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Custom Synthesis | Excipients | Active Ingredients

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The Chemical Company

Ludipress® and Ludipress LCE

The quickest route to direct
tableting.



**Thiebaut Wenzler,
an enabler in excipients**

Thiebaut Wenzler likes to take the quickest route – wherever and whenever he can.

Thiebaut Wenzler and his colleagues at our direct tableting unit prefer to take the quickest route when creating high-quality products that enable you to streamline your manufacturing operations.

That is why we have created Ludipress – a granulate that means quicker, easier, and more cost-effective tableting. With Ludipress, you save precious time on developing, analyzing and blending. You simply add your active ingredient, a lubricant, and compress your tablets. It is that easy.

Ludipress is suitable for low-dosage active ingredients; Ludipress LCE is ideal for lozenges, chewables, effervescent tablets and modified-release formulations. Both products are based on extensive research and development, aimed at creating excipients that enable faster, more efficient manufacturing – while delivering perfect results every time.

Read on to discover how direct tableting with Ludipress can help you make substantial time and cost savings.

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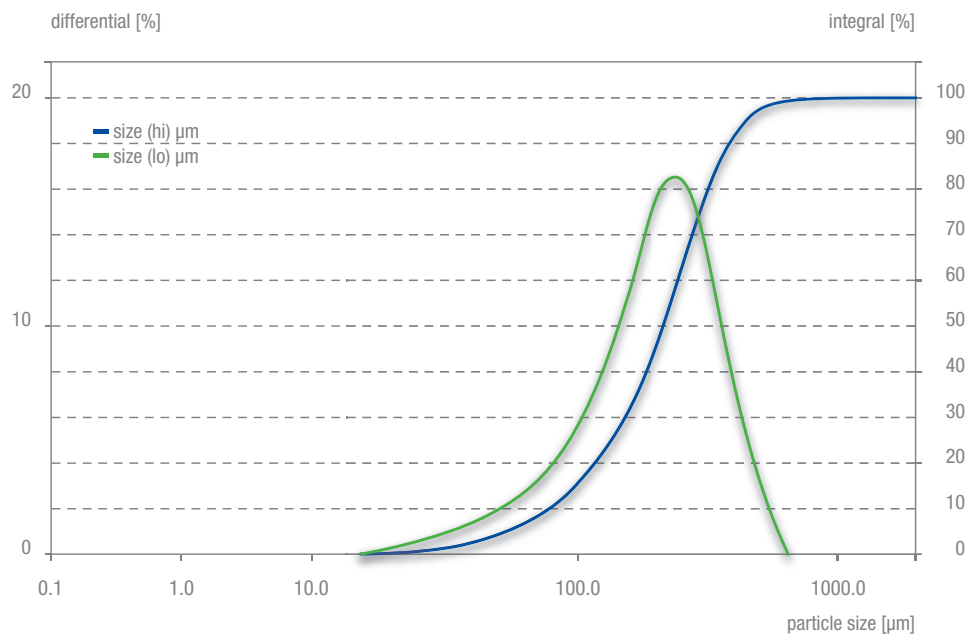
Ludipress for low-dosage active ingredients

What makes Ludipress so effective?

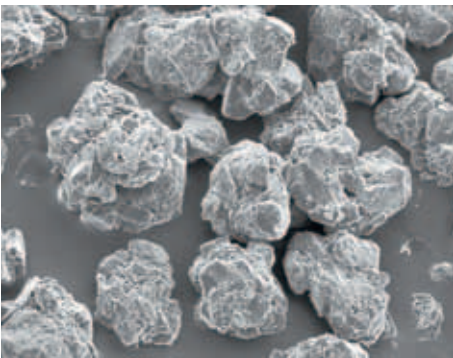
93%¹ Lactose + 3.5% Kollidon® 30 + Kollidon CL

Ludipress is created by a sophisticated production process. It is a unique three-in-one system, combining the strengths of three excipients: lactose as carrier and filler, binding agent Kollidon 30, and Kollidon CL – one of the best disintegrants on the market.

Together, they form a granulate with excellent flowability, low hygroscopicity, plus outstanding binding power. This enables you to quickly and easily create homogeneous mixtures with your active ingredient, and to directly compress high-quality tablets.



Particle size distribution of Ludipress



Ludipress, SEM photomicrograph,
magnification 75,0 μm

¹ All figures given in this document are approximate. Exact product specifications available on request.



