

More yield. Less cost.

Hydrosulfite/Blankit®
for efficient bleaching
processes

Achieve maximum yield with minimum costs

Reducing costs while at the same time increasing productivity is a challenge found in all sectors of industry, and the paper industry is no exception. BASF has an answer to this very challenge, and it's called Hydrosulfite/Blankit®. As a company that has been part of the paper manufacturing chain for decades, we understand the relevant processes. And you too can benefit from our expertise.

Europe's leading paper companies and the world's biggest paper manufacturers rely on our expert knowledge and Hydrosulfite/Blankit®. And for good reason, because our experts in the laboratory and development team don't just focus on the bleaching process itself. Instead they look at the bigger picture, from three main perspectives:



Modifying/optimizing the raw material mix

Example: Replacing costly materials (e.g. cellulose) with cheaper alternatives (e.g. waste paper).



Simplifying process management

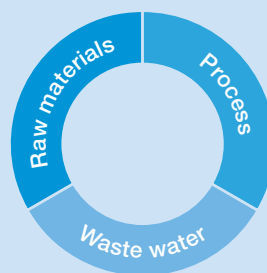
Example: Elimination of additional apparatus in the bleaching stage. Result: Less complexity and lower fixed costs.



Reducing impurities in waste water

Example: Chemical oxygen demand (COD), cationic demand.

By using Hydrosulfite/Blankit® you can also reduce your costs in raw materials, process management, and waste water treatment.



Hydrosulfite/Blankit® optimizes your bleaching processes

Hydrosulfite/Blankit® from BASF is a comprehensive package, with which you can optimize your bleaching results and maximize your profits. We focus on your entire process, from start to finish – from energy use to waste water disposal.



Mechanical pulp unbleached

Bleaching with
Hydrosulfite/
Blankit®



Mechanical pulp bleached

Hydrosulfite/Blankit® is a strong, reliable asset for optimizing your processes. It offers two key benefits:

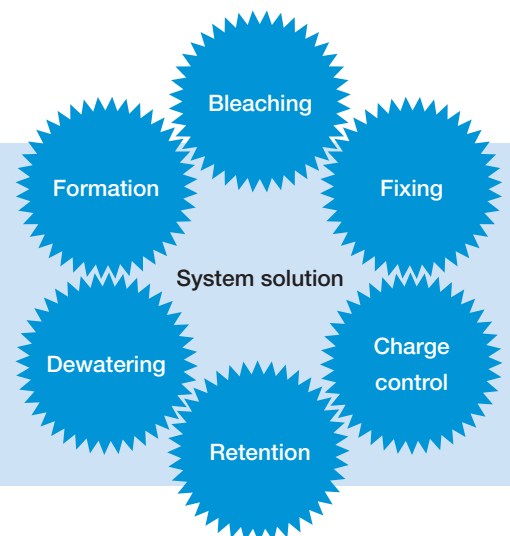
Very fast bleaching

Hydrosulfite/Blankit® delivers high uniformity. The desired bleaching result is achieved quickly and reliably. You can react quickly and flexibly to any variations.

Extremely gentle bleaching

Hydrosulfite/Blankit® reduces the production of impurities, ensuring high quality.

Bleaching with Hydrosulfite/Blankit® helps to optimize your entire process.



Combining vital parameters is the key to your success

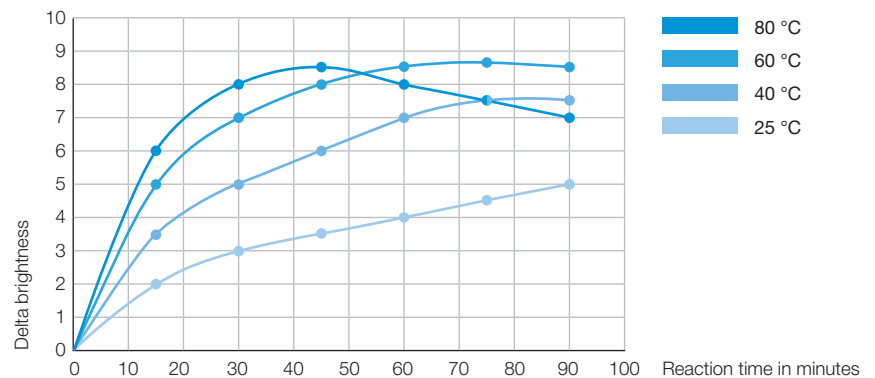
Bleaching with Hydrosulfite/Blankit® is extremely effective. Why is this? The main reason is an understanding of the essential parameters and the correct way to combine them. These parameters are the temperature and the pH of the pulp and the consistency. By manipulating these parameters it is possible to achieve optimum bleaching results at low cost.

