



TECHNICAL DATA SHEET (TDS)

Polycarboxylate Superplasticizer (PCE)

GREEN AGROCHEM Industrial Chemicals - Concrete Admixture Technical Document

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| Product Code | GAC-IC-TDS-Polycarboxylate-Superplasticizer-PCE | Revision Date | 2026-05-02 |
| CAS No. | Mixture / proprietary polymer | Version | TDS-GAC-IC-2026 |
| Product Type | Advanced dry powdered high-range water reducer | Document Type | Technical Data Sheet |

1. Product Identification

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| Product Name | Polycarboxylate Superplasticizer (PCE) |
| Trade / