

DICOM Change Proposal

STATUS	In work
Date of Last Update	2026-05-29
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Submission Date	2026-01-12

Change Number	CP-2605																																		
Log Summary:	PS3.16 Consistency of UCUM CodeMeaning																																		
Name of Standard	PS3.16																																		
Rationale for Change:	<p>PS3.16 extensively uses UCUM units in different ways:</p> <p>a) TIDs naming the unit in the column "Value Set Constraint"</p> <p style="margin-left: 20px;">UNITS = EV (mGy, UCUM, "mGy") TID 10003, Row 21 \$Units = DT (ml, UCUM, "ml") TID 3206, Row 12</p> <p>b) CIDs dedicated to units, where frequently CodingSchemeDesignator = "UCUM":</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Coding Scheme Designator</th> <th>Code Value</th> <th>Code Meaning</th> </tr> </thead> <tbody> <tr> <td>UCUM</td> <td>mg/cm3</td> <td>mg/cm^3</td> </tr> <tr> <td>UCUM</td> <td>[hnsFU]</td> <td>Hounsfield Unit</td> </tr> <tr> <td>UCUM</td> <td>10^23/ml</td> <td>Electron Density</td> </tr> </tbody> </table> <p style="margin-left: 20px;">CID 83. Real World Value Mapping Unit CID 84. PET Unit CID 85. SUV Unit CID 301. Multi-energy Material Unit CID 9521. Radiotherapy Treatment Energy Unit etc.</p> <p>c) CIDs which have a column "Units" with Coded Concepts based on UCUM:</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Units</th> </tr> </thead> <tbody> <tr> <td>(cm, UCUM, "cm")</td> </tr> <tr> <td>(ml/s, UCUM, "ml/s")</td> </tr> <tr> <td>(%, UCUM, "%")</td> </tr> </tbody> </table> <p style="margin-left: 20px;">CID 6352. Prostate Cancer Diagnostic Blood Lab Measurement CID 7180. Abstract Multi-dimensional Image Model Component Semantic CID 7271. MR Diffusion Anisotropy Index / CID 7272. MR Diffusion Model Parameter CID 12300. Core Echo Measurement</p>					Coding Scheme Designator	Code Value	Code Meaning	UCUM	mg/cm3	mg/cm^3	UCUM	[hnsFU]	Hounsfield Unit	UCUM	10^23/ml	Electron Density	Units	(cm, UCUM, "cm")	(ml/s, UCUM, "ml/s")	(%, UCUM, "%")														
Coding Scheme Designator	Code Value	Code Meaning																																	
UCUM	mg/cm3	mg/cm^3																																	
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(ml/s, UCUM, "ml/s")																																			
(%, UCUM, "%")																																			
	<p>Under this usage, the <u>CodeMeanings for UCUM</u> coded concepts have become <u>very inconsistent</u> over time. Variations in capital case, singular/plural, short/long form exist, even for the same CodeValue. For square/cubic there is no "official" way for CodeMeaning, given that mm² / mm³ is char-set dependent. Variants "mm2" versus "square millimeters", or "mg/cm3" versus "mg/cm^3" exist.</p> <p>Prominent examples are:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>CodeValue</th> <th colspan="4">with CodeMeanings:</th> <th>Variations</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>68x "no units"</td> <td>6x "No units"</td> <td>2x "no unit"</td> <td>2x "units"</td> <td>capital case/plural</td> </tr> <tr> <td>mm</td> <td>196x "mm"</td> <td>1x "no mm"</td> <td colspan="2">20x "millimeter"</td> <td>short/long form/error?</td> </tr> <tr> <td>s</td> <td>"s" (32x)</td> <td>"Second" (1x)</td> <td>"second" (3x)</td> <td>"seconds" (1x)</td> <td>Plural, short/long form</td> </tr> <tr> <td>deg</td> <td>"Degree" (1x)</td> <td>"deg" (59x)</td> <td>"degree" (3x)</td> <td>"degrees" (3x)</td> <td>Plural, short/long form</td> </tr> </tbody> </table>					CodeValue	with CodeMeanings:				Variations	1	68x "no units"	6x "No units"	2x "no unit"	2x "units"	capital case/plural	mm	196x "mm"	1x "no mm"	20x "millimeter"		short/long form/error?	s	"s" (32x)	"Second" (1x)	"second" (3x)	"seconds" (1x)	Plural, short/long form	deg	"Degree" (1x)	"deg" (59x)	"degree" (3x)	"degrees" (3x)	Plural, short/long form
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	<p><u>Impact on manufacturers:</u></p> <ul style="list-style-type: none"> - UCUM CodeMeaning depends highly on the context of usage and can be contradicted for a code - Automated validation of DICOM Instances becomes very hard - Potential for incorrect usage of CodedConcepts or CodeMeanings, which may be undiscovered in tests. <p>→ Consistent usage of CodeMeanings for UCUM units shall be archived.</p>																																		

