



ELHUME – HOxPMC™ (Hydroxy Propyl Methylcellulose)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	White to off-white powder
Physical Form	White to off-white powder
Odor	Odorless to a faint, slightly sweet or musty scent. Strong odors may indicate residual solvents from manufacturing.
Molecular Weight	Varies by grade; typical ranges are ~10,000 to ~86,000 Da. The specific molecular weight for the provided formula is 1261.4 g/mol.
Density / Specific Gravity	1.26 g/cm ³
Viscosity	Technical grades are available in a wide range of viscosities, typically from 4,000 to 200,000 mPa·s (in a 2% aqueous solution at 20°C).
Refractive Index	1.520
pH (aqueous solution)	6.0 - 8.0
Assay / Purity	Methoxy Content: 19-30% Hydroxypropyl Content: 3-12% Ash Content: < 5%
Authoritative Data	
CAS Number	9004-65-3
Molecular Formula	C ₅₆ H ₁₀₈ O ₃₀
Known Applications	Thickener, Emulsifier, Film Former, Stabilizer, Binder
Density	1.26 g/cm ³
Chemical Properties	
pKa	A predicted value for the strongest acidic pKa is 11.67. As a non-ionic polymer, it is stable across a wide pH range.
Ionic Nature	Non-ionic
Incompatibilities	Strong oxidizing agents, strong acids, strong bases.
Hazardous Reactions / Decomposition Products	Hazardous polymerization will not occur. Thermal decomposition products can include carbon monoxide (CO) and carbon dioxide (CO ₂), depending on temperature and air supply.
Thermal Properties	

Property	Specification
Melting Point	190-200 °C (Discoloration Temperature)
Boiling Point	Not applicable
Flash Point	>250 °C (>482 °F)
Autoignition Temperature	170 - 185 °C
Decomposition Temperature	Pyrolysis begins at approximately 200 °C.
Thermal Stability	Stable under recommended storage conditions. Avoid temperatures above 130°C (266°F) to prevent decomposition.
Solubility	
Solubility in Water	Soluble in cold water, forming a colloidal solution. Insoluble in hot water (above 60°C), where it forms a gel.
Solubility in Ethanol	Practically insoluble in pure ethanol. Soluble in aqueous ethanol mixtures with high water content (e.g., up to 70% water).
Solubility in Methanol	Practically insoluble in pure methanol.
Solubility in Acetone	Insoluble in pure acetone.
Solubility in Diethyl Ether	Insoluble
Solubility in Glycerol	Soluble, often used as a co-solvent with water to aid dispersion.
Solubility in Chloroform	Insoluble or only slightly soluble.

2. Processing Methods

Standard Interior Tile Adhesive (C1 Type)

This formulation is for a standard cement-based tile adhesive for interior applications.

Key Ingredients	Indicative Dosage (% w/w)
Portland cement CEM I 42.5	25.0 - 30.0%
Quartz sand (0.1-0.5mm)	65.0 - 70.0%
Hydroxypropyl Methylcellulose (40,000-60,000 mPas)	0.20 - 0.30%
Calcium formate (accelerator)	0.5%



Flexible Tile Adhesive with Extended Open Time (C2TE Type)

This formulation is for a high-performance, flexible tile adhesive suitable for exterior use and large-format tiles, featuring an extended open time.

Key Ingredients	Indicative Dosage (% w/w)
Portland cement CEM I 52.5	30.0 - 35.0%
Graded quartz sand	55.0 - 60.0%
Hydroxypropyl Methylcellulose (100,000-150,000 mPa-s)	0.30 - 0.40%
Redispersible polymer powder	3.0 - 5.0%
Citric acid (retarder)	0.1 - 0.2%

Clear Conditioning Shampoo

A basic formulation for a clear shampoo providing light conditioning.

Key Ingredients	Indicative Dosage (% w/w)
Deionized Water	68.72%
Hydroxypropylmethyl Cellulose	0.50%
Sodium Laureth Sulfate (70%)	7.86%
Sodium Lauryl Sulfate (30%)	16.67%
Cocamidopropyl Betaine (35%)	3.50%
Preservative	1.00%
Sodium Chloride	2.25%
Citric Acid (25%)	q.s. to pH

3. Dosing by Application

Application	Recommended / Max Dosage
Cement Mortar	0.1 - 0.5%
Tile Adhesives (Standard)	0.2 - 0.4%
Tile Adhesives (High Performance, C2)	0.3 - 0.6%
Wall Putty / Skim Coat	0.3 - 0.6%
Self-Leveling Compounds	0.1 - 0.3%
Water-Based / Latex Paints	0.1 - 3.0% (typically 0.3 - 0.6%)
Water-Based Inks	0.1 - 0.5%
Shampoos	0.2 - 1.0%



Application	Recommended / Max Dosage
Creams & Lotions	0.1 - 0.5%
Gels	0.5 - 1.0% (or more)
Liquid Detergents	0.2 - 1.5%

The information and data contained herein are believed to be accurate but may not be all inclusive and should only be used as a guide. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the product for his particular use and on condition that they assume the risk of the use thereof.

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