

Oxidizing Properties For Liquid Material

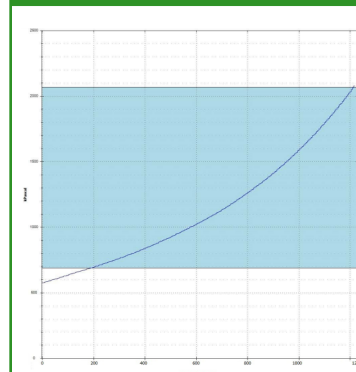
A substance with oxidizing properties may lead to exothermic reactions, specifically when in contact with combustible materials. This creates a hazard while handling such products. Chemically, oxidizing agents are generally molecules with an electron acceptor group or in other words, capable of transferring oxygen to the other substance, in other words oxidize such a substance. Therefore, such substances must undergo testing for its oxidizing properties for multiple reasons like safety during handling, transportation, storage etc. One of the numerous ways, to determine oxidizing property, is predicting the oxidizing nature of the substance based on the number of C, H, N, O atoms present in the molecule. But it is by no means a definitive guide to describe the oxidizing properties of the substance.

It is regulated by the "Transportation of Dangerous Goods" for preventing accident. The aim of this test and regulation is to make its transportation feasible by eliminating the risk of accident in any form – personal, property, and or damage of the environment.

As per the requirement of regulatory authorities, oxidizing properties of solid and liquid material should be tested, as per the EC A.17 and EC A.21 guidelines, respectively. JRF Global, has acquired expertise in testing the oxidizing properties of all types of the substances.

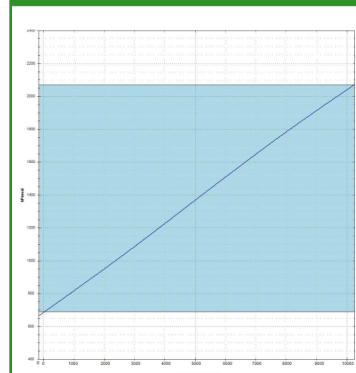
JRF Global is the first organization in India to implement the procedure, as per EC A.21 guideline (for liquid material). Our studies generate accurate and precise results, using A.21 tester. The equipment has a pressure transducer, installed in it, which has an ability to evaluate time taken for rise in the pressure from 690 to 2070 kPascal, with a cycle time of 5 milliseconds, upon ignition, providing precise kinetic data. This apparatus is used to conduct the A.21/O.2 test to measure the potential of a liquid substance of increasing the burning rate or burning intensity. The rise in pressure against time for the test item will be compared with that of the reference standard, as represented in figure 1 (reference mixture) and figure 2 (Test Item).

Figure 1



Pressure rise times for the Reference mixture (Nitric acid and cellulose) in milli seconds

Figure 2



Pressure rise times for the Test Substance(s) in milli seconds



About The Author

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Specialization in Pharmaceuticals is a Senior Research Officer leading a team of Physicochemical Studies and Analytical Method Validation most of which are conducted under GLP Compliance for EPA and EU registration having experience of 9 years in CRO and Pharma Industry.

"JRF Global, a leading non-clinical GLP compliant CRO, offers comprehensive research services, in accordance with the worldwide regulatory requirements, for product registration.

The key services of JRF are dedicated to the establishment of the discovery and development of a drug, as well as the efficacy and safety of products, in our well established and highly credible state of the art research facilities, pertaining to the Analytical, Bio-analytical chemistry, and Organic synthesis, IND enabling Mammalian Toxicology and Mutagenicity under endorsement of the OECD GLP."