

Questions and answers – version 20 August 2018

EU notice 2018/S 129-293595 – Mass Spectrometer System for the Danish Emergency Management Agency (DEMA)

With reference to the above open tender please find the questions and answers concerning this:

1. Question: I need to order the compounds for the NCI tests required in the tender. However, I cannot find this one at Sigma: Ethylene glycol dinitrate EGDN (CAS 628-96-6). Could you check this?

Answer: Regarding Ethylene glycol dinitrate EGDN (CAS 628-96-6) we have realized that Sigma doesn't have it available in Europe at the moment. Because of that fact we have decided to remove that compound from requirement ID 4.8 in the document "Requirements specification".

2. Question: I have a question regarding point 4.4 of the requirement list.

In this point, you ask for the resolution to be specified both at 50% and 10% valley. This is usually the definition used for magnetic sector instruments using 2 peaks at similar height. I was wondering if what you are asking here is the resolution from a single peak at 50% (FWHM) and 10% peak height? (earlier in 1.1 you specify a min. resolution of 13000 measured at FWHM). Are these values expected to be reported from a compound included in the performance tests?

Answer: We will be satisfied with a resolution from a single peak at 50% (FWHM) and 10% peak height. We have special expectation to which compound the resolution is measured on. We expect the vendor might use data from their normal brochure material or application notes. Any compound that is within the mass range of the instrument will be accepted.

Corrected answer to question 2 – including "no": We will be satisfied with a resolution from a single peak at 50% (FWHM) and 10% peak height. We have **no** special expectation to which compound the resolution is measured on. We expect the vendor might use data from their normal brochure material or application notes. Any compound that is within the mass range of the instrument will be accepted.

3. Question: In the tender for a mass spectrometer system, issued by the DEMA, it is stated, that a single Quadrupol instrument with a resolving power of 13.000 shall be offered. To our knowledge, there is no single Quadrupol instrument on the market which fulfil this criteria. Is this value indeed correct?

Answer: In bullet 1.1 it is stated: The basic call is for two single quadrupole GC-MS instruments (instrument A and instrument B) ... DEMA will strongly encourage the suppliers to give one or more additional offers for an alternative GC-MS for instrument A, hereafter called instrument A1. Instrument A1 is defined as an instrument capable of doing GC-high resolution MS (High resolution defined as better than 13,000 FWHM). DEMA will prioritize as first choice a combination of instrument A1 and B as long as it is within our economical frame. If such a combination is not within our economical frame a combination of instrument A and B will be chosen.

By this we mean that an offer from a vendor of two GC-MS instruments equipped with single quadrupoles are a valid offer and will be evaluated in the tender process. But if one or more high resolution mass spectrometers (resolution above 13,000 FWHM) are in the vendors product line we encourage the vendor to make an addition offer including this high resolution mass spectrometer, which also will be evaluated in the tender process. If our economical frame allows it, we will prioritize the offer with one GC-high resolution-MS and one GC-single quadrupole-MS.

The resolution of 13,000 FWHM does therefore not apply to the single quadrupole mass spectrometers, but to the high resolution mass spectrometer, which can be included in an additional offer.

4. Question: Do DEMA already have a NIST-library?

Answer: DEMA does have a NIST-library, but would like the tenderer to include an offer for the newest NIST library.

5. Question: In question 5.6, 5.8, 5.9 and 5.10 it says "Possibility to..." F ex. in ID 5.6 "Possibility for one column with split flow to two detectors: mass analyser and alternative detector e.g. FID." Does this mean A) The vendors must specify whether it is possible or not – but it doesn't need to be included for now. Or B) The vendors must specify whether it is possible or not – AND it is a minimum requirement so items that makes the system able to split flow to 2 detectors MUST be included.

Answer: In requirement 5.6, 5.8, 5.9 and 5.10 it is a minimum requirement that the vendors specify whether it is possible to do the described operations AND include the necessary items that makes the system able to carry out these operations.

We have in the following tried to clarify the requirements:

5.6 It must be possible to operate with two columns on the installed instrument. The flow from one column should be directed to the MS detector and the flow from the other column should be directed to the optional alternative detector such as FID, FPD, NPD or PFPD.

5.8 It must be possible to do back flush of GC-columns both from mid-column and end-column on the installed instrument. It must be possible to change between mid-column and end-column back flush on the installed instrument.

5.9 It must be possible to direct the flow from one column via a split valve to two detectors: mass analyser and alternative detector e.g. FID on the installed instrument.

5.10 It must be possible to do manual injection of gas samples by syringe on the installed instrument.

Please be aware that for the optional system C that requirement 5.6 is different from system A/A1 and B:

5.6 It must be possible to operate with two columns on the installed instrument. It must be possible to direct the flow from either column to the MS detector. It must be possible to direct the flow from at least one of the columns to an alternative detector such as FID, FPD, NPD or PFPD.