Bleaching with Hydrosulfite/Blankit® offers decisive benefits compared with other bleaching processes. These can be divided into four main categories:

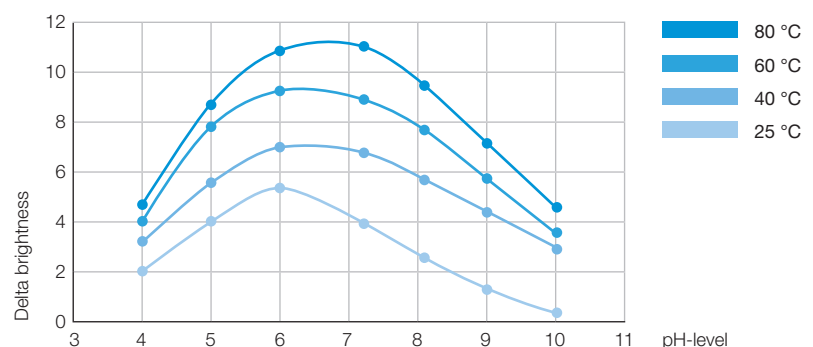
- » Temperature between 50° and 90° Celsius
- » pH between 5 and 8
- » Reaction time between 10 and 60 minutes
- » Consistency between 3 % and 30 %

In addition to the benefits of Hydrosulfite/Blankit®, we supply a wide range of products covering almost any application. We also offer an advisory service so you can take advantage of our extensive expertise in paper manufacturing. Together, we can identify the optimum combination of key parameters – tailored to the particular needs of your plant.

Effect of temperature on bleaching result when using Hydrosulfite/Blankit®



Effect of pH on bleaching result when using Hydrosulfite/Blankit®



Flexibility and versatility are what make bleaching with Hydrosulfite/Blankit® so effective.

Low-cost bleaching with Hydrosulfite/Blankit®

Not every bleaching process is the same. Different applications require different degrees of brightness, for example, which has an effect on what is demanded of the products used. **To make sure you always achieve the desired result we supply an extensive product range in the shape of Hydrosulfite/Blankit® – at a reasonable price.**

Hydrosulfite/Blankit® covers the complete spectrum of requirements for bleaching processes. You can either use it on its own or in combination with other bleaching methods. We supply:

- » Various Hydrosulfite/Blankit® products, manufactured using two different processes.
- » A range of specialty products based on these, under the Blankit® brand. These products contain added buffer systems, stabilizers and chelating agents.
- » A wide product range offering you maximum flexibility in your processes.

For a complete list of our range of bleaching agents, please refer to the back of this brochure.

Bleaching systems compared: Hydrosulfite/Blankit® or a combination of Hydrosulfite/Blankit® and peroxide: BASF always offers the ideal solution to our customers' needs – as cost-efficiently as possible.

60	Brightness			80
	Newsprint	Improved Newsprint	SCA	
Hydrosulfite/Blankit®	+++ (1)	+++ (3)	-	
Peroxide	+ (2)	++ (4)	++ (6)	
Hydrosulfite/Blankit® + Peroxide	-	+ (5)	+++ (7)	

(1) State of the art (2) High investment necessary, high variable costs (3) Innovative bleaching technology (refiner bleach), excellent value for money (4) High process stability, stable cationic demand (5) Makes only sense if qualities are subject to frequent changes (6) High COD, high turbidity, high cationic demand, inferior opacity (7) High flexibility, high value for money

We supply a wide range of low-cost bleaches for every material and paper quality.



Find the right product for every raw material

Different raw materials and product concentrations are needed depending on the application and the desired result. Whether virgin fibers or recycled paper, **with Hydrosulfite/Blankit® you can always achieve your aim confidently and at low cost.**

For effective, low-cost bleaching every time, just follow our recommendations.

Virgin fibers

- » Groundwood
- » TMP (thermomechanical pulp)
- » CTMP (chemi-thermomechanical pulp)

Recycled paper

- » DIP (deinked pulp)

Our recommendation for effective, low-cost bleaching of virgin fibers:

- » Hydrosulfite E
- » Hydrosulfite F
- » Hydrosulfite P liquid
- » Blankit® B
- » Blankit® C5



Our recommendation for effective, low-cost bleaching of recycled paper:

- » Hydrosulfite F
- » Hydrosulfite P liquid
- » Blankit® B
- » Blankit® C5
- » Blankit® MFC
- » Blankit® W
- » Blankit® 3

No matter what raw material base you start with, Hydrosulfite/Blankit® from BASF will help you achieve the optimum bleaching result while saving you money.