Suggestions:

1. Correct problematic wrong UCUM units, e.g.
 - CodeValue “diop” used, but UCUM standard has “[diop]”
 - CodeMeanings with special characters “Ω” and “°C” are not available in Default CharacterSet.
 - → issues will be addressed as separate CP-2603 Correction of problematic UCUM.
2. Check the UCUM CodeValues.
Use the entry of column “c/s” (case significant), as this column is defined normative in UCUM.
Note: The column “print” is not normative to UCUM and it has characters which are not available in some character-sets, for instance “Ω” and “°C”.
3. For all UCUM CodeValues, check if the CodeMeaning is ambitious
 - For each UCUM CodeValue there shall be only one CodeMeaning.
That CodeMeaning shall be used throughout the whole DICOM Standard.
 - If the CodeMeaning is currently ambiguous, then the most used form shall be given precedence
4. Check CodeMeanings for overall consistency.
 - Texts used for base units shall be same used in texts for derived units
For instance: text “cm” results in change of text “/Centimeter” → “/cm”.
 - Use units in singular form (“day” instead of “days”).
Exceptions may exist for units in curly brackets, like {cells}, {events}, {channels}, {pixels}.
5. Build a dictionary for the UCUM Coded Concepts.
This is addressed as a separate CP-2606 “Create generic CID for Measurement Units”.
6. Do as editorial change, replace used UCUM Coded Concepts
to those used in CP-2606 “Create generic CID for Measurement Units”.

A replacement table is part of this CP-2605, see section “Change wording” below.

Discussion of UCUM usage, and which CodeMeaning is favoured:

Below is a list of all Coded Concepts currently used in the DICOM Standard.
This is the result of suggestions 1-4, basis for the directory (5), and later editorial change (6).

Coded Concepts with ambiguous CodeMeanings are marked in **blue**.
CodeMeanings suggested to be changed are marked in **yellow**. CodeMeaning to be kept is in **green**.
Problematic Concepts are marked in **orange**. Some may already be addressed in a separate CP-2603.

UCUM Coded Concept	TIDs with UCUM	CIDs with UCUM entries	CIDs with column "Units"
(%, UCUM, "%")	45		41
(%, UCUM, "Percent")	15	3	
(%, UCUM, "percent")	2		
(%/m2, UCUM, "%/m2")	1		
(%/s, UCUM, "%/s")			3
(%/{H.B.}/min, UCUM, "%/BPM")	1		
{/AIF}, UCUM, "/AIF"			1

