

Hagedorn NC



NITROCELLULOSE MANUFACTURED IN GERMANY

Nepplast[®]

COMPANY PORTRAIT

Hagedorn-NC - Your sustainable partner!

Industrial Nitrocellulose has been our core competency for the past 100 years. We use our profound experience and the resulting professional competence to offer a broad product portfolio that includes not only standard products but also responds to individual requirements of our customers.

Our production site in Lingen (Ems), Germany and our subsidiary incl. storage facility in Rescaldina, Italy meet the current requirements of modern health, safety and environmental standards.

We understand further advancement as a continuous challenge which we actively accept. The implementation of a comprehensive Quality, Environmental and Energy System (ISO certification) ensures the systematization of ongoing control and improvement of our processes and products.

- Premium product quality
- Customer individual support and advice
- Reliable Supply Just in time, if necessary
- Continuous product improvement
- High level of professional competence in various application fields

These core competencies characterize us as a reliable supplier of industrial Nitrocellulose products!

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DELIVERY TYPES

Our wide product range contains different delivery types.

A higher density and an improvement in dosage control can be achieved by using granulated or finegranulated material.

PRODUCTS

Hacocell

A wide product range of high quality Nitrocellulose with a maximum nitrogen content of 12.6%, suitable for a variety of industrial applications. Our extended product range is unique and includes different viscosities, damping agents and various packaging types and sizes.

Standard Dampig Agents:

- Ethanol
- 2-Propanol (IPA)
- 1-Butanol
- Water

Hacoplast

All NC-Types are also available as non-pigmented NC-Chips.

Plasticized Nitrocellulose is usable in monosolvent systems and systems that are not compatible with water or alcohol. Further advantages apply to formulations that require a high flash point.

Standard Plasticizers:

- ATBC Tri-n-butyl acetyl citrate
- EPO Soybean oil, epoxidized

Other phthalatfree plasticizers can be offered upon customer's request.

PACKAGING

All packagings are UN-approved for solid dangerous goods. The packagings fulfill all requirements coming from ADR, RID, IMDG and GHS. For safety reasons we do not use sole bags or metal drums. A dissipative PE bag with permanent antistatic additive is used generally.

Our products are either packaged in fibre drums:

- nominal volume 125 I (diameter x height = app. 465 mm x 850 mm)
- nominal volume 200 I (diameter x height = app. 575 mm x 880 mm) or boxes:
- Packaged on CP2 pallets
 Length x width x height = app. 400 mm x 400 mm x 380 mm
- Packaged on CP3 pallets
 Length x width x height = app. 570 mm x 380 mm x 380 mm







PRODUCT RANGE







Range of viscosity	Ester Soluble NC*	Alcohol Soluble NC*	Medium Alcohol Soluble NC	Norm Type (ISO 14446)	Application Area	Nitrogen content % by weight	Degree of substi- tution	% by weight NC dry in Acetone (ISO 14446)
High	Η 7			7 E	NC for plasticizer-free thin-film lacquers	11 8_12 / %	2 20-2 39	7 %
viscosity	H 9			9 E	NC for flexible coatings	11.0-12.4 /0	2.20-2.00	9 %
		AH 9		9 A	Thickener for printing inks	10.9-11.3 %	1.94–2.05	9 %
Medium	H 12			12 E	NC for flexible coatings	11 8_12 4 %	2.20–2.39	12 %
viscosity	H 15			15 E	NC for flexible coatings	11.0 12.4 /0		15 %
		AH 15		15 A	Thickener for printing inks	10.9-11.3 %	1.94–2.05	15 %
Medium	H 22			21 E	NC for lacquers with high mechanical film properties	11 9 10 / 0/	2 20 2 20	21 %
viscosity	H 23			23 E	NC for lacquers with high mechanical film properties	11.0-12.4 /0	2.20-2.35	23 %
		AH 22		23 A	NC for rapidly drying lacquers	10.9–11.3 %	1.94–2.05	23 %
	H 24			24 E	NC for lacquers with high mechanical film properties (Standard lacquer – NC)	11.8–12.4 %	2.20–2.39	24 %
	H 27			27 E	NC for lacquers and special printing inks			27 %
		AH 25		27 A	NC for printing inks	10.9–11.3 %	1.94–2.05	27 %
Low		AH 27		30 A	Standard NC for printing inks	10.9–11.3 %	1.94–2.05	30 %
viscosity		AH 30		32 A	Low viscosity NC to manufacture flexo printing inks and gravure inks	10.9–11.3 %	1.94–2.05	32 %
		AH 32		33 A	Very low viscosity NC to manufacture flexo printing inks and gravure inks	10.9–11.3 %	1.94–2.05	33 %
	H 33			34 E	Low viscosity type to manufacture lacquers with a high solid content	11.8–12.4 %	2.20–2.39	34 %
			H 33 special	34 M	Very low viscosity NC to manufacture flexo printing inks and gravure inks	11.3–11.7%	2.05–2.17	34 %
		AH 35		36 A	Extreme low viscosity NC to manufacture flexo printing inks and gravure inks	10.9–11.3%	1.94–2.05	36 %
			H 35 special	36 M	Very low viscosity NC to manufacture flexo printing inks and gravure inks	11.3–11.7%	2.05–2.17	36 %

* Customized types upon request.