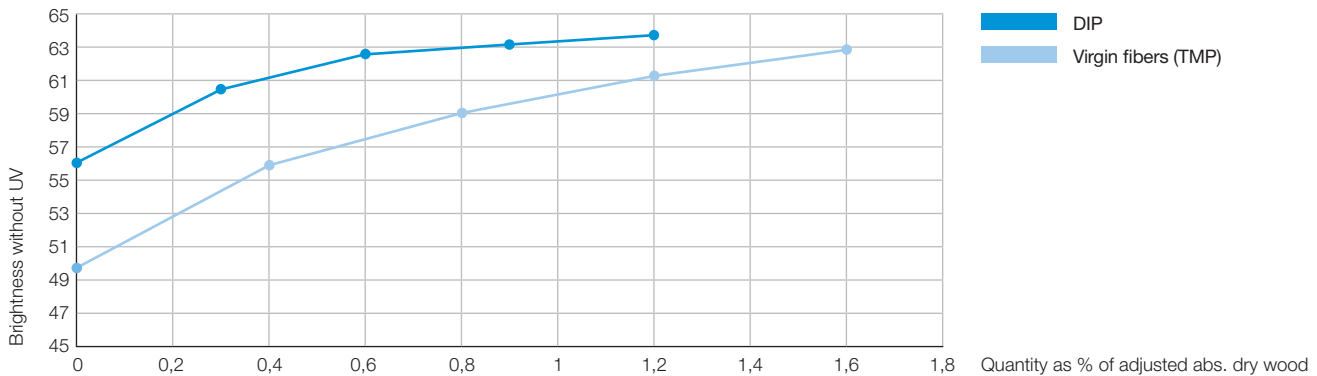


Examples of the favorable cost-benefit ratio of Hydrosulfite bleaches:

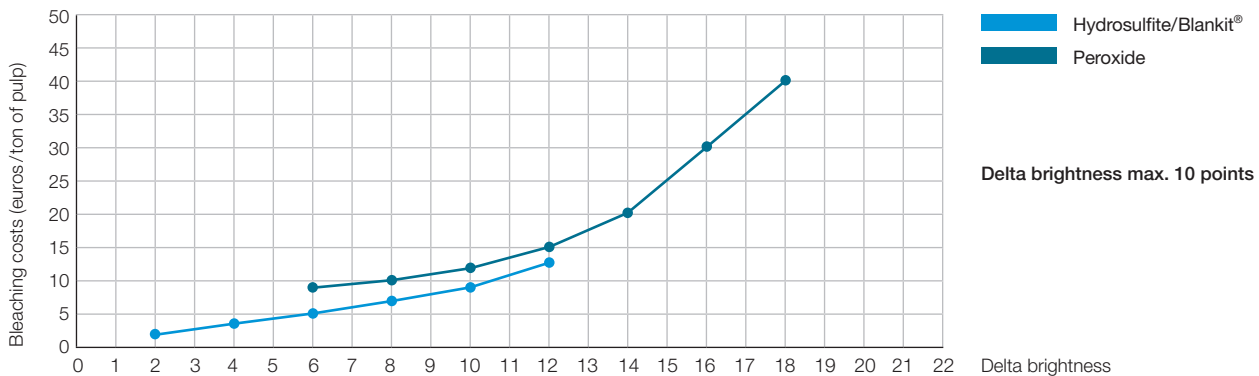
Newsprint



Bleaching result/increase in brightness (with Hydrosulfite E)



Comparison of direct costs (hydrosulfite, peroxide, caustic soda, silica, chelating agent)



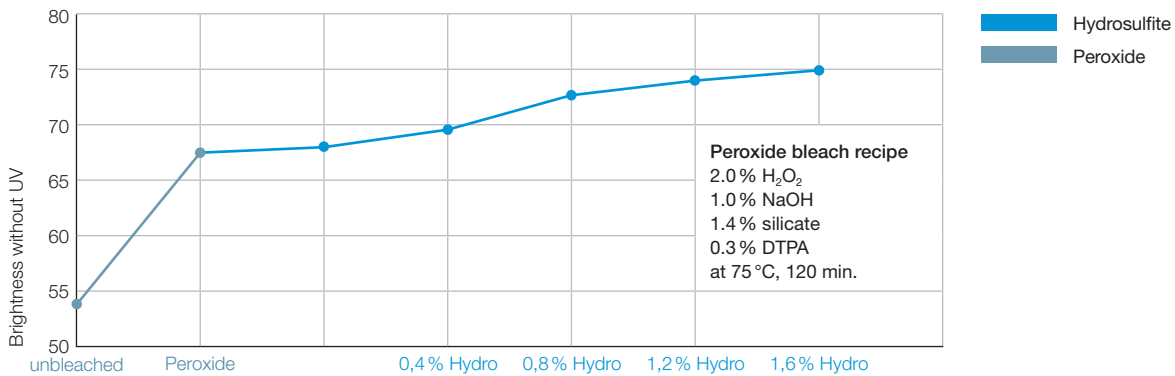
Hydrosulfite is a more effective bleaching agent than peroxide for newsprint.

