MaiSsen 麦森

CHEMICAL ADDITIVES FOR BUILDING MATERIALS

MAILOSE- Cellulose ether series products
MAISSEN RDP- Redispersible polymer powder series products

JINAN MAISSEN NEW MATERIAL CO.,LTD.

CELLULOSE ETHER & REDISPERSIBLE POLYMER POWDER ARE THE CORE BUSINESS OF JINAN MAISSEN NEW MATERIAL CO.,LTD.

Based on more than 10 years of production and sales experience in domestic market, we started international business in 2019 with the brand name Mailose & Maissen RDP. In the same year, our new plant with advanced high automation equipment stared construction. Finally, put into production in JinChang, GanSu Province, China in 2021.

Currently, we are one of the few manufacturers in the market that can produce cellulose ether(Hydroxypropyl methyl cellulose / Methyl hydroxyethyl cellulose) and Redispersible polymer powder. Total annual capacity of cellulose ether is 30000 tons and redispersible polymer powder is 5000 tons. We are focus on building and construction chemicals to provide various specifications to meet different requirements in different products.

Now, we have exported our products to more than 30 countries and have rich experience to cooperate with global well-known chemical distributors and listed companies. Our quality is acceptable very well by our customers. Providing stable products quality and high-quality service is our constant insistence. Creating value for customers is our constant pursuit.

Main products:

(HPMC)
Hydroxypropyl methyl cellulose

(MHEC)
Methyl hydroxyethyl cellulose

(HEC)
Hydroxyethyl cellulose

(RDP)
Redispersible polymer powder

CONTENTS

Nomenclature & Classification of Mailose cellulose ether

MAILOSE	MP/ME/HE	40K/100K (K×1000)	S	E/O/W ...
Brand name	Chemical type	Viscosity	Surface treatment	Modified or specialized Application

Classification:

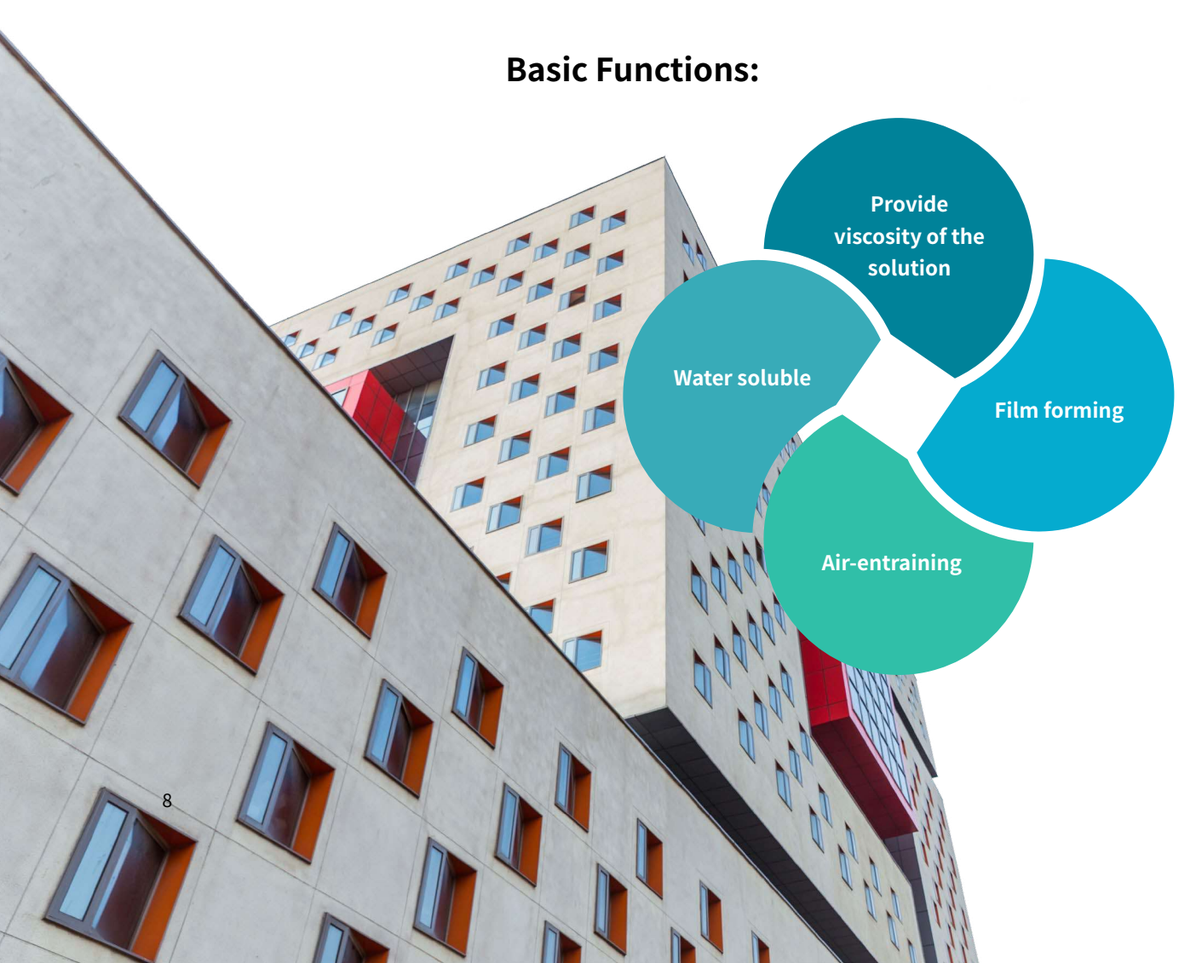
Chemical type	MP	Hydroxypropyl methyl cellulose
	ME	Methyl hydroxyethyl cellulose
	HE	Hydroxyethyl cellulose
Viscosity	400	400 mPas
	6K	6×1000 mPas
	100K	100×1000mPas
Surface treatment	-	No surface treatment
	S	With surface treatment
Modified grade or specialized applications	E	E: cost-effective products
	W	W: Workability
	O	O: Open time
	OD	OD: used in oil drilling
	D	D: used in detergent
	.....	.....

