
**Rubber compounds, raw rubbers
and compounding materials — Short
terms for properties reported in
certificates of analysis**

*Mélanges de caoutchouc, caoutchoucs bruts et ingrédients de
mélange — Noms courts pour les propriétés consignées dans les
certificats d'analyse*



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Rubber compounds, raw rubbers and compounding materials — Short terms for properties reported in certificates of analysis

1 Scope

This International Standard provides a list of short terms for analytical characteristics to be used in certificates of analysis for rubber compounds, raw rubbers and compounding materials.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

common industrial term

one of the usual terms used to describe a characteristic

2.2

standard short term for certificate of analysis

term for a characteristic as written in the certificate of analysis

3 Short terms for analytical characteristics

Table 1 provides a list of the short-terms for analytical characteristics which shall be used in certificates of analysis for rubber compounds, raw rubbers and compounding materials.

Table 1 — Short terms for analytical characteristics

Common industrial term	Standard short term for certificates of analysis	Unit
A/O 2246 ^a	A/O 2246	%
Acid number	Acid number	mg KOH/g
Active product content	Active product	% (by mass)
Additive content	Additive	% (by mass)
4 Aminodiphenylamine content	4ADPA content	% (by mass)
Aggregate size distribution (ASD): average aggregate diameter	D_w	nm
Aggregate size distribution (ASD): geometric mean aggregate mass	X_g	nm
Aggregate size distribution (ASD): most frequent diameter occurrence	D_{mode}	nm
Alkalinity (of latex)	Alkalinity (of latex)	% ammonia
Aluminium oxide content	Al ₂ O ₃ content	% (by mass)
^a Applicable to latex. ^b 1 mPa·s = 1 cP. ^c Hexadecyl-trimethyl-ammonium bromide (IUPAC name). ^d 1 mN/m = 1 dyn/cm.		

Table 1 (continued)

Common industrial term	Standard short term for certificates of analysis	Unit
Aluminium content	Al content	% (by mass)
Amine content	Amine content	% (by mass)
Ammonia content in latex	NH ₃ content	% (by mass)
Amount of matter insoluble in	Matter insoluble in	% (by mass)
Amount of matter soluble in	Matter soluble in	% (by mass)
Aniline point	Aniline point	°C
Apparent Brookfield viscosity	Brookfield viscosity	mPa·s ^b
Aromatic carbon content	CA content	% (by mass)
Aromatic content	Aromatic content	% (by mass)
Asbestos content	Asbestos content	% (by mass)
Ash	Ash at °C	% (by mass)
Assay of	Assay of	% (by mass)
Bay region hydrogen content	H _{Bay}	%
Bound-styrene content	Bound-styrene content	% (by mass)
Boric acid content	Boric acid	%
Brunauer, Emmett and Teller (BET) nitrogen surface area (NSA)	NSA	m ² /g
Brunauer, Emmett and Teller (BET) statistical thickness surface area (STSA)	STSA	m ² /g
Bulk density	Bulk density	kg/l or g/ml or g/cm ³
Butylated hydroxyanisole ^a	BHA	%
Butylated hydroxytoluene ^a	BHT	%
Cadmium content	Cd content	% (by mass)
Calcium content	Ca content	% (by mass)
Calcium carbonate content	CaCO ₃ content	% (by mass)
Carbon disulfide content	CS ₂ content	% (by mass)
Carbonyl content	Carbonyl content	% (by mass)
Chlorine content	Cl content	% (by mass)
Chromium content	Cr content	% (by mass)
Cloud point	Cloud point	°C
Coagulum content in latex	Coagulum	% (by mass)
Cobalt content	Co content	% (by mass)
Combined-sulfur content	Combined-sulfur content	% (by mass)
Copper content	Cu content	mg/kg
CTAB adsorption number (of carbon black)	CTAB ^c	m ² /g
Cyclohexylamine content	Cyclohexylamine content	% (by mass)
Density at °C	Density at °C	kg/l or g/ml or g/cm ³

^a Applicable to latex.

^b 1 mPa·s = 1 cP.

^c Hexadecyl-trimethyl-ammonium bromide (IUPAC name).

^d 1 mN/m = 1 dyn/cm.

Table 1 (continued)

Common industrial term	Standard short term for certificates of analysis	Unit
Dicyclohexylamine content	Dicyclohexylamine content	% (by mass)
Diphenyl guanidine ^a	DPG	%
Diphenyl thiourea ^a	DPTU	%
Dipentamethylenethiuram tetrasulfide ^a	DPTT	%
Dirt content	Dirt content	% (by mass)
DMSO extract	DMSO extract	% (by mass)
Dropping point	Dropping point	—
Dry residue	Dry residue	% (by mass)
Dry-rubber content ^a	DRC	% (by mass)
Extractable-protein content	EP content	µg/dm ²
Flash point (closed cup)	Flash point (CC)	°C
Flash point (open cup)	Flash point (OC)	°C
Free-amine content	Free-amine content	% (by mass)
Free-formaldehyde content (in resin, for example)	Free-HCHO content	% (by mass)
Free-phenol content (in resin, for example)	Free-phenol content	% (by mass)
Free-sulfur content	Free-sulfur content	% (by mass)
Freezing point	Freezing point	°C
Gel content	Gel content	%
Glass-transition temperature	T_g	°C
Halogen content	Halogen content	% (by mass)
Heating loss at °C	Heating loss at °C	% (by mass)
Hydroxyl group content	Hydroxyl group	% (by mass)
Hydrated-formaldehyde content	HCHO content	% (by mass)
Ignition loss at °C	Ignition loss at °C	% (by mass)
Impurity content	Impurity	% (by mass)
Individual pellet strength	Pellet strength	cN
Insoluble-sulfur content	Insoluble-sulfur content	% (by mass)
Iodine adsorption number	Iodine number	mg/g
Iodine index	Iodine index	g/100 g
Iron content	Fe content	% (by mass)
Iron oxide content	Fe ₂ O ₃ content	% (by mass)
Kinematic viscosity at °C	Kinematic viscosity at °C	mm ² /s
KOH number	KOH number	—
Lead content	Pb content	% (by mass)
Magnesium content	Mg content	% (by mass)
Magnesium oxide content	MgO content	% (by mass)
^a Applicable to latex. ^b 1 mPa·s = 1 cP. ^c Hexadecyl-trimethyl-ammonium bromide (IUPAC name). ^d 1 mN/m = 1 dyn/cm.		

