

Starna®

Certified Reference Materials
for UV and Visible Spectroscopy



How to order

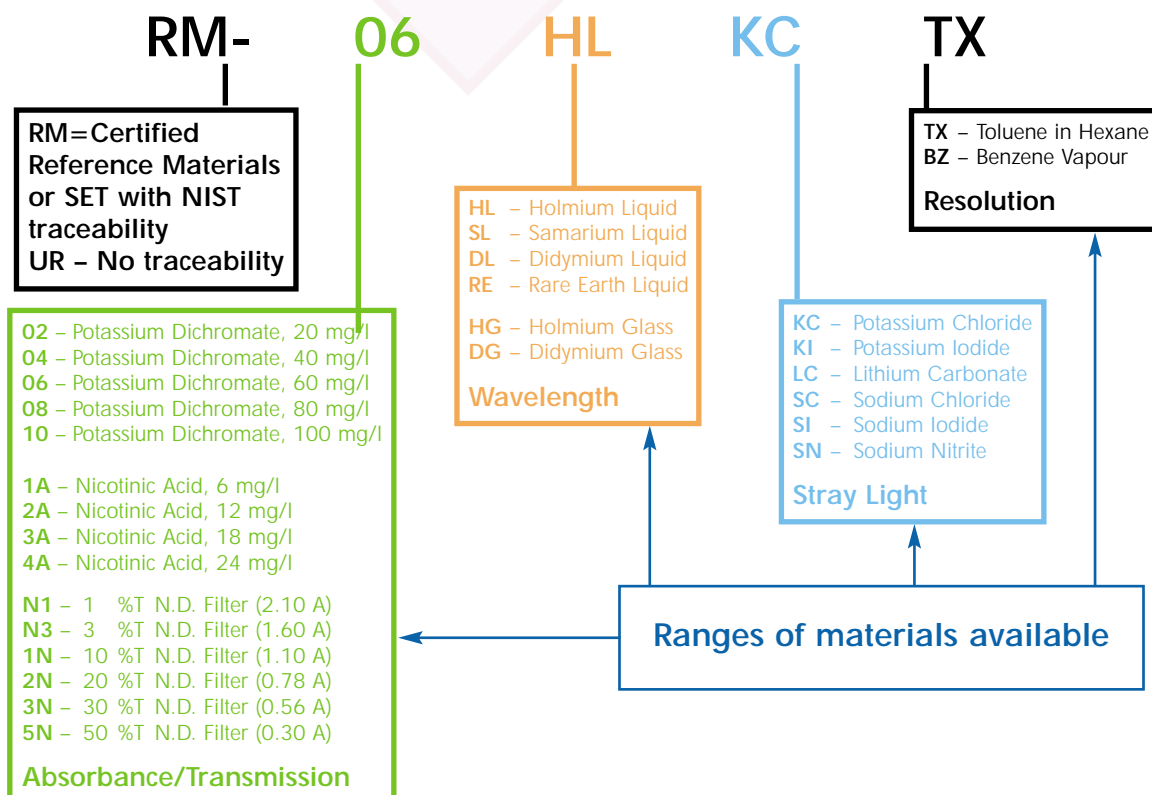
Step by Step:

1. Select whether the set must be traceable to NIST or not.
NIST traceability required so it's an RM set: **RM**
2. Select the Absorbance/Transmission RMs.
20, 40, 60 mg/l potassium dichromates required: **RM-020406**
3. Select the Wavelength Material RM.
Holmium Oxide required: **RM-020406HL**
4. Select the Stray Light Material RMs.
Potassium Chloride and Sodium Iodide required: **RM-020406HLKCSI**
5. Select the Resolution Material RM.
Toluene in Hexane required: **RM-020406HLKCSITX**



The chart shown below details all the materials currently available and the syntax that is used to construct the definitive Certified Reference Material sets. This list should not be seen to be exhaustive or unlikely to change, as new materials are becoming available all the time – contact your local Starna® representative for the latest information.

One example of a typical Traceable Set RM-06HLKCTX:



Note: With all Certified Reference Material (RM) Potassium Dichromates, Stray Light Solutions and Toluene in Hexane, appropriate blank solutions are provided. Untraceable Reference Materials do not include a liquid blank and are intended for use with an air blank.