How direct compression with Ludipress saves you time and money.

Cut development time.

With Ludipress, you can minimize the development effort associated with a new tablet. All components comply with the leading pharmacopoeias – giving you guaranteed quality from the very outset.

Reduced process steps.

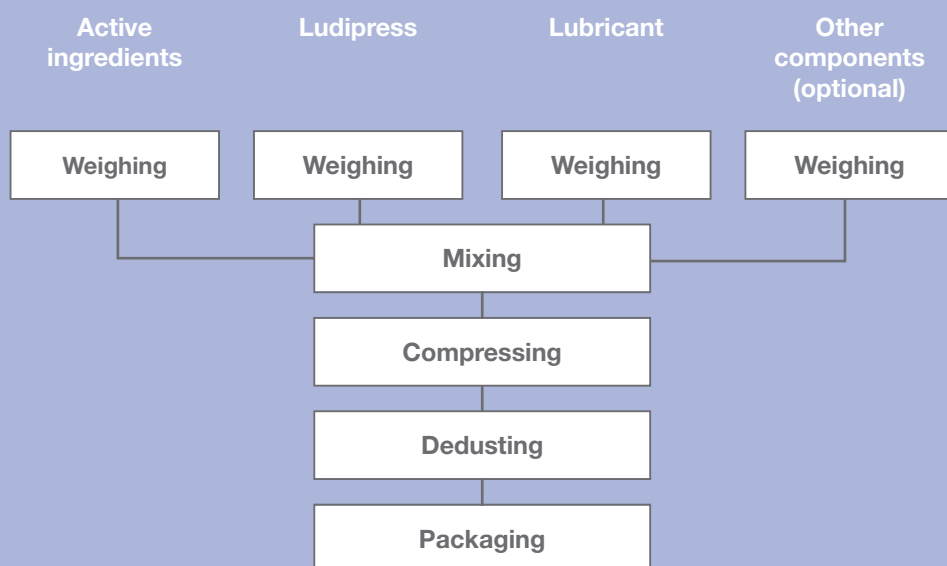
You no longer have to weigh individual components, and blend them yourself. Ludipress forms homogenous mixtures with the active ingredient with ease and speed.

Simply add your active ingredient to Ludipress – its excellent flowability means quick and uniform distribution. Add your lubricant, and compress your tablets. It is as easy as that.

The ideal mixture.

Ludipress is greater than the sum of its individual parts: It is a formulated blend of excipients, creating a high-quality, ready-to-use granulate.

A simple manufacturing procedure:



Ludipress – excellent tablets every time.

Ludipress is a granulate that supports direct-compression tableting, making your life much easier. And giving you peace of mind: because you know you can be sure of great results, each and every time.

Ludipress yields tablets of low friability, even with low compression forces, and irrespective of tableting speed. Kollidon® CL, one of the most effective disintegrants around, means tablets start to disintegrate within moments – despite superb hardness.

Ludipress yields exceptionally high-quality tablets:

The following examples show how tablets based on Ludipress perform in hardness tests.