Table 1 (continued)

Common industrial term	Standard short term for certificates of analysis	Unit
Manganese content	Mn content	mg/kg
Mass-average molecular mass	M_w	g/mol
Mechanical-stability time for latex	MST	s
Melting point	Melting point	°C
Mercaptobenzothiazole (MBT) content ^a	MBT content	% (by mass)
Microstructure	Microstructure	%
Moisture content	Moisture content	% (by mass)
Molecular-mass distribution	MWD	g/mol
Mooney viscosity	ML(x+y) at °C	Mooney units
Naphthenic-carbon content	NC content	% (by mass)
<i>N</i> -nitrosodibenzylamine ^a	NDBzA content	µg/kg
<i>N</i> -nitrosodibutylamine ^a	NDBA content	µg/kg
<i>N</i> -nitrosodiethylamine ^a	NDEA content	µg/kg
<i>N</i> -nitrosodiisononylamine ^a	NDiNA content	µg/kg
<i>N</i> -nitrosodimethylamine ^a	NDMA content	µg/kg
<i>N</i> -nitrosodipropylamine ^a	NDPA content	µg/kg
<i>N</i> -nitrosoethylphenylamine ^a	NEPhA content	µg/kg
<i>N</i> -nitrosomethylethylamine ^a	NMEA content	µg/kg
<i>N</i> -nitrosomethylphenylamine ^a	NMPhA content	µg/kg
<i>N</i> -nitrosomorpholine ^a	N-MOR content	µg/kg
<i>N</i> -nitrosopiperidine ^a	N-PIP content	µg/kg
<i>N</i> -nitrosopyrrolidine ^a	N-PYR content	µg/kg
Nickel content	Ni content	% (by mass)
Nitrogen content	N content	% (by mass)
Number-average molecular mass	M_n	g/mol
Oil absorption number (of carbon black)	OAN	ml/100 g
Oil absorption number of compressed sample	COAN	ml/100 g
Organic-acid content	Organic-acid content	% (by mass)
Paraffinic-carbon content	PC content	% (by mass)
Particle size distribution (PSD): mean diameter	Mean diameter	µm
Particle size distribution: median diameter	Median diameter	µm
pH	pH	pH units
Phosphorus content	P content	% (by mass)
Phthalimide content	Phthalimide	% (by mass)
Plasticity number of unaged test pellet	P0	1/100 mm
Plasticity retention index	PRI	—
^a Applicable to latex.		
^b 1 mPa·s = 1 cP.		
^c Hexadecyl-trimethyl-ammonium bromide (IUPAC name).		
^d 1 mN/m = 1 dyn/cm.		

Table 1 (continued)

Common industrial term	Standard short term for certificates of analysis	Unit
Polar content	Polar	% (by mass)
Polydispersity index	PDI	—
Pour density	Pour density	g/ml or g/cm ³ or kg/m ³
Pour point	Pour point	°C
Rapid plasticity number of test pellet after ageing at 140 °C for 30 min	P30	1/100 mm
Refractive index at °C	Refractive index at °C	—
Rubber hydrocarbon content	RHC	% (by mass)
Saponification number	Saponification number	mg KOH/g
Sieve residue at µm	Sieve residue at µm	% (by mass)
Silicon dioxide content	SiO ₂	% (by mass)
Soap content	Soap content	% (by mass)
Sodium carbonate content	Na ₂ CO ₃ content	% (by mass)
Softening point	Softening point	°C
Solidification point	Solidification point	°C
Soluble-sulfur content	Soluble-sulfur content	% (by mass)
Spectral transmittance of toluene extract	Toluene transmittance	% (by mass)
Surface tension	Surface tension	mN/m ^d
<i>tert</i> -Butylamine content	<i>tert</i> -Butylamine content	% (by mass)
Tetramethylthiuram disulfide	TMTD	mg/kg
Tinting strength (of carbon black)	Tinting strength	%
Total alkalinity (of latex)	Total alkalinity (of latex)	% ammonia
Total fatty acid content	Total fatty acid content	% (by mass)
Total protein content	Total protein content	µg/dm ²
Total solids content	TSC	% (by mass)
Total sulfur content	Total sulfur content	% (by mass)
Unsaponifiable content	Unsaponifiable content	% (by mass)
Unsaturation rate	Unsaturation rate	%
Vicat softening point	Vicat softening point	°C
Volatile fatty acid number (of latex)	VFA number	% (by mass)
Volatile-matter content at °C	Volatile-matter content at °C	% (by mass)
Wingstay L ^a	Wingstay L	%
Zinc content	Zn content	% (by mass)
Zinc dibenzylthiocarbamate ^a	ZBED	%
Zinc dibutylthiocarbamate ^a	ZDBC	%
^a Applicable to latex. ^b 1 mPa·s = 1 cP. ^c Hexadecyl-trimethyl-ammonium bromide (IUPAC name). ^d 1 mN/m = 1 dyn/cm.		