Note: parentheses are missing in CID 4109 This is addressed in CP-2603.			
{normalized}, UCUM, "normalized"			
Note: parentheses are missing in CID 4109 This is addressed in CP-2603.			31
(/cm, UCUM, "/Centimeter")		1	
(/h, UCUM, "/hour")	1		
(/min, UCUM, "/min")		1	2
(/min, UCUM, "breaths/min")			
Note: CodeMeaning includes "breaths" – but it is missing in CodeValue. This is addressed in CP-2603.	3		
(/ms, UCUM, "/ms")			3
(/s, UCUM, "/s")	1	1	
(/u, UCUM, "/u")	1		
(1, UCUM, "No units")	6		
(1, UCUM, "no unit")	2		
(1, UCUM, "no units")	51	1	16
(1, UCUM, "units")	2		
(10*23/ml, UCUM, "Electron Density")		1	
(10-6.mm2/s, UCUM, "10-6.mm2/s")		1	
(Bq, UCUM, "Bq")	2		
(Bq, UCUM, "becquerel")		1	
(Bq/ml, UCUM, "Becquerels/milliliter")		1	
(Bq/mmol, UCUM, "Bq/mmol")	1		
(Bq/mol, UCUM, "Bq/mol")	2		
(Cel, UCUM, "C")	7		
(Cel, UCUM, "degrees Celsius")		1	
(Gy, UCUM, "Gray")	1		
(Gy, UCUM, "Gy")	8	1	
(Gy.m2, UCUM, "Gy.m2")	8		
(Gy/s, UCUM, "Gy/s")		2	
(Hz, UCUM, "Hertz")		1	
(Hz, UCUM, "Hz")	2	1	
(MBq, UCUM, "MBq")	3		
(MBq, UCUM, "megabecquerel")		1	
(MV, UCUM, "Megavolt")		1	
(MeV, UCUM, "Megaelectronvolt")	1	1	
("MeV", UCUM, "Megaelectronvolt")			
Note: CodeValue is in double-quotes. This is addressed in CP-2603.	1		
(N, UCUM, "Newton")	1		
(Pa, UCUM, "Pa")	1		
(Sv, UCUM, "Sv")		1	
(T, UCUM, "Tesla")	1		

(W, UCUM, "Watts")	2		
([Ch], UCUM, "french")		1	
([MET], UCUM, "METS")	2		
([PRU], UCUM, "P.R.U.")		1	
([PRU]/m2, UCUM, "P.R.U./m2")		1	
([arb'U], UCUM, "arbitrary unit")	1	1	
([diop], UCUM, "diopters")	5		
([hnsf'U], UCUM, "Hounsfield Unit")		2	
([hnsf'U], UCUM, "Hounsfield unit")	5	1	1
([iU], UCUM, "International unit")	3		
([mi_i]/h, UCUM, "mph")		1	
([p'diop], UCUM, "prism diopters")	2		
([pH], UCUM, "pH")	1		
([wood'U], UCUM, "Wood U")		1	
([wood'U]/m2, UCUM, "Wood U/m2")		1	
(a, UCUM, "Year")	9		
(a, UCUM, "year")		2	
(cm, UCUM, "centimeter")	1	1	
(cm, UCUM, "cm")	15	1	87
(cm/m2, UCUM, "cm/m2")			8
(cm/s, UCUM, "centimeter/second")		1	
(cm/s, UCUM, "cm/s")	5		31
(cm2, UCUM, "Centimeter**2")		1	
(cm2, UCUM, "cm2")	3		41
(cm2, UCUM, "square centimeter")		1	
(cm2/m2, UCUM, "cm2/m2")	1		2
(cm2/ml, UCUM, "Centimeter**2/milliliter")		1	
(cm2/ml{SUVbsa}, UCUM, "Standardized Uptake Value body surface area")		1	1
(cm3, UCUM, "cm3")	3		
(cm3, UCUM, "cubic centimeter")		1	
(d, UCUM, "day")	1	2	
(d, UCUM, "days")	6		
(dB, UCUM, "dB")	2		
(dB, UCUM, "decibel")		1	
(dB/cm/MHz, UCUM, "dB/cm/MHz")	5		
(dB[mV], UCUM, "dB(mV)")		1	
(dB[uV], UCUM, "dB(μ V)")			
<i>Note: Contains micro sign – not available in some charsets. This is addressed in CP-2603.</i>		1	
(deg, UCUM, "Degree")		1	
(deg, UCUM, "deg")	53		6
(deg, UCUM, "degree")	3		
(deg, UCUM, "degrees")	3		

