



TECHNICAL DATA SHEET

Product name: Ethylene-Acrylic Acid Copolymer (EAA) / Ethylene Acrylic Acid

Synonyms: Ethylene/acrylic acid copolymer; Ethylene-acrylic acid copolymer; Poly(ethylene-co-acrylic acid); EAA

1. Identification

CAS No.: 9010-77-9.

EC / EINECS No.: Not assigned / not available for this polymer (many supplier SDS entries list EC number as “—” or not provided). If a specific regulatory EC number is required for an engineered grade, please advise target market and I will check further.

Chemical Formula (typical description): $(CH_2CH_2)_x[CH_2CH(CO_2H)]_y$.

Product form: Pellets / beads / powder depending on grade.

2. Typical Physical & Chemical Properties (typical ranges — vary by acrylic acid comonomer content and grade)

Values below are typical for commonly supplied EAA grades; final specifications will be supplied on COA for each production lot.

Appearance: Off-white to white pellets / beads.

Density: ~0.92–0.94 g/cm³ (typical 0.93 g/cm³).

Melting point / Tm: ~85–110 °C (typical reported ~87–97 °C for many grades).

Vicat / Softening point: ~70–95 °C (grade dependent).

Melt Flow Index (MFI): grade dependent (example 5–20 g/10 min typical for extrusion grades).

Acid number: depends on acrylic acid content — typical reported ranges from ~40 mg KOH/g (low AA content) up to >100 mg KOH/g for high-acid grades; common commercial materials report acid numbers like 40, 75, 120 mg KOH/g depending on grade.

Acrylic acid (AA) comonomer content: typical commercial grades range from ~5% to >15% AA (wt%) — select grade per application.

Solubility: Insoluble in water; soluble/swelling in hot xylene and certain organic solvents.

Typical processing: Extrusion, extrusion coating, co-extrusion, lamination, hot-melt adhesives and extrusion lamination.

(Note: exact numerical specifications — acid number, MFI, AA% — must be set per grade and will appear on Certificate of Analysis [COA].)

3. Key Features & Benefits

Excellent adhesion to polar substrates (aluminum, metallized films, paper, polar plastics) without primer — widely used as tie/adhesive layer in flexible packaging and laminates.

Good toughness, heat-seal strength, puncture and tear resistance, and improved adhesion compared to homopolyethylene.

Tailorable acid content: grades with different acrylic acid content enable tuning of polarity and adhesion for specific end-use.

Food-contact capable grades: major global producers offer EAA grades intended for certain indirect food contact applications (check grade-specific regulatory statements).

4. Typical Applications

Extrusion coating and extrusion lamination for flexible packaging (aseptic cartons, liquid packaging).

Tie layers in multilayer films and laminated structures.

Hot-melt adhesives, sealants and adhesive primers.

Coatings, inks, and specialty coatings where adhesion to metal or difficult substrates is required.

Compatibilizer / dispersing agent in polymer blends and masterbatches.

5. Typical Specification (example — customize per requested grade)

Parameter	Typical Value (example grade)
Acrylic acid content (wt%)	6.5%
Acid number (mg KOH/g)	40
Melt flow index (190 °C / 2.16 kg)	5–12 g/10 min
Density (g/cm ³)	0.93
Appearance	Off-white pellets
Moisture	≤ 0.2%
Ash	≤ 0.2%

Final specification and tolerances are provided on COA for each batch.

6. Packaging & Storage

Packaging: 25 kg / 500 kg / 1000 kg bags or big bags (custom packaging available).

Storage conditions: Store in cool, dry, well-ventilated area away from direct sunlight and moisture. Keep containers tightly closed. Avoid prolonged storage at high temperatures. Optimal shelf life depends on grade and storage conditions — typically 12 months under recommended storage.

7. Handling & Safety

Handling: Standard industrial handling procedures. Avoid dust generation and accumulation. Use appropriate dust control and extraction when handling powder grades.

Fire: Polymer is combustible — use appropriate extinguishing media (foam, dry chemical, CO₂). Thermal decomposition may produce oxides of carbon and other compounds.

Health: Not classified as a major acute health hazard in common commercial grades; observe normal industrial hygiene (avoid inhalation of dust, use gloves / eye protection for molten material). Consult SDS for full safety data.

8. Regulatory & Compliance Notes

CAS: 9010-77-9 (commonly used registry for ethylene/acrylic acid copolymer).

EC / EINECS: many supplier documents list EC number as not provided / not assigned for this polymer; regulatory identifiers for polymers can differ by region and formulation — we will supply any required regulatory dossiers for target markets (EU, US FDA, etc.) upon request.

Food contact: Certain commercial EAA grades from major suppliers are notified/cleared for limited food contact/indirect food contact uses — specific grade approvals vary and must be checked per grade and application. Provide intended food contact use and market to obtain precise declarations and compliance documentation.

9. Quality Control & Documents Provided

For each shipment we can provide:

Certificate of Analysis (COA) (batch level)

Safety Data Sheet (SDS)

Certificate of Origin (COO)

Regulatory compliance documents upon request (ROHS / specific food contact documentation / test reports).