

1) CMC & PAC, PRODUCTION OF (Polyanionic Cellulose & Carboxymethyl Cellulose)

Sodium CMC, a water soluble ether, is manufactured by reacting sodiummonochloracetate with alkali cellulose. Its ability to suspend solids in liquids, to control viscosity of aqueous solutions, to form strong tough films and to retain water, has accounted for rapid growth of its use, since 1947.

<u>Grade</u>	<u>Application</u>	<u>CMC content</u> - <u>on dry basis %</u>	<u>D . S</u>	<u>Viscosity of</u> <u>4 % sol CPs</u>	<u>Moisture</u> <u>%</u>
A . D 7 0 0	Detergents	68.0 ± 2.0	0.5 ± 0.1	700 ± 300	6.0 - 9.0
D 1 5 0 0	Detergents	68.0 ± 2.0	0.5 ± 0.1	1500 ± 500	6.0 - 9.0
K 1 5 0 0 0	Paste detergents	68.0 ± 2.0	0.5 ± 0.1	15.000 min.	6.0 - 9.0
B . L V D R L (API STANDARDS)	Oil Drilling	60.0 ± 2.0	0.85 ± 0.05	150 - 300	6.0 - 9.0
H V D R L (API STANDARDS)	Oil Drilling	60.0 ± 2.0	0.85 ± 0.05	8000 min.	6.0 - 9.0
C . B 3 0 0 0	p a i n t s	58.0 ± 2.0	0.75 - 0.85	3000 - 6000	6.0 - 9.0
T 3 0 0 0	T e x t i l e	60.0 ± 2.0	0.8 - 0.9	300 - 500	6.0 - 9.0
Y 5 0 0 0	A d h e s i v e s	58.0 ± 2.0	0.7 - 0.8	5000 min.	6.0 - 9.0
K 1 5 0 0	P a p e r	64.0 ± 2.0	0.7 - 0.8	1000 - 2000	6.0 - 9.0

CMC is used to prevent redistribution of soil on fibers. Increases atomization efficiency and hardness of beads. Also prevents drying of detergent pastes.

Another significant application is during the drilling of exploration and production wells for oil & gas and water, CMC (Carboxymethyl Cellulose) & PAC (Polyanionic Cellulose) as being drilling fluid additives are used for two primary functions; to form a filter cake at the borehole wall in order to minimize the water loss and to control the rheology of the fluid system.

Drilling fluids are mainly water based or solvent based, today due to environmental and operational concerns most drilling wells are operated with water based drilling fluids. As CMC and PAC are water soluble polymers, they are used in water based drilling fluids as mud performance increasing additives.



CMC and PAC added to the base mud by various preparation processes depending on the aimed achievement. After preparation of the fluid, the drilling mud is pumped from the mud tanks on the platform down the drill pipe, while cooling and lubricating the drilled bits by exiting the drill string from nozzles. Then the fluid rises upwards between the drill string and the formation wall, carrying the drilled solids to the surface. As long as the fluid's technical properties allow, the same process repeated after

purifying the fluid. In order to maintain such a proper fluid circulation along the well, CMC and PAC are used to control and manage the rheological properties of the fluid.



It is important that water loss to the soil along side the borehole would be kept under control as it has a direct effect on well production and operation efficiency. Due to water retention abilities of CMC & PAC, the fluid minimizes the loss of water to the soil by suspending it. It is also essential to form a thin filter cake in order to prevent stuck pipe incidents

Depending on the conditions of the well bore, desired achievement/efficiency and physical/chemical properties of the drilling mud, these products are either alone or in combination used with others in order to get the highest performance from the drilling itself.