(diop, UCUM, "diopters") <i>Note: UCUM §44, Table 18, has [diopt] in column "c/s". This is addressed in CP-2603.</i>		1	
(dm3, UCUM, "cubic decimeter")		1	
(dyn.s.cm-5, UCUM, "dyn.s.cm-5") Having "10-5 as factor, this gives unnecessary high values. This is addressed in CP-2603. Same on next 3 rows.		1	
(dyn.s.cm-5/m2, UCUM, "dyn.s.cm-5/m2")		1	
(dyn.s/cm5, UCUM, "dyn.s/cm5")			1
(dyn/cm2, UCUM, "dynes/cm2")	1		
(g, UCUM, "g")	2		5
(g, UCUM, "gram")	1		
(g, UCUM, "grams")	1		
(g/dl, UCUM, "g/dl")	1		
(g/kg, UCUM, "gram/kg")	1		
(g/m2, UCUM, "g/m2")	1		4
(g/m2, UCUM, "gram/m2")	1		
(g/m2.7, UCUM, "g/m2.7")			4
(g/m{SUVbw}, UCUM, "Standardized Uptake Value body weight")		1	1
(g/m{SUVibw}, UCUM, "Standardized Uptake Value ideal body weight")		1	1
(g/m{SUVlbm(James128)}, UCUM, "Standardized Uptake Value lean body mass (James 128 multiplier)")		1	1
(g/m{SUVlbm(Janma)}, UCUM, "Standardized Uptake Value lean body mass (Janma)")		1	1
(g/m{SUVlbm}, UCUM, "Standardized Uptake Value lean body mass (James)")		1	1
(gf.m, UCUM, "gf.m")	2		
(gf.m/m2, UCUM, "gf.m/m2")	2		
(h, UCUM, "hour")		1	
(h, UCUM, "hours")	4		
(kHz, UCUM, "kHz")	1		
(kPa, UCUM, "kPa")	10	1	1
(kPa, UCUM, "kilopascal")	1		
(kV, UCUM, "Kilovolt")		1	
(kV, UCUM, "kV")	4		
(kg, UCUM, "kg")	6		
(kg/m2, UCUM, "kg/m2")	1		
(kg/m2, UCUM, "kg/m^2")	1		
(km/h, UCUM, "km/h")		1	
(l, UCUM, "l")	1		
(l/min, UCUM, "l/min")	9		21
(l/min/m2, UCUM, "l/min/m2")	4		
(l/mmol/s, UCUM, "l/mmol/s")	2		
(m, UCUM, "m")		1	
(m/s, UCUM, "m/s")	8		4
(m/s/kHz, UCUM, "m/s/kHz")	8		1

(m2, UCUM, "m2")	3		1
(m2, UCUM, "m^2")	1		
(mA, UCUM, "mA")	6		
(mCi, UCUM, "millicurie")		1	
(mGy, UCUM, "mGy")	21		
(mGy.cm, UCUM, "mGy.cm")	9		
(mGy.cm2, UCUM, "mGy.cm2")	1		
(mGy/mA.s, UCUM, "mGy/mA.s")	2		
(mSv, UCUM, "mSv")	4		
(mSv/mGy.cm, UCUM, "mSv/mGy.cm")	1		
(mT, UCUM, "milliTesla")		1	
(mV, UCUM, "mV")	5	1	
(mbar, UCUM, "millibar")	1		
(meq/dl, UCUM, "meq/dl")	1		
(mg, UCUM, "mg")	1		
(mg/[hnsf'U].cm3, UCUM, "mg/[hnsf'U].cm3")	1		
(mg/cm3, UCUM, "mg/cm3")	1		
(mg/cm3, UCUM, "mg/cm^3")		1	
(mg/dl, UCUM, "mg/dl")	3		
(mg/kg, UCUM, "mg/kg")	1		
(mg/min/ml, UCUM, "Milligrams/minute/milliliter")		1	
(mg/ml, UCUM, "mg/ml")		2	
(min, UCUM, "min")	8		
(min, UCUM, "minute")		1	
(ml, UCUM, "ml")	33		28
(ml/(100.g), UCUM, "ml/(100.g)")			1
(ml/(100.g)/min, UCUM, "ml/(100.g)/min")			
(ml/[100]g/min, UCUM, "milliliter per 100 gram per minute")			
<i>Note: From UCUM §10, it should be in round parentheses</i>		1	
(ml/(100.ml), UCUM, "ml/(100.ml)")			1
(ml/[100]ml, UCUM, "milliliter per 100 milliliter")			
<i>Note: From UCUM §10, it should be in round parentheses</i>		1	
(ml/(100.ml)/min, UCUM, "ml/(100.ml)/min")			1
(ml/dl, UCUM, "ml/dl")	3		
(ml/g, UCUM, "Milliliter/gram")		1	
(ml/kg, UCUM, "ml/kg")	3		
(ml/m2, UCUM, "ml/m2")	7		6
(ml/min, UCUM, "milliliter per minute")		1	
(ml/min, UCUM, "ml/min")	2		
(ml/min/g, UCUM, "Milliliter/minute/gram")		1	
(ml/min/m2, UCUM, "(ml/min)/m2")	1		
(ml/min/{H.B.}/min, UCUM, "(ml/min)/BPM")	1		
(ml/min{1.73_m2}, UCUM, "ml/min/1.73m2")	1		

