



Dissolution test in the pharmaceutical industry

Ensure quality and efficiency in dissolution test using PanReac AppliChem reagents

Dissolution test is a crucial quality control measure in the pharmaceutical industry. It evaluates how quickly a drug substance dissolves from its dosage form into a dissolution medium.

Pharmacopoeias such as the United States Pharmacopeia (USP), European Pharmacopoeia (Ph. Eur.), and others provide standardized procedures for dissolution testing to ensure the consistency, quality, and efficiency of pharmaceutical products.

Why is dissolution test important?

1. Evaluates the rate of drug release from its dosage form.
2. Predicts the bioavailability of the drug and its bioequivalence.
3. Ensures the consistency and quality of pharmaceutical products.
4. Supports formulation development and optimization.

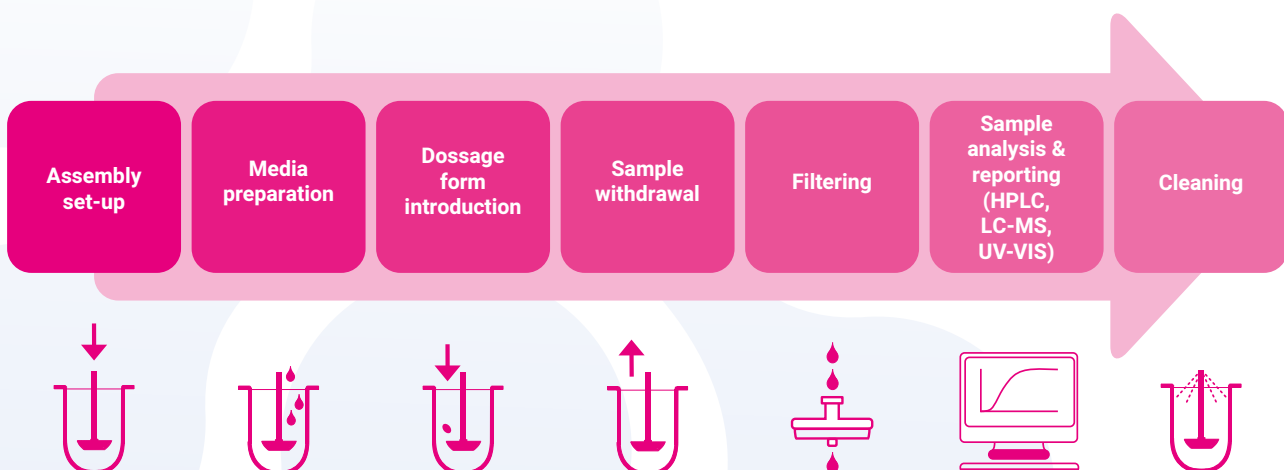


Main advantages of our reagents

Most of our reagents conform to **pharmacopoeia standards** (USP, Ph. Eur., etc.), which allows:

- **Improve product quality and consistency.**
- **Optimize formulation** development.
- **Save time and resources** with efficient solutions for dissolution testing.

Dissolution test workflow





For dissolution tests followed by HPLC/LC-MS/UV-VIS analysis, compliance with both the United States Pharmacopoeia (USP) and the European Pharmacopoeia (Ph. Eur.) requires specific reagents.

Typical products for this assay include phosphate buffers, hydrochloric acid, sodium hydroxide in various solutions, polysorbate surfactants and enzymes such as pepsin.

After dissolution, HPLC/LC-MS/UV-VIS analysis requires additional reagents such as mobile phase solvents (acetonitrile, methanol), buffers (ammonium acetate, phosphates), ion-pairing reagents (1-heptane sulphonic acid) and additives (trifluoroacetic acid).