2A Brand CMC & PAC Products for Drilling Product Codes Product Classifications

- 2A-CMC LV
- 2A- CMC HV
- 2A- PAC LV API
- 2A- PAC LV 70
- 2A - PAC R HV



2A-PAC LV API Specifications:

	<u>Specifications</u>	<u>Typical Results</u>	<u>Retained Mesh</u>
ACTIVE CONTENT Dry Basis	MIN 70	71,00	IS*3520-1966
% Moisture 105 C	MAX 10.00	6,10	IS*5306-1978
Degree of Substitution	MIN 1.00	1.25	IS*3520-1966
pH (1% sol.).....	7-11	9,90	Ph Meter E520
APPARENT VISCOSITY (CPS)	MAX 40.00	13,00	API**
FILTRATE VOLUME (ML)	MAX 16.00	14,00	API**
			

** AMERICAN PATROLEUM INSTITUTION

25 g kraft bags , 2 inner PE Layers

CMC for other APPLICATIONS & FUNCTIONS:

•DETERGENTS• DRILLING FLUIDS• MINERAL FLOTATION• WATER BASED

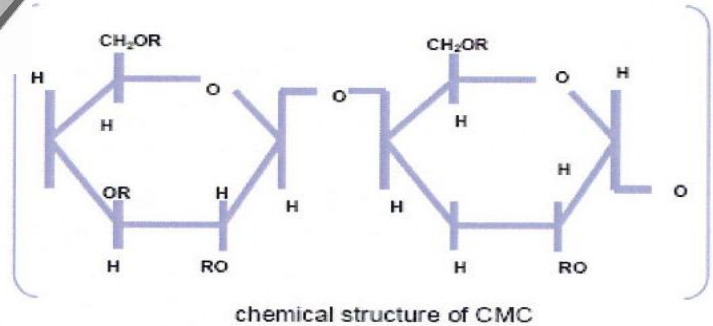
PAINTS • ADHESIVES• CERAMICS• TEXTILE SIZING & PRINTING• PAPER SIZING & COATING • FOOD•
WELDING ELECTRODES• ANTI-REDEPOSING • FLUID LOSS CONTROL• WATER RETENTION•
THICKENING • BINDING • FILM FORMING • SIZING• COATING• STABILIZING• PROTECTIVE
COLLOID



Carboxymethyl Cellulose (CMG) is a water soluble anionic polymer derived from naturally occurring cellulose; cotton linter pulp or/and wood pulp, produced by reacting alkali cellulose with monochloroacetic acid.

CMC is:

- Biodegradable
- Cold/Hot water soluble
- Non-toxic
- Physiologically inert
- Odourless



2) OVER PRINT VARNISHES & INKS

Heat Seal Lacquers

HS3064/65 series

When applied on aluminium foil without the need of a primer lacquer it gives direct adhesion to PP, PS and PVC materials, it is effective in PET-PET application with the aid of primer lacquer (LK0950)

HS3900 series

A universal Heat Seal lacquer. It gives results on PET-PET applications without requiring primer.

HS2000 series

It has a direct adhesion on aluminium material to PS material

HS2002 series

It has a direct adhesion on aluminium material to PVC material

Cold Seal Lacquers

Suitable products for fast working conditions and compatible with EU and US regulations

Primer Lacquers

Our products in this series as a way to ensure proper adhesion on the various substrates .It also widens the field of application of our various Heat Seal Lacquers.

Overprint Lacquers

Our various overprint lacquers with different code numbers can be used for improving the heat resistance, giving a matt effect, increasing the resistance against deep- freeze and the resistance against H2O2 (hydrogen peroxide) and giving antistatic properties after printing.



