose of this part of ISO 1043 is to prevent the occurrence of more than one symbol for a given plasticizer. The symbols are primarily intended to be a convenient shorthand for chemical names in publications and other written matter.

NOTE — Mixtures of plasticizers are not considered in this part of ISO 1043.

2 Explanatory notes

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

2.2 The first appearance of the symbols in texts shall be enclosed in parentheses and shall be preceded by the term written in full.

2.3 No letter is used in the symbols to indicate normal (*n*-) linear alcohols. For branched (iso-) alcohols, the additional letter *i* is used, with one exception: in view of worldwide usage of the letter *O* for 2-ethylhexyl (for example, in DOP and DOA), this practice is observed in this part of ISO 1043 and the *n*-octyl group is coded *NO* (as in DNOP). Because of this dual usage, the application of the rule specified in 2.2 is most important.

2.4 The letter *I* designates iso-branched groups (for example, DIOP). However, DTDP is sometimes used instead of DITDP because di-*n*-tridecyl phthalate is not used as a plasticizer; when DTDP is used, it is important that the rule specified in 2.2 is observed.

2.5 For plasticizers based on di-esters of the same alcohol, the first letter of the symbol is *D*.

2.6 The letter *P* may be used in place of *F* for "phosphate" in plasticizer symbols. (See also footnote to clause 3.)

3 Symbols for plasticizers

Symbol	Plasticizer
ASE	Alkylsulfonic acid ester
BBP	Benzyl butyl phthalate
BOA	Benzyl octyl adipate (Benzyl 2-ethylhexyl adipate)
BOP	Butyl octyl phthalate (Butyl 2-ethylhexyl phthalate)
DBP	Dibutyl phthalate
DBS	Dibutyl sebacate
DCHP	Dicyclohexyl phthalate
DCP	Dicapryl phthalate
DDP	Didecyl phthalate
DEP	Diethyl phthalate
DHP	Diheptyl phthalate
DHXP	Dihexyl phthalate
DIBP	Diisobutyl phthalate
DIDA	Diisodecyl adipate
DIDP	Diisodecyl phthalate
DIHP	Diisooheptyl phthalate
DIHXP	Diisohexyl phthalate
DINA	Diisononyl adipate
DINP	Diisononyl phthalate
DIOA	Diisooctyl adipate
DIOP	Diisooctyl phthalate
DIPP	Diisopentyl phthalate
DITDP	Diisotridecyl phthalate (see 2.4)
DMP	Dimethyl phthalate
DNOP	Di- <i>n</i> -octyl phthalate (see 2.3)
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
DUP	Diundecyl phthalate
ELO	Epoxidized linseed oil
ESO	Epoxidized soya bean oil

Symbol	Plasticizer	Symbol	Plasticizer
HNUA	Heptyl nonyl undecyl adipate (= 711 A)	TCF¹⁾	Tricresyl phosphate; tritoly phosphate (TTP)
HNUP	Heptyl nonyl undecyl phthalate (= 711 P)	THTM	Triheptyl trimellitate
HXODA	Hexyl octyl decyl adipate (= 610 A)	TIOTM	Triisooctyl trimellitate
HXODP	Hexyl octyl decyl phthalate (= 610 P)	TOF	Trioctyl phosphate (Tri-2-ethylhexyl phosphate)
NUA	Nonyl undecyl adipate (= 911 A)	TOPM	Tetraoctyl pyromellitate (Tetra-2-ethylhexyl pyromellitate)
NUP	Nonyl undecyl phthalate (= 911 P)	TOTM	Trioctyl trimellitate (Tri-2-ethylhexyl trimellitate)
ODA	Octyl decyl adipate	TPF	Triphenyl phosphate
ODP	Octyl decyl phthalate	TTP	See TCF above
ODTM	<i>n</i> -octyl decyl trimellitate	TXF	Trixylyl phosphate
TCEF	Trichloroethyl phosphate		

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1) 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 "tritoly phosphate") has been adopted.

Annex

List of symbols used for components of terms

(This annex forms an integral part of the standard.)

A.1 List by symbols

Letter	Components of terms	Component	Symbol
		Decyl	D
		Di	D
A	adipate, alkyl		
B	benzyl, butyl		
C	capryl, chloro, cresyl	Epoxidized	E
CH	cyclohexyl	Ester	E
D	decyl, di	Ethyl	E
E	epoxidized, ester, ethyl		
F	phosphate	Heptyl	H
H	heptyl	Hexyl	HX
HX	hexyl		
I	iso	Iso	I
LO	linseed oil		
M	methyl	Linseed oil	LO
N	nonyl, normal		
O	octyl	Methyl	M
P	pentyl, phenyl, phthalate, phosphate (see 2.6)	Nonyl	N
PM	pyromellitate	Normal	N
S	sebacate, sulfonic acid		
SO	soya bean oil	Octyl	O
T	tere, tetra, tri		
TM	trimellitate	Pentyl	P
U	undecyl	Phenyl	P
X	xylyl	Phosphate	F, P (see 2.6)
Z	azelate	Phthalate	P
		Pyromellitate	PM

A.2 List by components of terms

Component	Symbol	Component	Symbol
Adipate	A	Sebacate	S
Alkyl	A	Soya bean oil	SO
Azelate	Z	Sulfonic acid	S
Benzyl	B	Tere	T
Butyl	B	Tetra	T
Capryl	C	Tri	T
Chloro	C	Trimellitate	TM
Cresyl	C	Undecyl	U
Cyclohexyl	CH	Xylyl	X

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