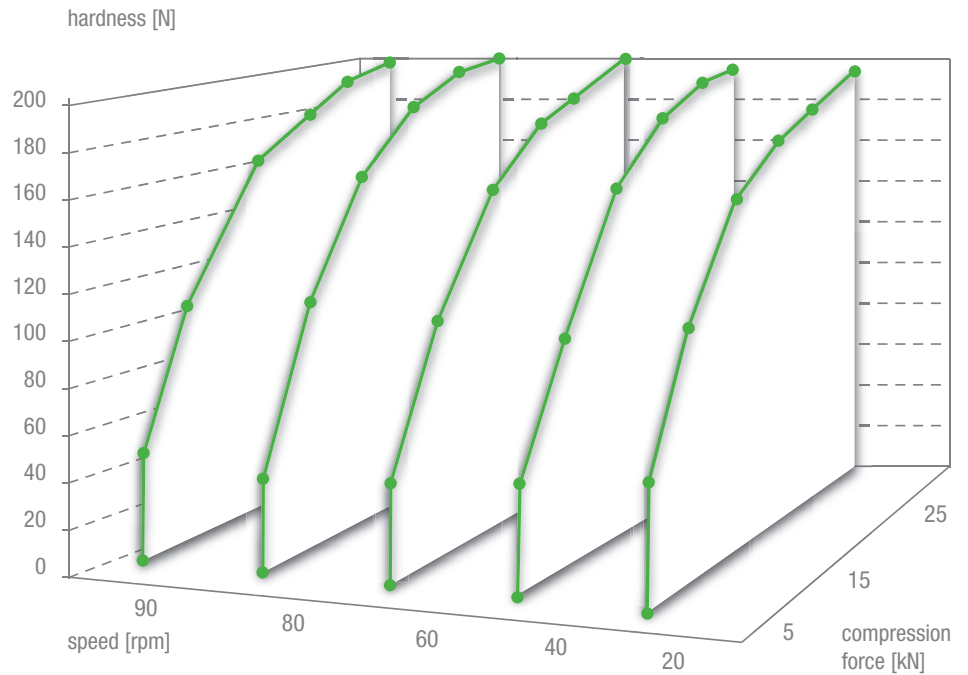


Figure 1: The hardness of tablets produced on a state-of-the-art rotary press is not influenced by the press's operating speed. This is illustrated by the results gained with a Glibenclamid formulation.

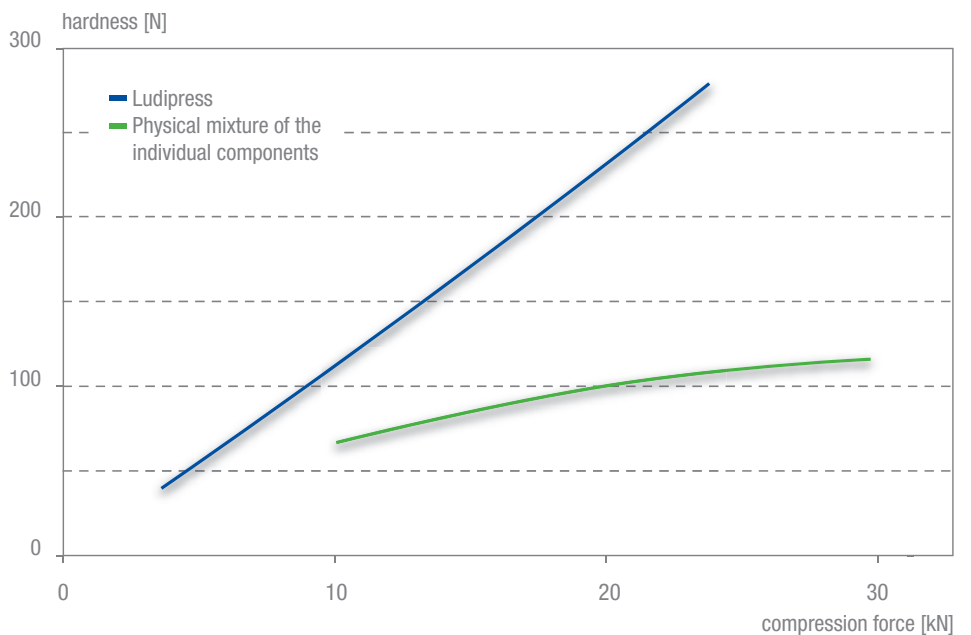


Figure 2: The unique composition of Ludipress yields tablets with excellent hardness and compression properties.

Ultra-fast disintegration.

Kollidon® CL (crospovidone) is a powerful disintegrant, ensuring tablets manufactured with Ludipress dissolve within seconds, despite excellent hardness.

**Fast release of active ingredients.**

Although manufactured by direct compression, the tablets demonstrate exceptionally low friability.

Formulation	Caffeine 125 mg Ludipress 374.5 mg Mg stearate 0.5 mg		Vitamin C 60 mg Ludipress 139 mg Mg stearate 1 mg	
Form of the active ingredients	Granules	Powder	Particle size: max. 35% < 150 µm min. 90% < 500 µm	Particle size: min. 90% < 150 µm
Compression force	20 kN	20 kN	20 kN	20 kN
Tablet weight	500 mg	500 mg	200 mg	200 mg
Diameter	12 mm	12 mm	8 mm	8 mm
Friability	0.1%	0.1%	0.3%	0.3%

		Caffeine	Hydrochlorothiazide	Diazepam
Active ingredient	[mg]	125	50	10
Mg stearate	[mg]	0.5	0.7	2.5
Ludipress	[mg]	374.5	279.3	487.5
Weight	[mg]	500	330	500
Diameter	[mm]	12	9.5	12
Release	[%]			
	after 5 min	63	82	90
	after 10 min	90	96	100
	after 30 min	100	100	100

Ludipress – enabling efficient direct tableting.