(ml/s, UCUM, "milliliter per second")		1	
(ml/s, UCUM, "ml/s")	9		5
(ml/s/m2, UCUM, "(ml/s)/m2")	1		
(ml/s/{H.B.}/min, UCUM, "(ml/s)/BPM")	1		
(ml/{H.B.}/min, UCUM, "ml/BPM")	1		
(mm, UCUM, "millimeter")	19	1	
(mm, UCUM, "mm")	125	3	68
(mm, UCUM, "no mm") This is wrong anyways	1		
(mm/s, UCUM, "millimeter/second")		1	
(mm/s, UCUM, "mm/s")	2		
(mm/{pixel}, UCUM, "millimeters per pixel")	2		
(mm/{pixel}, UCUM, "mm/pixel")	4		
(mm2, UCUM, "mm2")	12		6
(mm2, UCUM, "square millimeter")		1	
(mm2/s, UCUM, "mm2/s")		1	
(mm3, UCUM, "cubic millimeter")		1	
(mm3, UCUM, "mm3")	9		2
(mm[Hg], UCUM, "mmHg")	5	1	17
(mm[Hg].s/cm, UCUM, "mmHG.s/cm")	1		
(mm[Hg].s2/cm2, UCUM, "mmHG.s2/cm2")	1		
(mm[Hg].{H.B.}/min, UCUM, "mmHg.BPM")	2		
(mm[Hg]/s, UCUM, "mmHg/s")	2		1
(mm[Hg]/s2, UCUM, "mmHg/s/s")	1		
(mmol/kg{WetWeight}, UCUM, "millimoles per kg wet weight")		1	
(mmol/l, UCUM, "mmol/l")	6		1
(mmol/l.s, UCUM, "mmol/l.s")			4
(mo, UCUM, "month")		2	
(mosm/kg, UCUM, "mosm/kg")	1		
(ms, UCUM, "Millisecond")		1	
(ms, UCUM, "millisecond")		1	
(ms, UCUM, "ms")	20		45
(ng/mL, UCUM, "ng/mL")			1
(nm, UCUM, "nm")	1		
(ppm, UCUM, "ppm")			
<i>Note: UCUM §29 has [ppm] in column "c/s".</i>		1	16
(rad, UCUM, "Radian")		1	
(rad/s, UCUM, "rad/s")		1	
(s, UCUM, "Second")		1	
(s, UCUM, "s")	23	1	8
(s, UCUM, "second")	2	1	
(s, UCUM, "seconds")	1		
(s/min, UCUM, "s/min")	1		
(s/mm2, UCUM, "s/mm2")	1		1