Customized product is also available, if you have any special requirements on the product properties, please contact with us. We can also customized products according to the requirements from customers.

Functions of Mailose cellulose ether

Mailose MP/ME/HE are all the non-ionic cellulose ether which are soluble in water. It is the basic and important chemical additives in construction and building materials.

Basic Functions:

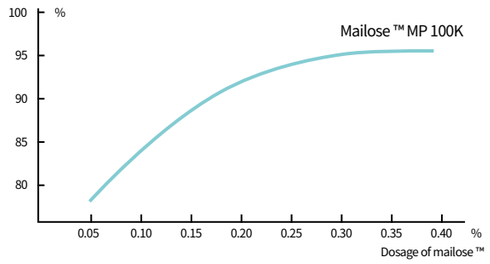


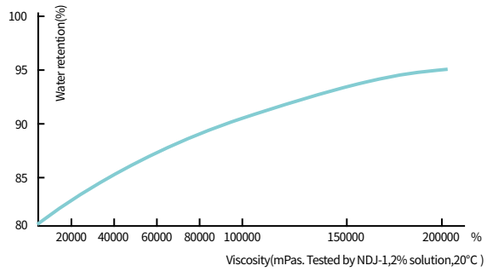
Further functions in dry mix mortar industry:

Water retention:

The hydroxyl group on cellulose ether molecule and the oxygen atom on the ether bond will associate with the water molecule to form the hydrogen bond, turning the free water into bound water, thereby playing a good role in water retention. The water molecule and cellulose ether molecular chain interdiffusion allows water molecules to enter the interior of the cellulose ether macromolecular chain and is subject to strong binding forces, thereby forming free water, entangled water, and improving the water retention of cement slurry.
Cellulose ether improves the rheological of fresh cement slurry.
The porous net work structure , osmotic pressure and the filming properties hinder the diffusion of water.

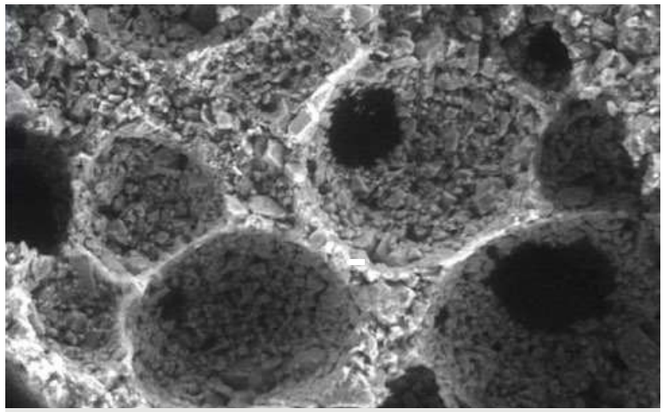
Water retention is mainly related with the viscosity and dosage.





Improve the workability

Adding right specification cellulose ether can make the mortar get suitable consistency, which is easy to trowelling and avoid sagging. In dry-mixed mortar products, due to the addition of cellulose ether, the tiny,uniformly distributed and stable air bubbles are absorbed into the fresh plastering mortar. Air bubbles roll when trowelling the mortar slurry on the wall, the process is smoother.



Wet mortar magnified 500 times, the diameter of the stomate is 0.08-0.1mm

Avoid cracking

Choosing right specifications of Mailose MP/ME, could avoid cracking. The air-entraining property of cellulose ether(HPMC/MHEC) could increase the air content in the dry mix mortar products. The fine and uniform bubble can reduce the mortar shrinkage and avoid the risk of cracks. At the same time, increase the output rate of mortar slurry. Meanwhile, the good water retention of cellulose ether(HPMC/MHEC) can make sure the adhesive materials(cement, gypsum or lime) have enough water to finish the hydration reaction very well. Make the whole system more stable and avoid cracking problem.

Anti-sagging / Anti-slip

The anti-sagging/anti-slip is related with the viscosity and dosage of cellulose ether(HPMC/MHEC). The consistency increase by increasing the dosage and viscosity of cellulose ether. High consistency will provide better anti-slip/anti-sagging.

Modification of cellulose ether is also helpful to increase the consistency and improve the performance of anti-sagging/ Anti-slip. Currently, our modification tech. is based on physical modification, Addition of other additives to enhance specific function without changing the chemical composition of cellulose ether.

Increase bonding strength

As the important and the basic chemical additive in dry mix mortar system, cellulose ether(HPMC/MHEC) provide enough water to make sure the full hydration reaction of adhesive materials. At the same time, it is also the guarantee of performance of other additives in the formulation. Most chemical additives in dry mix mortar require sufficient water for proper performance.

European standards(DIN EN 12 004) for cement based tile adhesive

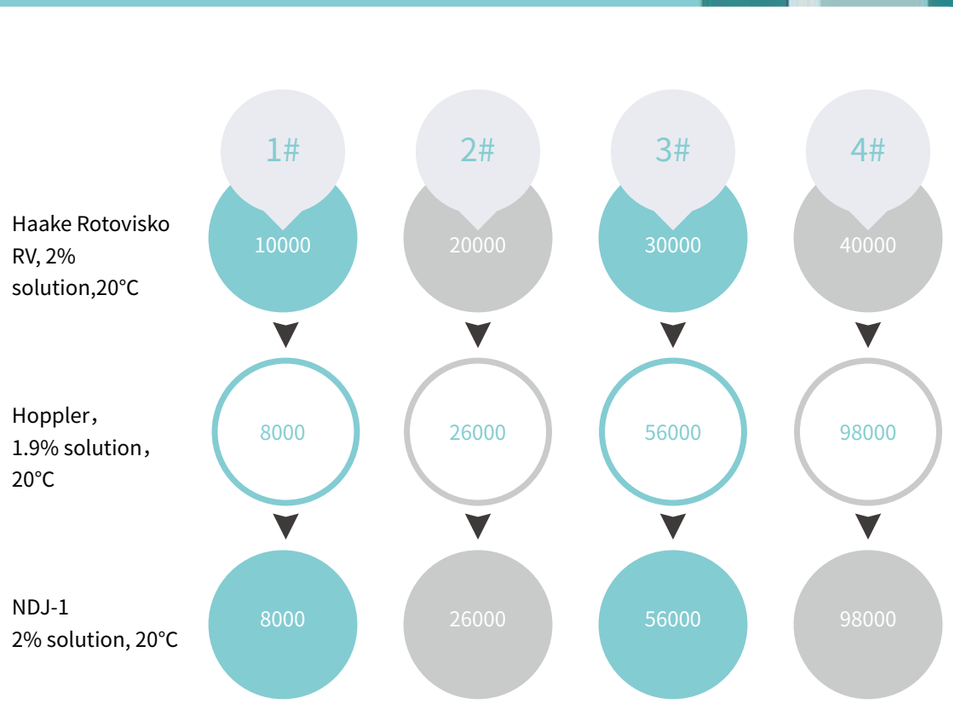
	Class C1	Class C2
Tensile adhesion strength after dry storage	⩾ 0.5 Nmm^2	⩾ 1 N/mm^2
Tensile adhesion strength after water storage	⩾ 0.5 Nmm^2	⩾ 1 N/mm^2
Tensile adhesion strength after heat storage	⩾ 0.5 Nmm^2	⩾ 1 N/mm^2
Tensile adhesion strength after freeze -thaw storage	⩾ 0.5 Nmm^2	⩾ 1 N/mm^2