In the table below you will find our offer of reagents for dissolution testing:

	Product number	Product name	CAS number	Pack sizes	
MEDIA PREPARATION	ACIDS	131008	Acetic Acid glacial (Reag. USP, Ph. Eur.) for analysis, ACS, ISO, BioChemica	64-19-7	1 L, 2.5 L, 5 L, 10 L, 200 L
		131130	Ammonia 30% (as NH ₃) (Reag. USP) for analysis, ACS	1336-21-6	1 L, 2.5 L, 10 L, 200 L
		131020	Hydrochloric Acid 37% (max. 0,0000005% Hg) (Reag. USP) for analysis, ACS, ISO	7647-01-0	1 L, 2.5 L, 5 L, 10 L, 200 L
		181023	Hydrochloric Acid 0.1 mol/L (0.1N) (Reag. Ph. Eur.) volumetric solution	7647-01-0	1 L, 2.5 L, 5 L, 10 L, 200 L
		192109	Hydrochloric Acid 5 mol/L (5N) pharma grade	7647-01-0	10 L, 200 L
		131032	ortho-Phosphoric Acid 85% (Reag. USP) for analysis, ACS, ISO	7664-38-2	1 L, 2.5 L, 5 L
		142403	Potassium Hydroxide solution 50% pure	1310-58-3	5 L
		126682	Sodium Hydroxide solution 32% w/w for analysis	1310-73-2	2.5 L, 10 L
	BASES	131130	Ammonia 30% (as NH ₃) (Reag. USP) for analysis, ACS	1336-21-6	1 L, 2.5 L, 25 L, 200 L
		142403	Potassium Hydroxide solution 50% pure	1310-58-3	5 L
		126682	Sodium Hydroxide solution 32% w/w for analysis	1310-73-2	2.5 L, 10 L
	BUFFERS	131114	Ammonium Acetate (Reag. USP, Ph. Eur.) for analysis, ACS	631-61-8	500 g, 1 kg, 5 kg
		131509	Potassium di-Hydrogen Phosphate (Reag. USP) for analysis, ACS	7778-77-0	500 g, 1 kg, 5 kg, 25 kg
		131633	Sodium Acetate anhydrous (Reag. USP, Ph. Eur.) for analysis, ACS	127-09-3	500 g, 1 kg, 5 kg, 25 kg
		142507	di-Sodium Hydrogen Phosphate 2-hydrate (USP, BP, Ph. Eur.) pure, pharma grade	10028-24-7	1 kg, 5 kg
		141677	Sodium di-Hydrogen Phosphate 2-hte. (USP, BP, Ph. Eur.) for analysis, pharma gr.	13472-35-0	1 kg, 5 kg, 25 kg
		134387	Sodium Perchlorate 1-hydrate (Reag. USP) for analysis, ACS	7791-07-3	500 g
	HPLC ANALYSIS	FILTERING	729246	Syringe filter, labeled, CHROMAFIL Xtra H-PTFE, 0.45 µm	
729213			Syringe filter, labeled, CHROMAFIL Xtra PA, 0.45 µm		100 units
729219			Syringe filter, labeled, CHROMAFIL Xtra PVDF, 0.45 µm		100 units
SOLVENTS		221881	Acetonitrile (Reag. Ph. Eur.) for HPLC gradient / UHPLC supergradient grade, ACS	75-05-8	1 L, 2.5 L, 5 L, 10 L ...
		221091	Methanol (Reag. Ph. Eur.) for HPLC gradient / UHPLC supergradient grade, ACS	67-56-1	1 L, 5 L, 10 L ...
		221074	Water for HPLC gradient / UHPLC supergradient grade	7732-18-5	2.5 L
ION-PAIR REAGENTS		364897	1-Heptane Sulfonic Acid Sodium Salt for HPLC	22767-50-6	25 g, 100 g
		363428	1-Hexane Sulfonic Acid Sodium Salt for HPLC	2832-45-3	25 g, 100 g
		363995	1-Octane Sulfonic Acid Sodium Salt for HPLC	5324-84-5	25 g, 100 g
		364896	1-Pentane Sulfonic Acid Sodium Salt for HPLC	22767-49-3	25 g
		363622	Tetrabutylammonium Hydrogen Sulfate for HPLC	32503-27-8	25 g, 100 g, 500 g
ADDITIVE		363317	Trifluoroacetic Acid for UV	76-05-1	100 mL

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