Examples of the favorable cost-benefit ratio of Hydrosulfite bleaches:

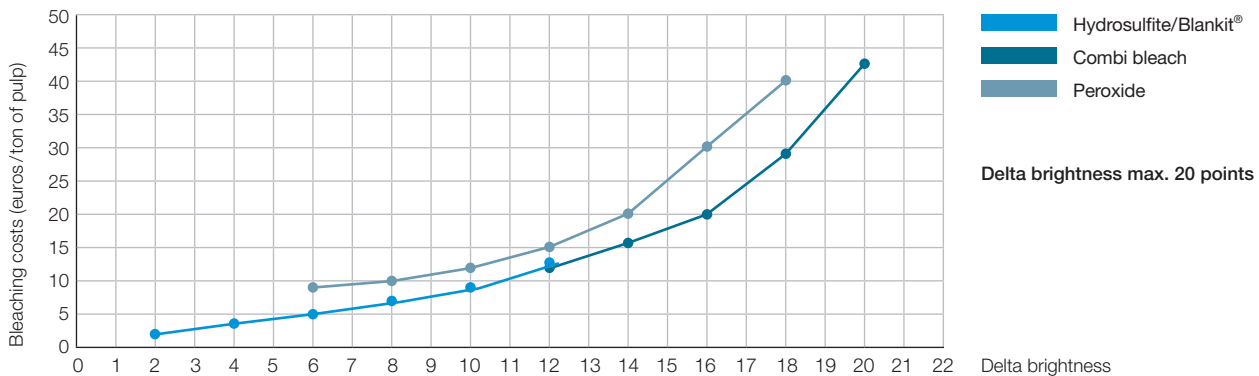
Printing & writing paper



Bleaching result/increase in brightness (at 4% consistency, 75 °C, 30 min. reaction time)



Comparison of direct costs (hydrosulfite, peroxide, caustic soda, silica, chelating agent)



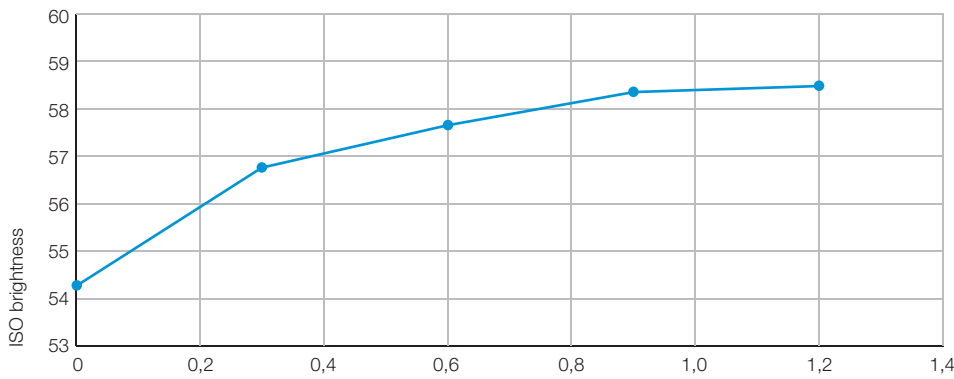
Major cost savings can be made in the printing & writing paper sector by cleverly combining bleaching processes.

Examples of the favorable cost-benefit ratio of Hydrosulfite bleaches:

Carton board



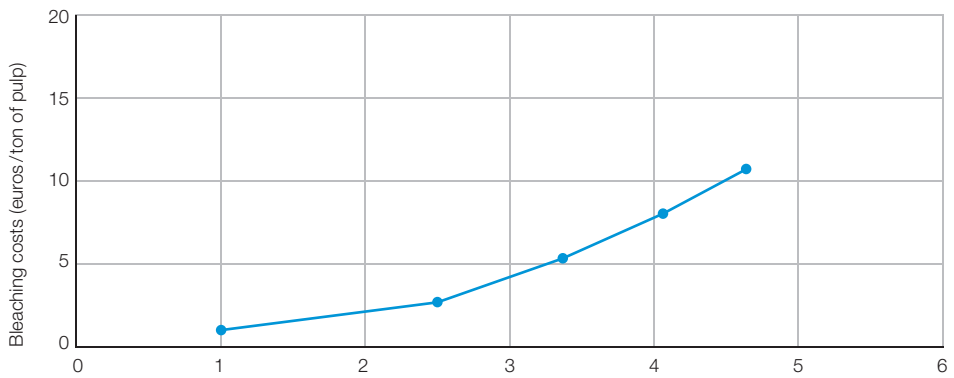
Bleaching result/increase in brightness



Hydrosulfite F

Quantity of bleaching agent as % in abs. dry DIP

Costs Hydrosulfite



Hydrosulfite F

Delta brightness



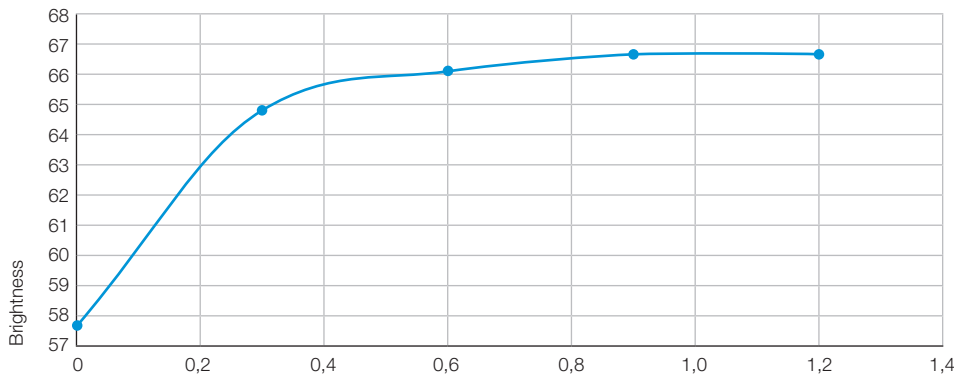
With Hydrosulfite/Blankit® you can achieve the same bleaching results as with other agents but at reduced cost.

Examples of the favorable cost-benefit ratio of Hydrosulfite bleaches:

Tissue

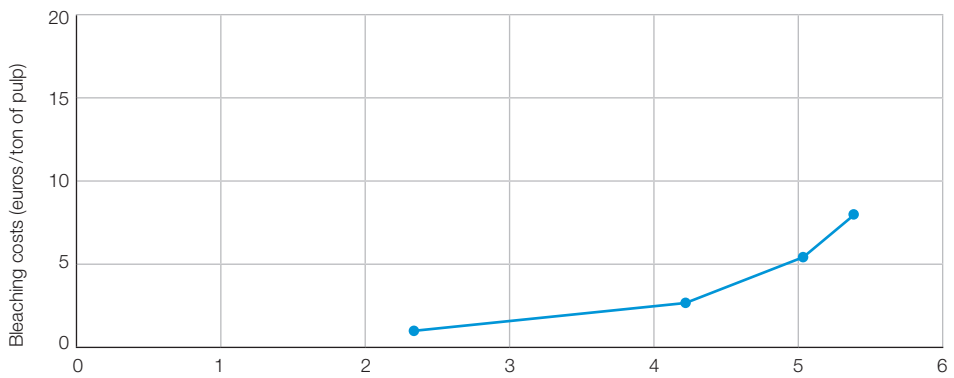


Bleaching result/increase in brightness



Hydrosulfite P liquid

Direct costs Hydrosulfite



Hydrosulfite P liquid



With Hydrosulfite/Blankit® you can achieve the same bleaching results as with other agents but at reduced cost.

Our contribution to your success

Reduce your costs and improve your paper quality with the complete Hydrosulfite/Blankit® package for efficient bleaching. With our product range and expertise, we can help you optimize your processes – from the selection of the perfect raw material mix to process simplification and the reduction of impurities in the waste water.

The Hydrosulfite/Blankit® range at a glance:					
	Sodium dithionite (%)	Virgin fibers (GW, SGW, TMP, CTMP)	Waste paper (DIP)	Chelating agent	Buffer zone
Hydrosulfite E	>= 88	+		-	alkaline
Hydrosulfite F	>= 88	+	+	-	neutral
Hydrosulfite P liquid	>= 150 g/l	+	+	-	very alkaline
Blankit® B	>= 69	+	+	+	alkaline
Blankit® C5	>= 73	+	+	+	neutral
Blankit® MFC	>= 71		+	+	alkaline
Blankit® W	>= 73		+	+	alkaline
Blankit® 3	>= 58		+	+	neutral

