

Technical Data Sheet – Saika P8-r

Saika P8-r – Re-granulation Rheology & Homogenizing Aid for Recycled PE

Product description

P8-r is a liquid processing aid and melt-rheology modifier for re-granulation and extrusion of mixed and recycled polyethylene. It stabilizes melt behavior, reduces melt flow index (MFI) and enhances effective melt strength, while improving internal homogeneity and supporting consistent, industrial-grade pellets and extruded products from variable feedstocks.

Key benefits & applications

P8-r stabilizes melt rheology during re-granulation and extrusion of mixed or recycled PE, reducing sensitivity to fluctuations in feedstock quality and composition. It enhances homogenization of heterogeneous HD/LL/LD blends, promoting more uniform melt flow, reduced melt flow index (MFI) and higher effective melt strength, and contributes to smoother processing with fewer flow irregularities and more stable operating conditions in pelletizing and extrusion of non-pressure pipes, profiles and sheets from recycled-rich PE.

Typical applications

- Re-granulation and compounding of mixed and recycled HD/LL/LD PE.
- Extrusion of technical products (pipes, profiles, sheets, simple blow-moulded parts) based on non-prime or recycled-rich PE formulations.

Typical properties

| Item | Value / Range |
|----------------------------------|-------------------------------------|
| Physical form | Clear to slightly hazy liquid |
| Color | Pale yellow |
| Density (20 °C) | Approx. 0.85–0.95 g/cm ³ |
| Viscosity (20 °C) | Approx. 10–60 mPa·s |
| Typical melt-temperature window* | 180–210 °C |
| Flash point (closed cup) | Typically > 65 °C |
| Water solubility | Practically insoluble |
| Packaging | 1 L, 5 L, 20 L containers |
| Shelf life (unopened) | 6-12 months (15–30 °C, cool & dark) |

* Typical PE extrusion melt-temperature range for recycled PE compounds; not a property of Saika P8-r itself.

Recommended dosage

For most re-granulation and extrusion lines processing mixed or recycled PE, a typical dosage range is 500–800 g of Saika P8-r per 1,000 kg of PE feed, selected according to recycled content, contamination level and the required melt-strength/MFI adjustment. Higher dosages should only be applied after confirming stable processing conditions on the specific line.



Use instructions

- Saika P8-r can be dosed directly into mixers together with PE flakes or pellets from mixed and recycled streams. Mix until the liquid is evenly distributed and the feedstock shows a uniform, non-wet appearance.
- For small trial or development batches, prepare a pre-blend by mixing the required amount of P8-r with an appropriate portion of the PE feed (for example 5–10 kg), then add this pre-blend to the remaining material and mix until uniform.
- After mixing, feed the treated material to the existing re-granulation or extrusion line and operate within the usual melt-temperature range for recycled PE (approx. 190–220 °C); no special temperature adjustment is required solely due to the use of Saika P8-r.
- Adjust dosage within the recommended range based on observed extruder torque, head pressure and product consistency to achieve the desired balance of melt strength, MFI and throughput.

Process and quality monitoring

- Monitor head and screen-pack pressure, extruder load (current/torque) and output before and after P8-r addition, and ensure that pressure and torque remain within the normal operating window of the line.
- Observe melt temperature and adjust barrel and die settings if necessary to maintain stable melt rheology and consistent product quality in recycled-rich PE streams.
- Evaluate pellets and extruded products (pipes, profiles, sheets, simple blow-moulded parts) for stable dimensions and uniform surfaces, and confirm that quality is at least comparable to, or improved versus, untreated recycled-rich PE on the same line.
- P8-r is supplied as a liquid processing aid for industrial processing of mixed and recycled PE; optimum dosage and operating conditions should be confirmed by short production runs on each line and formulation before wider implementation.

Storage and handling

- Store Saika P8-r in tightly closed original containers at 5–25 °C, in a cool, dry and well-ventilated place away from direct sunlight, heat and ignition sources.
- Keep containers closed when not in use and mix gently before use if stored for an extended period.
- If stored for extended periods, inspect P8-r visually for any signs of phase separation or sediment and mix gently until a homogeneous appearance is restored before use.
- Use the product within the indicated shelf life and apply stock-rotation (“first-in, first-out”) practices to help maintain consistent performance.

Safety

Saika P8-r is a low-hazard industrial processing aid. It should be handled in accordance with the P8-series Safety Data Sheet (SDS) and local regulations, using appropriate personal protective equipment as part of normal good industrial practice.

