

# **Use of TAM for stability testing of propellants according STANAG 4582**

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Amongst several traditional methods to judge the safety of energetic materials and munitions heat flow calorimetry became more and more the leading technique in stability testing of propellants. This is mainly due to its rather short time necessary for the evaluation and to the fact that such calorimetric data show the whole process of degradation continuously as real time data. Thereby it is very reliable and safe.

Thus in 2004 a NATO standard for testing propellants has been established mainly focusing on Nitrocellulose (Single, Double and Triple Base) using different stabilizers like Diphenylamine, Akardite II or Ethyl Centralite amongst others. It gives a judgement of the storage safety of 10 years at 25 °C.

The TAM (Thermal Activity Monitor) is the calorimeter that provides unmatched temperature stability, a prerequisite for reliable measurements in isothermal heat flow calorimetry. Therefore the TAM has been quickly adopted for the safety assessment and stability measurements of energetic materials. After the release of the STANAG 4582 standard it became part of daily work amongst institutes in charge of testing munition and other propellants. Therefore TA Instruments implemented a special macro into TAM Assistant, the software used by the TAM. This talk will guide you through the steps on how the macro in TAM Assistant quickly provides you a report and the corresponding figures according the STANAG 4582 requirements.