Certified Reference Material (RM) Sets

The Certified Reference Material sets have been assembled to make your verification task easier, and meet specific regulatory requirements. In addition, set prices do offer price savings over the purchase of individual Certified Reference Materials.

So where possible use the general syntax rules to construct your own set, even if it is simply an absorbance and wavelength set. For example, a 60 mg/l potassium dichromate, together with a holmium oxide solution can be ordered under the part number [RM-06HL](#).

Primary Requirement	Catalogue Number	Construction Parameter	Material	Wavelength
Full specification verification	RM-06HLKCSITX	Absorbance Wavelength Stray light Resolution	Potassium dichromate 60 mg/l, blank Holmium oxide Potassium chloride, sodium iodide, blank Toluene in Hexane	235 to 350 nm 240 to 650 nm 200 & 260 nm 265 to 270 nm
Photometric linearity	RM-0204060810	Absorbance	Potassium dichromate 20, 40, 60, 80, 100 mg/l, 0.001M perchloric acid blank	235 to 350 nm
Pharmacopoeia compliance	RM-06HLKCTX	Absorbance Wavelength Stray light Resolution	Potassium dichromate 60 mg/l, blank Holmium oxide Potassium chloride, blank Toluene in Hexane	235 to 350 nm 240 to 650 nm 200 nm 265 to 270 nm
Similarity to NIST (USA) SRMs	RM-06HLKI	Absorbance Wavelength Stray light	Potassium dichromate 60 mg/l, blank Holmium oxide Potassium iodide, blank	235 to 350 nm 240 to 650 nm 260 nm
Similarity to NIST (USA) SRMs	RM-1N2N3N	Visible Absorbance	N.D. glass 1.10, 0.78, 0.56 A., blank	440 to 635 nm
Similarity to NIST (USA) SRMs	RM-N1N35N	Visible Absorbance	N.D. glass 2.10, 1.60, 0.30 A., blank	440 to 635 nm
High end visible wavelength	RM-06DLKI	Absorbance Wavelength Stray light	Potassium dichromate 60 mg/l, blank Didymium Potassium iodide, blank	235 to 350 nm 290 to 870 nm 260 nm

To order contact:
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Compliance references

Material	Test	Range	USP	Ph. Eur.	BP	ASTM	TGA
Potassium Dichromate	Absorbance	UV/Visible	✓	✓	✓	✓	✓
Neutral Density Filters	Absorbance	Visible	✓	✓	✓	✓	✓
Holmium Oxide	Wavelength	UV/Visible	✓	✓	✓	✓	✓
Potassium Chloride	Stray Light	UV	✓	✓	✓	✓	✓
Potassium Iodide	Stray Light	UV	✓			✓	
Sodium Iodide	Stray Light	UV		✓	✓	✓	✓
Toluene in Hexane	Resolution	UV		✓	✓		✓

Recertification

How often do I need to recertify my Certified Reference Material?

To ensure the validity of the calibration values of reference materials it is essential that they be recertified at regular intervals. The period between recertification is under the control of the user, and is specifically related to the laboratory environment where the certified reference materials are used.

Where the certified reference material stability has been established in the controlled environment of our certification laboratory, a maximum period of two years between recertification is recommended. This duration also assumes an environment where use, storage and care is in a good quality laboratory environment and obviously because of this requirement there is no warranty for fitness beyond initial receipt by the customer.



Ideally, this environment should be temperature controlled, where temperature extremes outside the range 15 - 30 °C are not experienced, have a relative humidity not exceeding 70% and be 'dust free'. All stated 'Instructions for Use' and 'Storage and Care' are adhered to.

In an environment where the above criteria cannot be met, and the users are interested in the highest possible Quality Assurance (QA), it is suggested that the following procedure be adopted. A suitable protocol has to be established as only a statistical process can be used for determining the recertification interval. The certified reference material in question needs to be recertified at least every twelve months for the first three years of use.

Review of this data, in conjunction with the laboratory control limits, will enable the acceptable recertification time interval to be established. This process should be incorporated in any formal control of the QA system, and any major changes in the laboratory environment should be evaluated with respect to their impact on the calibration of the certified reference materials.

Should you wish to participate in such a Quality Assurance program, please contact your Starna representative about our 'Starna Assisted Recertification' - 'STAR' service.

In the first instance contact the organisation at:

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