



Technical Data Sheet

Taiwhite NFW-T 450%

FLUORESCENT WHITENING AGENTS FOR TEXTILES

USES

Fluorescent whitening agent with slightly violet white shade for polyamide, wool, silk, cellulosic fibers and their blends in all stages of processing.

Versatile application by exhaust and continuous processes.

Characteristics	Benefits
<ul style="list-style-type: none">● High affinity for polyamide, wool and silk; excellent build - up	<ul style="list-style-type: none">● Very high and brilliant white maximum
<ul style="list-style-type: none">● Low to moderate affinity for cellulosic fibers	<ul style="list-style-type: none">● Very good levelness from end to in continuous processes. Outstanding leveling properties in exhaust and wash-whitening process.
<ul style="list-style-type: none">● Very good stability to reducing agents and hydrogen peroxide.	<ul style="list-style-type: none">● Discontinuous reductive or oxidative Bleaching can be carried out Simultaneously with the whitening process. Suitable for incorporation in print pastes for white discharges.



PROPERTIES

Chemical constitution	Distyrl biphenyl derivative
Ionic character	Anionic
Physical form	Yellow power
Storage stability	Taiwhite NFW-T 450% us stable for 5 years when properly Stored in closed containers at 20°C .
PH stability※	PH 1-12
Hard water	Not stable
Peroxide bleach	Very good stability
Reduction bleach (sodium dithionite)	Very good stability
Chlorite bleach	Not stable
Chlorine bleach	Not stable
Ecology/toxicology	The usual hygiene and safety rules for handing chemicals should be observed in storage, handing and use. The product must not be swallowed. For further information, please consult existing safety data sheet.

※in soft and demineralized water.

FASTNESS PROPERTIES

			PA	WO,S	CEL
Light		I SO 105-B02	4	2-3	3-4
Washing	40°C	I SO 105-C06/A1S	5	5	5
	60°C	I SO 105-C06/C1S	4-5	—	4
	95°C	I SO 105-C06/E2S	3-4	—	3
Chlorine bleach	mild	I SO 105-N01	—	—	5
	severe		—	—	4-5
Chlorinated-/Sea water		I SO 105-E03/E02	5	—	5
Alkali		I SO 105-E06	—	—	5
Acid		I SO 105-E05	5	5	5
Perspiration	alkaline	I SO 105-E04	4-5	4	5
	acid		4-5	4	5
Dry heat	30 s/180°C	I SO 105-P01	5	—	5



APPLICATIONS

Taiwhite NFW-T 450% must be applied from soft water or in presence of a suitable complexing agent.

Polyamide, wool, silk

Exhaust process : From slightly acid baths, preferably in presence of stabilized sodium dithionite; can also be applied in a weakly acid peroxide bleaching bath.

Continuous process : Pad-bake, pad-steam, acid shock or wash-whitening processes.

Cellulosic fibers

Exhaust process : From water with addition of electrolytes.
In the peroxide and reduction bleach.

Continuous process : By padding and in wash-whitening process.

Dissolving/diluting

Dissolve by pouring on hot water . Boil up briefly with live steam if necessary.

Solubility :

at the boil	250 g/l
in cooled liquor	65 g/l

Stock solutions should be kept away from the light; also substrates treated with the whitening agent, as long as it is not fixed.

Required amount Taiwhite NFW-T 450%

PA

Exhaustion	0.1 ~ 0.45 %
Pad-bake, Pad-steam, Acid shock	1 ~ 4.5 g/l
Liquor pick up 80-100%	
Wash-whitening	0.2 ~ 1 g/l

WO, S

Exhaustion	0.1 ~ 0.45 %
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CEL

Exhaustion	0.05 ~ 0.15 %
Padding liquor pick up about 70%	0.5 ~ 1.5 g/l



Suggested recipes- polyamide

Exhaust process

0.1 ~ 0.45	%	Taiwhite NFW-T 450%
0 ~ 3	g/l	sodium dithionite, stabilized
0.5 ~ 1	g/l	Taigal NL-40H
PH		4 ~ 5 (with acetic or citric acid)
Liquor ratio		10 : 1 ~ 20 : 1
Temperature range		120 ~ 90°C
Treatment time		20 ~ 60 min

A final neutralization of the residues agent (with approx. 0.5 ml/l hydrogen peroxide 35%) is recommended to avoid unpleasant odour and yellowing during subsequent drying.