Save time, effort, and money:

When you choose Ludipress, you reap the benefits of:

- A three-in-one system comprising filler, binder and disintegrant
- Very low hygroscopicity and excellent flowability
- Support for quick and easy tablet compression
- Tablet hardness is not affected by press speed
- Accelerated product development and process validation
- Storage of only one product, not three separate components
- Reduced costs – for storage, production and analysis

And produce outstanding tablets – with:

- Rapid disintegration in spite of ideal hardness
- Low friability
- Fast active ingredient release



Ludipress LCE without disintegrant.

Ludipress LCE composition.

96.5% Lactose + 3.5% Kollidon® 30

The result: a granulate comprising carrier and filler as well as a tried and tested Povidone binder, with superior binding power.

What Ludipress LCE means for you:

less effort, lower costs, and higher quality for lozenges, chewables, effervescent tablets and modified release formulations.

Because Ludipress LCE is completely water-soluble, it enables direct compression of the majority of tablets that do not require a disintegrant.

Like Ludipress, Ludipress LCE is a granulate that forms a homogenous

mixture with the active ingredient – saving you development and analysis costs, and enabling you to quickly achieve the perfect formulation.

When disintegrant Kollidon CL is admixed, Ludipress LCE is also suitable for all other kinds of tablets.

When combined with an additional dry binder in the shape of Kollidon VA 64, Ludipress LCE can also be employed for high-dosage formulations.



KEY BENEFITS | Excipients | Ludipress LCE

Ludipress LCE – enabling efficient direct tablet manufacturing.

What Ludipress LCE can do for you.

Ludipress LCE streamlines the production process, reducing complexity and effort like no other direct-tableting excipient.

- Completely water-soluble
- Excellent flowability
- Outstanding binding power
- Ideal particle size distribution
- Produces tablets of exceptional hardness
- Accelerates product development

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using block letters.
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BASF SE

Pharma Ingredients & Services

Attn.: Inge Rademacher

G-EMP/ME – Li 554

67056 Ludwigshafen

Germany

Fax Reply

Please complete the form and fax to us.
Alternatively, simply detach the postcard and mail it to us.

Please provide me with the following information.

- ☐ Technical Information on Ludipress®
- ☐ Sample of Ludipress 0.5 kg
- ☐ Technical Information on Ludipress LCE
- ☐ Sample of Ludipress LCE 0.5 kg
- ☐ Please contact me – I would like to know more about Ludipress
- ☐ Technical Information on the Kollicoat® product(s) _____
- ☐ Technical Information on the Kollidon® product(s) _____
- ☐ Technical Information on Ludiflash®
- ☐ Ludiflash Brochure
- ☐ ExAct magazine (Excipients & Active Ingredients for Pharma)

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this form to your BASF
representative, regional office
(see reverse for list) or to our
headquarters in Germany:
+49 621 60-6628723**

Please provide me with the following information.

- ☐ Technical Information on Ludipress®
- ☐ Sample of Ludipress 0.5 kg
- ☐ Technical Information on Ludipress LCE
- ☐ Sample of Ludipress LCE 0.5 kg
- ☐ Please contact me – I would like to know more about Ludipress
- ☐ Technical Information on the Kollicoat® product(s) _____
- ☐ Technical Information on the Kollidon® product(s) _____
- ☐ Technical Information on Ludiflash®
- ☐ Ludiflash Brochure
- ☐ ExAct magazine (Excipients & Active Ingredients for Pharma)

BASF experts around the world can make things happen for you, too.

Simply get in touch with your local BASF representative or contact one of our regional offices.

We look forward to hearing from you, and are happy to answer any questions you might have.

Simply complete the postcard, and mail to one of the addresses listed on this page.

Alternatively, contact us via e-mail:

pharma-ingredients@basf.com

Asia

BASF East Asia Regional Headquarters Ltd.

