



Recommendations for use of high-reactive gas mixtures with non-refillable TEST CANS

We would like to inform you on newest experiences with the usage of high-reactive gas mixtures as follows:

Our category of high-reactive gas mixtures covers the following gases:

- Chlorine Cl₂
- Hydrogen chloride HCl
- Hydrogen cyanide HCN
- Ethylenoxide C₂H₄O
- Phosphine PH₃
- Nitric oxide NO
- Nitrogen dioxide NO₂

According to newest experience with the use of these high-reactive gases we recommend the following procedure:

- 1. Usage of a stainless steel regulator HPC**
- 2. Tubing material between outlet of HPC and sensor adaptor (or cap) to be teflon material.**
- 3. Sensor adaptor (or cap) to be of teflon or stainless steel material.**
- 4. Tubing between HPC outlet and sensor adaptor (or cap) to be as short as possible.**
- 5. After finalisation of testing HPC to be unscrewed from can and purge of the complete equipment (HPC + tubing + sensor adaptor (resp. cap) for 2-3 min. using pure nitrogen.**
- 6. Especially when using low chlorine concentrations use the stainless steel HPC only for chlorine.**
- 7. Same as under 6.) applies for hydrogen chloride.**

If for example the same stainless steel HPC is used alternately with HCl and NH₃ gas mixtures, salt can be formed inside the HPC which can cause malfunction of the HPC in form of complete blocking of the HPC.

In order of optimisation the usage of our high-reactive gas mixtures it is important as already said to keep the length of the tubing as short as possible. However the experience of our colleagues shows that also the internal surface of the tubing which is in contact with the high-reactive gas mixture has to be as small as possible.