Viscosity of Mailose cellulose ether

-The viscosity test result is different if the test method is not the same.
-Same test method with different concentration of solution, the test result will be different also.
-Test temperature will effect on the viscosity test result.

When selecting cellulose ether products, the viscosity need to be carried out under exactly the same test method. Welcome to contact with our sales team to check the right viscosity that you need.

Viscosity value of cellulose ether under different detection methods:



Technical specification of Mailose

Hydroxypropyl methyl cellulose Mailose MP

Item	Specification
Appearance	White or off-white powder
Methoxy(%)	19.0-24.0
Hydroxypropoxy(%)	4.0-12.0
Ash content	5% Max
Moisture	5% Max
Viscosity (NDJ-1, 2% solution,20°C)	400-200000mPas
PH	6.0-8.0
Particle size	99% pass 80mesh

Methyl hydroxyethyl cellulose Mailose ME

Item	Specification
Appearance	White or off-white powder
Ash content	5% Max
Moisture	5% Max
Viscosity (NDJ-1, 2% solution,20°C)	400-200000mPas
PH	6.0-8.0
Particle size	99% pass 80mesh

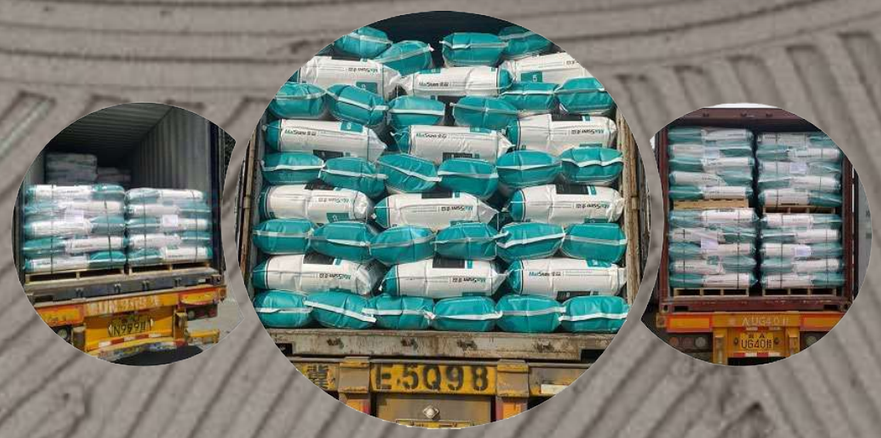
Hydroxyethyl cellulose Mailose HE

Item	Specification
Appearance	White or off-white powder
Degree of substitution	1.8-2.2
Ash content	5% Max
Moisture	5% Max
Viscosity (NDJ-1, 2% solution,20°C)	400-200000mPas
PH	6.0-8.0
Particle size	90% pass 100mesh