PRODUCT	SOLID %	PRINTING METHOD		SUBSTRATE							VISCOSITY DIN CUP4, 25 °C (sec.)			THINNER	APPLIED AMOUNT g/m²	APPLICATION	
		FLEXOGRAPHY	ROTOGRAVURE	Aluminium Foil	Metalized Film	Pearlize Film	PVC	OPP	PE	PET	Paper	Product Viscosity	Print Viscosity				
													Flexography				Rotogravure
PRIMER LACQUER	LK 2195	20±2	● ▲									22 ± 3	-	14-15	E.Acetate/IPA	1.0-1.5	Primer lacquer for Al.Foil, increase adhesion
	LK 0945	25±2	● ▲									30 ± 5	-	16-18	E.Acetate	1.0-1.5	Primer lacquer for Al.Foil- Paper laminates
	LK0950	25±3	●							▲		min.20	-	16-19	E.Acetate	0.5-1.0	Applied prior to Heat seal lacquer, give adhesion to PET-PET mat
	LT 0960	32±2	●	▲ ▲								18 ± 2	-	13-14	E.Acetate	0.5-1.0	Primer lacquer for metallised-pearlised films
	LT 0970	20±2	● ▲									min.30	-	16-18	E.Acetate	0.5-1.0	Primer lacquer for Al.Foil increases adhesion
PS 8960	46±2	● ● ▲ ▲									22 ± 2	20-22	16-18	Water	0.5-1.0	Water based primer lacquer for Al.Foil and metallised films.	
RELEASE LACQUER	RL 9565	40±2	● ● ▲ ▲							▲	28 ± 3	20-22	16-18	IPA	1.0-2.0	In which cold seal application is used, printed side of package can be easily removed from the bobbin.	
HEAT SEAL	HS 2000	25±2	● ▲								25 ± 3	-	20-22	E.Acetate	3.0-4.0	Apply on Al.Foil to seal hard PVC and PS	
	HS 2002	25±2	● ▲								80 ± 20	-	20-22	E.Acetate	3.0-4.0	Apply on Al.Foil to seal hard PVC	
	HS 2006	30±2	●				▲				25 ± 3	-	18-20	MEK	3.0-4.0	Apply on PVC to seal hard PS	
	HS 2050	22±2	● ▲								28 ± 3	-	18-20	E.Acetate	2.0-4.0	Apply on PET to seal PET	
	HS 3025	30±2	● ▲								22 ± 2	-	18-20	E.Acetate	5.0-6.0	Apply on Al.Foil to seal PP, PET, hard PVC and PS with Primer	
	HS3064/65	25±2	● ▲								18 ± 2	-	18-20	E.Acetate	5.0-6.0	Apply on Al.Foil to seal PP, PET, hard PVC, PS without Primer	
HS3076	30±2	● ▲				▲			▲	20 ± 2	-	20-22	E.Acetate	5.0-6.0	Apply on Al.Foil or PET to seal PP, PET, hard PVC, PS without P		
OVERPRINT LACQUER	LT 0930	29±2	● ●						▲ ▲		35 ± 5	20-22	16-18	E.Acetate/IPA	1.0-2.0	Apply on OPP and PE for prevention static electricity	
	LK 4478	27±2	● ●						▲ ▲		22 ± 2	20-22	16-18	E.Acetate/IPA	1.0-2.0	Provide matt effect to print	
	LS 0920	23±2	● ●						▲ ▲	▲	53±10	20-22	16-18	E.Acetate/IPA	1.0-2.0	Protection for print surface and provide deepfreeze resistance	
	LK0925	22±3	● ▲								Min.21	-	16-19	E.Acetate	0.5-1.0	Give resistance against H2O2	
	PS 8920	46±2	● ● ▲							▲	22 ± 2	20-22	16-18	Water	0.5-1.0	Increase heat resistance and provide deep freeze resistance	

3) HYDROXY ETHYL METHYL CELLULOSE

Items	Standard
Viscosity (2% water solution, 20 °C), NDJ, mpa.s	160000-200000
Viscosity (2% water solution, 20 °C), Brookfield, mpa.s	55000-75000
Moisture content , %	8.0max
pH	5.0-7.5
Fineness (80 meshes) Screen filter, %	5.0max