(s/mm ² , UCUM, "second per square millimeter")		1	
(uA.s, UCUM, "uA.s")	1		
(uL, UCUM, "uL")			1
(uV, UCUM, "uV")	2		
(uV, UCUM, "µV")			
<i>Note: Contains micro sign – not available in some charsets</i>		1	
(ug/kg/min, UCUM, "ug/kg/min")	1		
(um, UCUM, "micrometer")	12	3	
(um, UCUM, "µm")	1	1	43
(um ² , UCUM, "square micrometer")		1	
(um ² /ms, UCUM, "um ² /ms")		1	
(um ² /s, UCUM, "um ² /s")		1	
(um ³ , UCUM, "cubic micrometer")		1	
(umol/min/ml, UCUM, "Micromole/minute/milliliter")		1	
(umol/ml, UCUM, "Micromole/milliliter")		1	
(wk, UCUM, "Week")	1		
(wk, UCUM, "week")		2	
({-1:1}, UCUM, "{-1:1}")			
<i>Note: According PS 3.16. section 7.2.2, the format {M:N}, UCUM, "range: M:N" shall be used – same on next lines</i>	12		
({0:100}, UCUM, "range:0:100")	4		
({0:1}, UCUM, "range 0:1")			4
({0:2}, UCUM, "range 0:2")	10		
({0:4}, UCUM, "range 0:4")	2		
({0:n}, UCUM, "range: 0:n")	2		
({1:10}, UCUM, "range 1:10")	2		
({1:n}, UCUM, "range: 1:n")	4		
({H.B.}/min, UCUM, "BPM")	14		
({MU}, UCUM, "Monitor Units")		3	
({MU}/s, UCUM, "Monitor Units/Second")		1	
({MU}/s, UCUM, "Monitor Units/s")		1	
({Particles}/[100]g{Tissue}, UCUM, "number particles per 100 gram of tissue")		1	
({animals}, UCUM, "animals")	1		
({beats}, UCUM, "beats")	4		
({cages}, UCUM, "cages")	1		
({calcifications}, UCUM, "calcifications")	1		
({cells}/mm ² , UCUM, "cells/mm ² ")			1
({channels}, UCUM, "channels")	1		
({counts}, UCUM, "Counts")		2	
({counts}/s, UCUM, "Counts per second")		2	
({counts}/s, UCUM, "counts/s")	2		
({events}, UCUM, "events")	2		
({findings}, UCUM, "findings")	1		

({images}, UCUM, "images")	1		
({lesions}, UCUM, "lesions")	1		
({needles}, UCUM, "needles")	1		
({nodes}, UCUM, "nodes")	2		
({passes}, UCUM, "passes")	1		
({pixels}, UCUM, "pixels")	12		
({planes}, UCUM, "planes")	1		
({propcounts}, UCUM, "Proportional to counts")		1	
({propcounts}/s, UCUM, "Proportional to counts per second")		1	
({pulse}/s, UCUM, "pulse/s")	3		
({racks}, UCUM, "racks")	1		
({ratio}, UCUM, "ratio")	23	1	15
({samples}, UCUM, "samples")	1		
({sd}, UCUM, "Standard Deviations")	3		
({specimens}, UCUM, "specimens")	1		
({stage}, UCUM, "stage")	2		
({step}, UCUM, "step")	2		
({territories}, UCUM, "territories")	1		
({trials}, UCUM, "trials")	3		

Change Wording:

Editorial Change PS3.16, search and replace in full text in XML source (DocBook):
 To editor: each suggested replacement was carefully checked on the part16.xml (2026b).
 Side-effect of other xml text passages have carefully avoided. Please mind XML portions like ">" and "</para>" are needed in some cases to avoid running into other unwanted replacements.