COMPARISON TABLE

Euro Norm (acc. ISO 14446)	Hagedorn- NC	France	Germany	Thailand	Czech Republic	Brasil		USA	China		India
E-TYPES = ESTER SOLUBLE – HIGH NITROGEN 11.8–12.4%											
						old	new		H 1500		
7 E	H 7	E 110	E 1160		E7	60–80 AN	80 ES	RS 75	H 80		HM40/60
9 E	H 9	E 90	E 950		E9	15–20 AN	20 ES		H 20	H 15-20	HL 120–170
12 E	H 12		E 840		E12	5–6 AN	6 ES		H 5	H 5	HL 25–45
15 E	H 15	E 60			E15						
21 E	H 22			DHX 40/70	E21	3/4 AN			H 1/2 b		HX 40/70
23 E	H 23	E 33	E 560	DHX 30/50	E23			RS 1/2		H 1/2	HX 30–50
24 E	H 24	E 32			E24	3/8 AN	3/8 ES		H 1/4 c		HX 20–30
27 E	H 27	E 27			E27	1/4 AN	1/4 ES			H 1/4	
34 E	H 33	E 19	E 330	DHX 3/5	E34	18–25 AN	25 ES	RS 10			HX 3–5

A-TYPES = ALCOHOL SOLUBLE – LOW NITROGEN 10.9–11.3%

9 A	AH 9	A 90									
15 A	AH 15		A 700	DLL 25/40	A15			SS 5 Sec		L 5	
23 A	AH 22	A 28		DLX 30/50	A23	1/2 BN	1/2 AS		L 1/2 A	L 1/2	LX 30–50
27 A	AH 25	A 20	A 500	DLX 15-20	A27	1/4 BN	1/4 AS	SS 1/4	L 1/4 A	L 1/4	
30 A	AH 27	A 15	A 400	DLX 8/13	A30	30–35 BN	35 AS	SS 30	L 1/8	L 1/8	
32 A	AH 30	A 13		DLX 5/8	A32			SS 20			
33 A	AH 32	A 10	A 300		A33			SS 15			

M-TYPES = MEDIUM SOLUBLE – MEDIUM NITROGEN 11.3–11.7%

34 M	H 33 sp.					MX 3–5
36 M	H 35 sp.					

The information submitted in this publication is based on our current knowledge and experience. In view of many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of the suitability of a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to check the availability of products please contact us.

Nepplast®

Nepplast® are urethane polymers usable as RESINS or as POLYMERIC PLASTICISERS in Paints, Varnishes and Inks applications.

Product range, standard grades:

Nepplast® 1027

Aromatic based 100 % ACTIVE MATERIAL

Nepplast® 2001

Aliphatic based 100 % ACTIVE MATERIAL

Other special grades are available.

Nepplast[®] 2001, which has an aliphatic structure, is used in formulations which can not support yellowing.

Packaging:

- Metal drum (standard weight 200 kg net / drum)
- Intermediate Bulk Containers (IBC)

Main uses:

- Liquid inks: rotogravure, flexographic
- Overprint varnishes
- Pigment chips
- Aluminum coating
- Silk-screen inks
- Wood varnishes
- Leather finishing
- Grinding binder

Advantages:

The **Nepplast**[®] is approved for food contact and fulfills the requirements of the European Toys Standard.

Compared to usual plasticizers, Nepplast[®] allows the improvement of film characteristics, such as:

- No migration
- Better plasticizing properties
- Better mechanical properties at high temperatures
- Heat resistance
- Constancy of mechanical properties with time
- High lamination strength
- Adhesion
- Antiblocking
- Very low yellowing of films plasticized with Nepplast[®] 2001

POLYURETHANE FOR PAINT, VARNISHES AND INKS





TECHNICAL DATA	Nepplast [®] 1027	Nepplast [®] 2001						
Asnect	liauid sliaht	v coloured						
Color	< 50 H	< 50 Hazen						
Odor	wei	weak						
Flash Point	> 100	0°C						
Viscosity	3000 – 6000 mPa.s	2000 – 5000 mPa.s						
Hydroxyl Number	25 +/- 3 mg KOH/g	25 +/- 3 mg KOH/g						
Molecular weight	4500 +/- 500 Da 4500 +/- 500 Da							
Density @ 20 °C	1.02							
Compatibility with binders	Nitrocellulose (non gelatinizing plasticizer) Alkyds, Urea formol Thermohardening and Thermoplastic Acrylics Polyamides, Ketons, Rosin Esters Polyesters, Polyethers							
Compatibility with plasticizers	Phthalates, Citrates Adipates, Polyurethanes, Epoxides							
Solubility	Acetic esters, Ketones Chlorinated solvents, Glycols et glycol esters Alcohols, Aromatic Solvents							





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Nitrocellulose: State of the art in printing inks

- Made from renewable resources
- Not harmful several approvals for application in food packaging
- Excellent film formation high level of transparency and gloss
- Durability
 high mechanical stability also in thin layers
- High drying speed