4) EPOXY RESIN & EPOXY PRIMER FORMULATIONS

Please contact us for specific formulations Epoxy primers & Or Epoxy Hardeners

Property ⁽¹⁾	Value	Method
Epoxide Equivalent Weight (g/eq)	182 – 192	ASTM D-1652
Epoxide Percentage (%)	22.4 – 23.6	ASTM D-1652
Epoxide Group Content (mmol/kg)	5200 – 5500	ASTM D-1652
Color (Platinum Cobalt)	75 Max.	ASTM D-1209
Viscosity @ 25°C (mPa·s)	11000 – 14000	ASTM D-445
Hydrolyzable Chloride Content (ppm)	500 Max.	ASTM D-1726
Water Content (ppm)	700 Max.	ASTM E-203
Density @ 25°C (g/ml)	1.16	ASTM D-4052
Epichlorohydrin Content (ppm)	5 Max.	DowM 101321
Shelf Life (Months)	24	

(1) Typical properties, not to be construed as specifications.



5) SYNTHETIC ZEOLITES



Composite or Zeolites 4A, for detergents applications.

Due to environmental friendly Nature.

PRODUCTION CODE: ZEOLITE AG FOR DETERGENTS

ZEOLITE A (ANHYDROUS)	>79 %
CALCIUM EXCHANGE CAPACITY mgCaCO ₃ /g (DRY BASIS)	315
PH VALUE (1% 25 C)	10,85
MOISTURE	4,28
BULK DENSITY (mg/ml)	0,55
SiO ₂	31,00
Na ₂ O	24,72

6) MONOCHLORO ACETIC ACID (MCAA)

CAS Reg. No. : 79-11-8
Appearance: White Deliquescent Crystals
Specifications:



Monochloroacetic Acid (NLn)	99.25%	GC
Dichloroacetic Acid (NMT)	00.50%	GC
Acetic Acid (NMT)	00.25%	GC
Moisture (NMD)	00.50%	Karl Fischer
Iron (NMD)	10 ppm	AAS
Heavy Metal (as Pb) (NMD)	10ppm	AAS

UN No.: 1751
IMCO Class : 6.1 (8)

Uses: Monochloroacetic Acid is used as a versatile intermediate in the manufacturing of various Agrochemicals viz 2, 4-D, Glyphosate etc. It is widely used as a main raw material for various pharmaceuticals viz. Ibuprofen, Dichlofenac, etc. & in the manufacturing of Carboxy Methyl Cellulose.

Packing : 25/50 Kgs Net HDPE Bags with Liner inside 500/1050 Kgs.

PP FIBC Jumbo Bags

Storage: Store in a close Ventilated & shaded area.

Precaution : Avoid contact with skin and eyes.

7) PU, PU BINDERS POLYOLS



COMMERCIAL ACTIVITY & EXPORTS OF POLYURETHANE TYPES AND MIXTURES,

Please contact for more information.

8) SODIUM BICARBONATE

Free from black specks and flowing white crystalline powder. It is odorless.

Sodium Sulphate as Na₂ SO₄ : 99,5% Min. ,**Color (in 1% Sol)** : < 10 klet **Sodium Chloride (NaCl)** : 0,20 % Max., **Moisture (loss at 105 °C)** : 0,3% Max. ,**pH of (1% sol)** : 6,5 – 8,0 % ,**In-soluble matter in water** : 0,10% Max.,**Apparent Density** : 1500 +/- 200 g/l, **Mean Particle Size** : 100 – 250 micron - μ, **Iron (Fe) content** : 10 ppm. Max , **Chromium (Cr)** : 1ppm. Max.

9) LABSA , LINEARALKYLBENZENE SULPHONIC ACID

After neutralization with an alkali, the material is used as a household and industrial detergent ingredient as a surface active agent. Also in the manufacture of wetting, emulsifying and foaming agents. It is a Brown – amber viscous liquid with a strong odor.

Mr. (Molecular weight) : 319,5 – 320,5

%AD : min % 96

% Sulphuric acid : max % 1

%Water : max % 1

Klett (4 cm) : max 45

% Ansulphonated : max 2,00