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#	Search	Replace	Comment
1	(%, UCUM, "Percent")	(%, UCUM, "%")	16 replacements (was 15 on 2025e)
2	(%, UCUM, "percent")	(%, UCUM, "%")	2 replacements
3	">Percent</para>	">%</para>	3 replacements
4	/Centimeter	/cm	1 replacement
5	/hour	/h	1 replacement
6	(1, UCUM, "No units")	(1, UCUM, "no units")	6 replacements
	(1, UCUM, "no unit")	(1, UCUM, "no units")	2 replacements solved in 2026b edition
	(1, UCUM, "units")	(1, UCUM, "no units")	2 replacements solved in 2026b edition
7	">becquerel</para>	">Bq</para>	1
8	>Becquerels/milliliter</para>	>Bq/ml</para>	1
9	(Cel, UCUM, "C")	(Cel, UCUM, "Cel")	7
10	>degrees Celsius</para>	>Cel</para>	1

11	(Gy, UCUM, "Gray")	(Gy, UCUM, "Gy")	1
12	">Hertz</para>	">Hz</para>	1
13	>megabecquerel</para>	>MBq</para>	1
14	>Megavolt</para>	>MV</para>	1
15	(MeV, UCUM, "Megaelectronvolt")	(MeV, UCUM, "MeV")	1
16	("MeV", UCUM, "Megaelectronvolt")	(MeV, UCUM, "MeV")	1
17	>Megaelectronvolt</para>	>MeV</para>	1
18	(N, UCUM, "Newton")	(N, UCUM, "N")	1
19	(T, UCUM, "Tesla")	(T, UCUM, "T")	1
20	(W, UCUM, "Watts")	(W, UCUM, "W")	2 (was 1 in 2025e edition)
21	>Hounsfield Unit</para>	>Hounsfield unit</para>	2
22	(a, UCUM, "Year")	(a, UCUM, "year")	9
23	(cm, UCUM, "centimeter")	(cm, UCUM, "cm")	1
24	>centimeter</para>	>cm</para>	1
25	">centimeter/second</para>	">cm/s</para>	1
26	">Centimeter**2</para>	">cm2</para>	1
27	"> square centimeter </para>	">cm2</para>	1
28	>Centimeter**2/milliliter</para>	>cm2/ml</para>	1
29	>cubic centimeter</para>	>cm3</para>	1
30	(d, UCUM, "days")	(d, UCUM, "day")	6
31	>decibel</para>	>dB</para>	1
32	dB(μ V)	dB(uV)	1
33	>Degree</para>	>deg</para>	1
34	(deg, UCUM, "degree")	(deg, UCUM, "deg")	3
35	(deg, UCUM, "degrees")	(deg, UCUM, "deg")	3
36	>diop</para>	>[diop]</para>	1
37	(g, UCUM, "gram")	(g, UCUM, "g")	1
38	(g, UCUM, "grams")	(g, UCUM, "g")	1
40	(g/m2, UCUM, "gram/m2")	(g/m2, UCUM, "g/m2")	1
41	(h, UCUM, "hours")	(h, UCUM, "h")	4
42	(kPa, UCUM, "kilopascal")	(kPa, UCUM, "kPa")	1
43	>Kilovolt</para>	>kV</para>	1
	{kg/m2, UCUM, "kg/m^2"}	{kg/m2, UCUM, "kg/m2"}	† solved in 2026b edition
	{m2, UCUM, "m^2"}	{m2, UCUM, "m2"}	† solved in 2026b edition