Continuous process

Pad-bake

1 – 4.5	g/l	Taiwhite NFW-T 450%
1 – 3	g/l	Taigal NL – 40H
1 – 2	g/l	polyphosphate
5- 10	g/l	polyethylene glycol 400 ~ 600
PH		4 ~ 5 (with acetic, preferably tartaric or citric acid)
Padding		Liquor pick-up 60 ~ 80%,cold

Drying

Baking/developing 15 ~ 30 sec at 180 ~ 190°C

Pad-steam

1 – 4.5	g/l	Taiwhite NFW-T 450%
1 – 3	g/l	Taigal NL- 40H
1 – 2	g/l	Scourer BF - 70
5- 10	g/l	sodium dithionite, stabilized (if necessary)
PH		about 4 - 5 (with acetic, preferably tartaric of citric acid)
Padding		liquor pick-up 60 – 80%,cold
Steaming		2 – 30 min (saturated conditions)

Suggested recipes – wool, silk

Exhaust process



Wool and silk are preferably fluorescent whitened in the reduction bleaching bath following a first bleach with peroxide :

0.1 ~ 0.45	%	Taiwhite NFW-T 450%
1 ~ 5	g/l	sodium dithionite, stabilized
0.5 ~ 1.0	g/l	Taigal NL – 40H
PH		5 (with acetic acid)
Liquor ratio		10 : 1~ 30 :1
Temperature range		50 ~ 60 (wool) or 60 ~ 70°C (silk)
Treatment time		60 ~ 120 min

A final neutralization of the residues of reducing agent (with approx.. 0.5 ml/l hydrogen peroxide 35%) is recommended to avoid unpleasant odour and yellowing during subsequent drying.

Suggested recipes – cellulosic fibers

Exhaust process

The affinity of Taiwhite NFW-T 450% depends on the temperature and electrolyte content. Taiwhite NFW-T 450% can be applied in combination with the peroxide bleach.

0.05 ~ 0.15	%	Taiwhite NFW-T 450%
2 ~ 5	g/l	Glauber's salt, anhyd.
8 ~ 14	ml/l	hydrogen peroxide 35%
2 ~ 4	g/l	Scouner BF-70
1.5 ~ 3	g/l	sodium hydroxide 100%
Liquor ratio		5 : 1~ 20 : 1
Temperature range/time		-without bleach : 40-80°C/15-30 min -with bleach : 95-80°C/40-60 min

If the goods are rinsed at high temperatures after bleaching, an electrolyte addition is recommended.

Taiwhite NFW-T 450% can also be applied in presence of reducing bleaching agents (stabilized sodium dithionite). Acid cracking prior to bleach-whitening may improve the whiteness level and reduce damages of cellulosic fibers during bleaching process.



Soft handle finish

0.5 ~ 1.5	g/l	Taiwhite NFW-T 450%
20 ~ 40	g/l	Taisoft silicone APS - 201
Padding		liquor pick-up 60 ~ 90%
Drying		110 ~ 130°C

Brightening pastel shades

The brightness of pastel shades can be improved dyeing with
0.02 ~ 0.1 % Taiwhite NFW-T 450%

White discharges

White discharges are usually produced with

0.2 ~ 1 g/kg Taiwhite NFW-T 450%

Preliminary trials should be carried out owing to the widely different formulation of the print pastes used.

Leveling/stripping

1 ~ 2	g/l	levelling agent
Temperature/time		20 ~ 60 min at 60 ~ 90°C

To freshen up the whiteness and avoid subsequent yellowing, hydrogen peroxide (especially with cellulosic goods) or stabilized sodium dithionite should be added. Re-whitening can be carried out with Taiwhite NFW-T 450% or other products in the Taiwhite NFW-T 450% range which are suitable for cellulosic or polyamide fibers, wool and silk. Taiwhite NFW-T 450% can be radically stripped from cellulosic and polyamide goods using a sodium chlorite bleach.