Pharma Ingredients & Services
Thomas Pilgram
45th Floor, Jardine House,
No. 1 Connaught Place,
Central, Hong Kong
Phone: +852 27311-589
thomas.pilgram@basf.com

Europe

BASF SE

Pharma Ingredients & Services
Peter Hoffmann
G-EMP/EM – J 550
D-67056 Ludwigshafen
Germany
Phone: +49 621 60-76928
peter.wolfgang.hoffmann@basf.com

North America

BASF Corporation

Pharma Ingredients & Services
Javier Beeck
100 Campus Drive
Florham Park, NJ 07932
USA
Phone: +1 973 245-6381
javier.beeck@basf.com

South America

BASF S.A.

Pharma Ingredients & Services
Vanessa Occhipinti
Avenida Faria Lima, 3600 – 9th floor
04538-132 São Paulo – SP
Brazil
Phone: +55 11 3043-3341
vanessa.occhipinti@basf.com

BASF enables your business to gain competitive advantage.
Why not check out these innovative products?



■ ExAct Magazine

Active ingredients, excipients and intermediate products from BASF can be found in most pharmaceutical dosage forms, whether tablets, capsules, liquids, sprays, injectable solutions or gels. ExAct keeps you up to speed on our comprehensive range of products and services for the pharmaceutical industry.

■ Kollidon®

For anyone working in the formulation, manufacture and quality control of pharmaceuticals. Provides an extensive overview of product properties,

of povidone, copovidone and crospovidone, formulations of active ingredients, manufacturing techniques, dosage forms and analytical techniques.

■ Kollicoat® Grades

For all manufacturers of solid dosage forms. This guide describes in detail the seven grades of Kollicoat coating available. Includes information on the controlled release of active ingredients. Also provides numerous example applications and an entire chapter on trouble-shooting.

■ Pharmaceutical Technology of BASF Excipients:

This book describes the wide range of applications and functions of the excipients manufactured by BASF SE for the pharmaceutical industry.

■ Generic Drug Formulations

The right formulation is vital to creating fast-acting, reliable medication. More than 500 BASF formulations for solid, semi-solid and liquid dosage forms are available on CD-ROM or at: www.pharma-ingredients.basf.com

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Custom Synthesis | Excipients | Active Ingredients

BASF combines cGMP-quality manufacturing with dependable, timely delivery. You benefit from unsurpassed technical expertise and customer-driven innovation – plus a customer-service team dedicated to giving you personal advice and assistance.

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Switzerland SA

Route Cantonale
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■ Custom Synthesis

BASF offers custom-synthesis services – producing active ingredients and intermediate products for pharmaceutical companies on an exclusive basis, and in the strictest confidence. Our experts provide advice and assistance throughout the entire life cycle.

■ Excipients

Kollidon® grades – A group of Povidone and Copovidone products, primarily used as tablet binders. Croscopovidone is ideal as a tablet disintegrant and dissolution enhancer.

Kollidon SR – matrix sustained release polymer.

Kollicoat® grades – range of aqueous-based film formers, cost-efficient and eco-friendly.

Ludiflash® – for fast-disintegrating oral dosage forms.

Ludipress® grades – direct tableting aids for faster product development and rapid processing.

Lutrol® grades – range of PEGs (Lutrol E) and poloxamers (Lutrol F).

Soluphor® P – 2-pyrrolidone.

Cremophor® grades and

Solutol® HS 15 – range of ethoxylated emulsifiers and solubilizers suitable for topical, oral and parenteral formulations.

■ Selected Active Ingredients

Aminophyllin

Benoxinate (Oxybuprocaine) HCl

Benzonatate

Bethanechol Chloride

Bupivacaine Base and HCl

Caffeine

Carticaine (Articaine) HCl

Cathin

Dexpanthenol

Diprophyllin

Dobutamine

Dopamine

Ephedrine

Ibuprofen

Isotretinoin

Methylphenidate HCl

Oxybutynin Base and HCl

Oxymetazoline

Pseudoephedrine

PVP-Iodine

Ribavirin

Tetracaine Base and HCl

Theophylline

Tretinoin

Tricaine Methanesulfonate

Selegiline

Vitamins

Xylometazoline

EMP080214e-00

 **BASF**
The Chemical Company

BASF is the world's leading chemical company, with a track record of success stretching back more than 140 years. Our mission is to support you in a spirit of partnership – to make things happen for you.

We offer the pharmaceutical industry a broad portfolio of important and innovative active ingredients and excipients, as well as exclusive synthesis services.