Mailose specification recommendation

Plaster and render	Cement based	Manual plaster	Mailose MP/ME 75K, 100K, Mailose MP/ME 75KW,100KW
		Machinery plaster	Mailose MP/ME 75K(S), 40K Mailose MP/ME 75KC
		Finishing plaster	Mailose MP/ME 100K, Mailose MP/ME 100KW Mailose MP/ME 100KE
		Waterproof putty	Mailose MP/ME 40K,75K 100K, 150K,200K
	Gypsum based	Manual plaster	Mailose MP/ME 75K,100K Mailose MP/ME 75KW, 100KW
		Machinery plaster	Mailose MP/ME 75KC
		Finishing plaster	Mailose MP/ME 75K,100K
Adhesives	Tile adhesive C1/C2		Mailose MP/ME 100K,150K,200K
	Tile adhesive C1/C2 T		Mailose MP/ME 40KC
	Tile adhesive C1/C2 E		Mailose MP/ME 40KO, 100KO,150KO,200KO
	EIFS adhesive mortar		Mailose MP/ME 100K
	Block laying adhesive		Mailose MP/ME 60K, 75K,100K
Filling compounds	Joint filler		Mailose MP/ME 40K
	Tile grouts		Mailose MP/ME 40K
Other industrial applications	Self leveling compounds		Mailose MP/ME 400
	Stone paint		Mailose ME 60KS，100KS Mailose HE 60K，100K
	Paint and coating		Mailose ME 40KS,60KS,100KS,150KS Mailose HE 40K,60K,100K,150K
	Paint remover		Mailose MP100KS，150KS
	Oil drilling		Mailose HE 60K，100K，150K Mailose MP 60KOD，100KOD，150OD
	Home care / Detergent		Mailose MP / ME 100KSD，150KSD，200KSD Mailose HE100KSD，150KSD，200KSD

Packing and Storage



Packing

Product	Package
Mailose MP (hydroxypropyl methyl cellulose)	25kgs per bag 20’ GP: 10 tons with pallets or 13 tons without pallets. 40’ HC: 24 tons with pallets or 26 tons without pallets.
Mailose ME	25kgs per bag
(methyl hydroxyethyl cellulose)	20’ GP: 10 tons with pallets or 13 tons without pallets. 40’ HC: 24 tons with pallets or 26 tons without pallets.
Mailose HE (Hydroxyethyl cellulose)	25kgs per bag 20’ GP: 12 tons with pallets or 14 tons without pallets. 40’ HC: 24 tons with pallets or 26 tons without pallets.

P.S.: The container loading volume of the modified grade products or special used grade may different, please contact with our sales team to confirm it.

Storage:
Mailose MP/ME/HE cellulose ether is non-hazardous material, but the following should be noticed in order to avoid accidents when handling.

1.Please store aware from heats, sparks and fires.
2.Cellulose ether solution is very slippery. If you find Mailose MP/ME/HE powder on the ground, please clean it in time and keep it dry to avoid personal injuries.
3.Wear a protective mask during using Mailose MP/ME/HE to avoid inhalation of cellulose ether dust.

Properties of Maissen RDP

Redispersible polymer powder produced by spray-drying special water-based emulsion, mostly based on vinyl acetate and ethylene. It could dissolves in water easily and quickly form emulsion again.

This product is widely used in various kinds of dry mix mortar products.

Key functions

- -Improve the flexibility
- -Increase bonding strength
- -Improve workability
- -Reduce water absorption

Technical specifications of Maissen RDP

	Maissen RDP 707U	Maissen RDP 730T	Maissen RDP 740T	Maissen RDP 806F
Protective colloid	Polyvinyl alcohol	Polyvinyl alcohol	Polyvinyl alcohol	Polyvinyl alcohol
Anti-caking additives	Mineral anti-block agent	Mineral anti-block agent	Mineral anti-block agent	Mineral anti-block agent
Appearance	White powder	White powder	White powder	White powder
Solid content	98%Min	98%Min	98%Min	98%Min
Ash content	12%±2	12%±2	12%±2	12%±2
Bulk density	450-550g/l	450-550g/l	450-550g/l	450-550g/l
Average particle size	~80μm	~80μm	~80μm	~80μm
PH value	5-7	5-7	5-7	5-7
Minimum film-forming temperature	0°C	4°C	4°C	0°C
TG	3°C	12°C	17°C	-6°C