44	>millicurie</para>	>mCi</para>	1
45	>milliTesla</para>	>mT</para>	1
46	(mbar, UCUM, "millibar")	(mbar, UCUM, "mbar")	1
	>mg/cm ³ </para>	>mg/cm ³ </para>	‡ solved in 2026b edition
47	>Milligrams/minute/milliliter</para>	>mg/min/ml</para>	1
48	>minute</para>	>min</para>	2 (was 1 in 2025e edition)
49	>ml/[100]g/min</para>	>ml/(100)g/min</para>	1 (updated search pattern for 2026b edition)
50	>milliliter per 100 gram per minute</para>	>ml/100g/min</para>	1
51	>ml/[100]ml</para>	>ml/(100)ml </para>	1
52	">milliliter per 100 milliliter</para>	">ml/100ml</para>	1
53	>Milliliter/gram</para>	>ml/g</para>	1
54	>milliliter per minute</para>	>ml/min</para>	1
55	>Milliliter/minute/gram</para>	>ml/min/g</para>	1
56	(ml/min/m ² , UCUM, "(ml/min)/m ² ")	(ml/min/m ² , UCUM, "(ml/min)/m ² ")	1
57	(ml/min/{H.B.}/min, UCUM, "(ml/min) /BPM")	(ml/min/{H.B.}/min, UCUM, "(ml/min)/BPM")	1
58	>milliliter per second</para>	>ml/s</para>	1
59	(mm, UCUM, "millimeter")	(mm, UCUM, "mm")	19
60	>millimeter</para>	>mm</para>	1
	(mm , UCUM, " no mm ")	(mm , UCUM, "mm")	‡ solved in 2026b edition
61	>millimeter/second</para>	>ml/s</para>	1
62	"(ml/s)/m ² "</para>	"(ml/s)/m ² "</para>	1 (updated patterns for 2026b edition)
63	(ml/s)/BPM"</para>	(ml/s)/BPM"</para>	1 (updated patterns for 2026b edition)
64	>square millimeter</para>	>mm ² </para>	1
65	">cubic millimeter</para>	>mm ³ </para>	1
66	(mm[Hg]/s ² , UCUM, "mmHg/s/s")	(mm[Hg]/s ² , UCUM, "mmHg/s ² ")	1
67	millimoles per kg wet weight	mmol/kg wet weight	1

68	>Millisecond</para>	>ms</para>	1
69	>millisecond</para>	>ms</para>	1
70	(ppm, UCUM, "ppm")	([ppm], UCUM, "ppm")	16
71	<para xml:id="para_d16ee347-dd94-4167-915b-3a0125599970">ppm</para>	<para xml:id="para_d16ee347-dd94-4167-915b-3a0125599970">[ppm]</para>	1
72	>Radian</para>	>rad</para>	1
73	>Second</para>	>s</para>	1
74	(s, UCUM, "second")	(s, UCUM, "s")	2
75	>second</para>	>s</para>	1
76	(s, UCUM, "seconds")	(s, UCUM, "s")	1
77	>second per square millimeter</para>	>s/mm2</para>	1
78	>µV</para>	>uV</para>	1
79	(um, UCUM, "micrometer")	(um, UCUM, "um")	12
80	>micrometer</para>	>um</para>	4 (was 3 in 2025e edition)
81	>square micrometer</para>	>um2</para>	1
82	>cubic micrometer</para>	>um3</para>	1
83	Micromole/minute/milliliter	umol/min/ml	1
84	Micromole/milliliter	umol/ml	1
85	(wk, UCUM, "Week")	(wk, UCUM, "week")	1
86	{{-1:1}, UCUM, "{-1:1}"}	{{-1:1}, UCUM, "range: -1:1")	12, overlap with CP-2603 was 1 in 2025e edition target is per P3.16 7.2.2
87	{{0:100}, UCUM, "range:0:100")	{{0:100}, UCUM, "range: 0:100")	4, overlap with CP-2603
88	{{0:1}, UCUM, "range 0:1")	{{0:1}, UCUM, "range 0:1")	4, overlap with CP-2603
89	{{0:1}, UCUM, "range 0:2")	{{0:1}, UCUM, "range 0:2")	10, overlap with CP-2603
90	{{0:1}, UCUM, "range 0:4")	{{0:1}, UCUM, "range 0:4")	2, overlap with CP-2603
91	{{1:10}, UCUM, "range 1:10")	{{1:10}, UCUM, "range 1:10")	2, overlap with CP-2603
92	Monitor Units/Second	Monitor Units/s	1
93	{Particles}/[100]g{Tissue}	{Particles}/(100)g{Tissue}	1
94	number particles per 100 gram of tissue	Particles/100g tissue	1
95	>Counts</para>	>counts</para>	2
96	>Counts per second</para>	>counts/s</para>	2
97	UNITS = EV(UNITS = EV (1

98	UCUM,"	UCUM,"	4
	(end of list)		