



## Pharmaburst™

### “Quick Dissolve” Delivery System for Tablets\*

Pharmaburst™ is an easy-to-use quick dissolving delivery platform, which can be easily and cost effectively formulated with your active.

Quick dissolve systems currently on the market are relatively complex and expensive compared to Pharmaburst. The main advantage of the Pharmaburst system is that it gives you the flexibility to develop your own robust “Quick Dissolve” formulations in-house, at a reasonable cost.

Pharmaburst is a co-processed excipient system with specific excipients, which allows rapid disintegration and low adhesion to punch faces.

#### Typical Properties of Pharmaburst:

Bulk Density = 0.450 Carr's index = 16.0 % (Good Flow)  
Tapped Density = 0.536 Particle Size = 80 \_ – 150 \_

A comparative example is detailed below to show the advantage of a Co-processed system (Pharmaburst) over a blended (un-processed) system, in a cough/cold formulation with 3 actives (Table 1).

Table 1 Cough/Cold Formulation

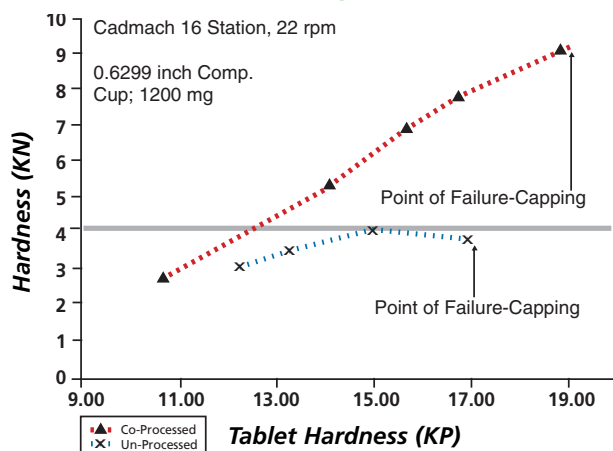
INGREDIENT	%	mg/Tablet
Pharmaburst X	75.075	900.9
Acetaminophen (94%)	14.185	170.22
Pseudoephedrine (60%)	2.08	24.96
Dextromethorphan (13%)	3.208	38.496
Flavor	2	24
Sweetner	0.25	3
Citric Acid	1	12
Color	0.2	2.4
Sodium Stearyl Fumerate	2	24
TOTAL	100.00	1200.0

Tooling: 0.6299 inch Comp. Cup      Tablet Weight: 1200 mg

Pharmaburst™ is a “Quick Dissolve” delivery system. Incorporate your active in a dry blend with Pharmaburst and compress on your own tablet press

- Highly compactible
- High loading in small tablet
- Smooth mouthfeel
- Standard temperature, humidity, and tooling
- Rapid disintegration
- Uses USP/EP excipients
- Produced under cGMP
- Cost effective
- \*Patent Pending

Graph 1 Compactibility – Co-processed System vs Dry Blended System  
Tablet Hardness (KP) vs Compression Force (KN)



Co-Processed Pharmaburst system has superior compactibility properties, while delivering rapid disintegration. (Graph 1 & 2)

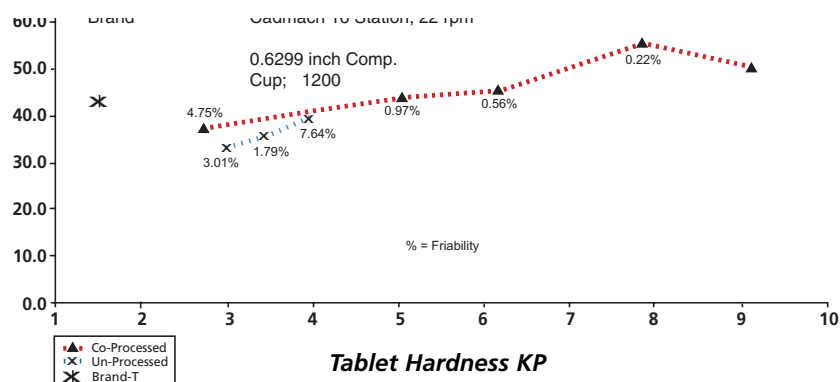
With the un-processed blended system, maximum tablet strengths of only 4kP were achieved before capping/lamination occurred. The Processed Pharmaburst™ system allowed tablet strengths of over 9kP (over 100% increase!). At high speeds on commercial presses this property becomes crucial in making robust “Quick Dissolve” formulations.

**What is the correct amount of Pharmaburst to use?**

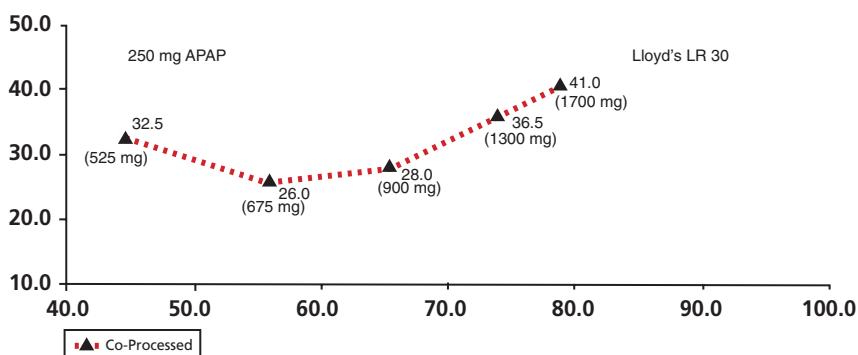
The Quantity of Pharmaburst required in a formulation will depend on the type of active and the quantity per tablet. Initial studies should be carried out on your potential formulation by varying the Pharmaburst percentage from 50% to 80%. The impact of reducing the Pharmaburst may give a faster disintegrating tablet but it may appear to be more “Gritty” to the taste. Pharmaburst is smooth and creamy and helps to mask taste and grittiness of the actives.

The limited stability which is currently available shows that tablets manufactured from Pharmaburst are stable in terms of tablet strength and disintegration time.

**Graph 2 Disintegration Times – Co-processed System vs Dry Blended System**



**Graph 3 Reduction of Pharmaburst in a tablet formulation resulting in reduction in tablet weight versus the oral disintegration time in seconds.**



**Stability Data of Pharmaburst Tablets stored in HDPE bottle at 40oC/75%RH Formulation: Cough/cold (table 1)**

Time (Days)	Weight (mg)	Hardness (KP)	ST DEV	Friability (%)	Disint Time (sec)	STDEV
1	1204.6	5.6	0.2	0.304	42	3
40	1210.8	6.4	0.1	0.406	44	3.6
70	1213.7	6	0.3	0.452	42	7.5

*Formulating Success Through Innovation*

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