6. Question: 1.1 ppm mass accuracy at m/z 200. What is the expectation of ppm level, below 1, 1-5 or higher?

Answer: The basic call for two single quadrupole mass spectrometry instruments (instrument A and B) does not require a mass accuracy greater than unity.

For instrument A1 we expect that the instrument can fulfill the criteria in SANTE/11813/2017 "Guidance document on analytical quality control and method validation procedures for pesticide residues and analysis in food and feed". The criteria states that for high resolution mass spectrometry mass accuracy should be less than or equal to 5 ppm or less than 1 mDa for m/z smaller than 200.

7. Question: 2.6 The tender must include technical manuals. They are quite extensive, several 100 pages. I suggest we put larger documents the the USB stick to avoid printing 3 copies. Would this work?

Answer: It is OK that the documentation is included on a data storage device, from where the information can be accessed offline.

8. Question: 4.2 Mass range 20-1000 Da The Mass spec system quoted will fulfill this but if you choose the option with a combination of instrument A SQ + instrument A1 e High Res instrument A has a mass range starting at 1.2 Da and the High res have a m/z starting point of 30 Da. Please verify that this complies with your Must Requirements

Answer: We can verify that for instrument A1 the starting m/z of 30 complies with our Must Requirements. The two instruments (A/A1 and B) must be able to cover the mass range 20-1000 Da collectively. It is not a requirement that either instrument can cover the entire mass range by itself.

In order to clarify; We would like an offer for two single quadrupole instruments (instrument A and B) and an offer on a high resolution instrument and a single quadrupole instrument (instrument A1 and B).

9. Question: 5.3 Do you need an autosampler for the Thermal desorbtion unit

Answer: Yes, The option should include and autosampler.

10. Question: 5.4 Does the bag or canister samples require preconcentration and needs a preconcentrator / thermal desorbtion unit

Answer: Yes.

11. Question: 10.7 and 10.8 The mass spec system consists of 2 units. Does this mean you need 12 seats of SW in total or 2x12 seats

Answer: 12 seats in total.

12. Question: I was told.....that the explosive standards are not available for ordering at Sigma and that there are no replacement available at the moment.

Were there any problems in the past to order these type of compounds? Have you had similar reports from other vendors applying for this tender?

We are getting very short in time to find alternatives, so I was wondering if there could be any plan B in mind regarding this part of the analysis.

Answer: If the explosive standards cannot be obtained from Sigma at the moment they can be obtained from Chemical Division in portions of 50 µl. Give us one day notice before the pickup.

13. Question: Do you mean that I could pick it up myself an aliquot prepared from the Beredskabstyrelse? That would be a good option, but I might have trouble sending/bringing it to.... We cannot ship chemicals from the....office in.... (we had this issue very recently). Taking it with me could have its issues too. Would it be possible to send it directly to the lab in.....? I do not know if you have the same issue as we have. I would then check how to reimburse you the costs incurred for sending. I know this solution means more work for you, but let us know if is possible. ....can give you the address in.....

Answer: We have recognized that it could be difficult to obtain standards of explosives at a short notice from European providers of chemicals. Because of this we will accept any report on Requirement 4.8 as long as they demonstrate the instruments ability to make NCI on nitroaliphates and nitroaromates. The report could be reference to application notes or other experiments that show the performance for this type of compounds on the instrument in NCI-mode.

14. Question: .... is a .... company focused on the detection of explosives. This seems to be the goal also of the Mass spectrometer for above mentioned tender. We also use CI to detect explosives threats with targeted selective ion chemistry and achieve very low detection limits in sub-nanogram range for the most important explosives and no need for a GC column in front of the system. Now, the tender requirements of proposing a GC-MS make us not eligible with our approach. Would you consider changing the requirements so that the ultimate detection of explosives is relevant, not the method?

Answer: We have visited your website and your instrument is interesting, but unfortunately not for the multitude of applications that we are using our current GC-MS system for and would like to use the GC-MS system described in the tender for.

At the Danish Emergency Management Agency - Chemical Division, we do not only do analysis of explosives, but also chemical warfare agents, toxic industrial compounds, petrochemicals, and unknown identification.

Therefore we will not change the requirements of the system. We will keep your instrument in mind, when it is time for us to upgrade our specific explosive detection instruments. Once again we thank you for your outreach.

15. Question:I would like to learn more about Danish Emergency Management Agency - Chemical Division needs in the analytical space, and maybe use that opportunity to present activities at ..... that are not on our website? I could imagine visiting.

Answer: Thank you for your interest. Such visits are not possible during the tender procedure.