If stress and acceleration tests are to be successful, two aspects must be paid special attention:

Clear separation between the tests for
organoleptic and physicochemical stability
chemical/microbial stability
Use of packaging materials impermeable to water vapor for stress tests at elevated temperatures, allowing application of the laws of reaction kinetics

The reaction mechanism may change with higher temperature if the samples are dried.

It is therefore necessary to use packaging materials that are impermeable to water vapor to prevent solid formulations becoming dehydrated at higher temperatures or the active ingredient concentration of liquid formulations increasing due to loss of moisture.

The laws of reaction kinetics cannot be used to make stability predictions for organoleptic and physicochemical changes.

This is the reason that solid dosage forms, for example, are stored without packaging at 25°C/60% r.h. This induces the maximum possible changes due to absorption or loss of water. Semisolid and liquid dosage forms are stored at ≥ -10°C, semiliquid at 5–40°C in order to detect irreversible changes.

Storage at 30°C/70% r.h. is not usually necessary because most clinical trials are performed in countries of climatic zones I and II.

2.6. Testing Frequency

The testing frequency is established to suit the problem being studied. Retest periods are different for stress, acceleration, and long-term tests.

2.7. Storage Period

The storage period depends on the required minimum shelf life. We can differentiate between stress, accelerated, and long-term storage period; see Table 4.

2.8. Number of Batches

With all the different strengths, dosage forms, and packaging materials examined during the development phase, it is not possible to provide three batches for each dosage form. Reliable information can be obtained nevertheless by applying

Table 4 Storage Periods

	Storage period (months)		
Clinical phase	Stress	Accelerated	Long-term
I		1.5	3
		3.0	6
II	3	6	12–18
III	3	6	24–36