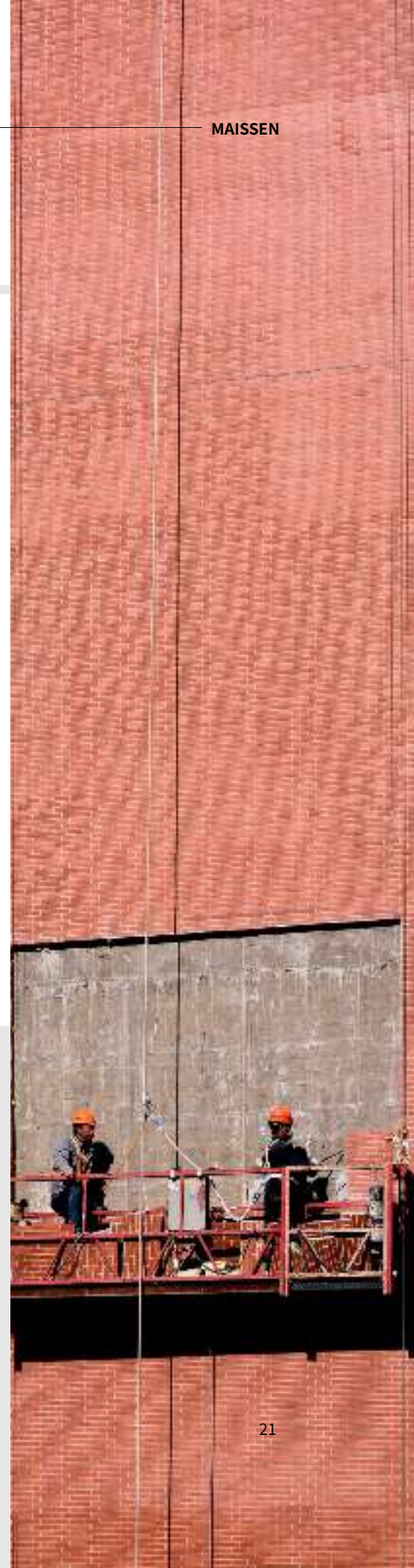
Maissen RDP products are all based on VAE(vinyl acetate ethylene copolymer), TG temperature & ash content have major impact on product performance.

TG(glass transition temperature):

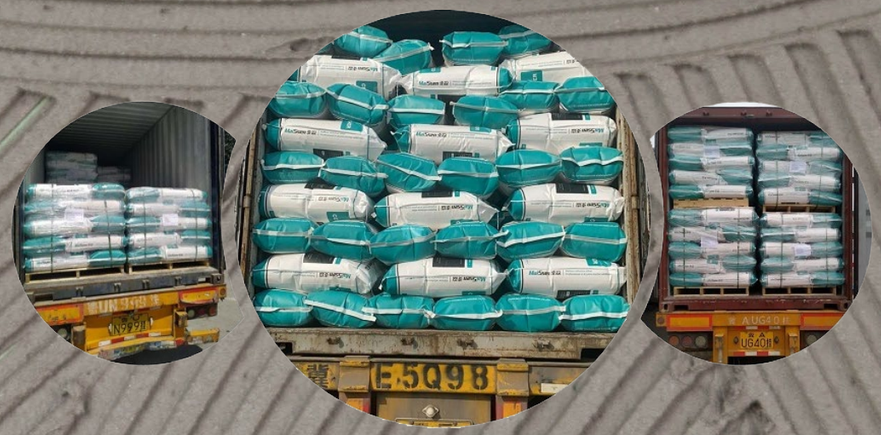
TG is one of the important index of redispersible polymer powder.
It depend on the raw material-VAE emulsion specifications.
TG ↑, the adhesive strength of mortar ↑, flexibility ↓, TG ↓, the adhesive strength ↓, flexibility ↑.

Ash content:

Ash content in redispersible polymer powder is used as the anti-caking agent. Normally the content is 12±2%, according to the weather condition and customers' requirement, the content may different.



Packing and Storage of Maissen RDP



Packing

25kgs per bag.
20’ GP: 14 tons with pallets or 16 tons without pallets.
40’ HC: 26 tons or 28 tons with pallets Max. according to the container loading limited.

Storage:

during storing,
- Keep the product away from heat source, spark and fire.
- Protect the product from contact moisture.
- Avoid pressure, humidity or exposure to sunlight which may result in blocking.
- Recommend to use products within 6 months from the production date.
- If the product is stored longer than recommended and there is no clumping , it may still be used.

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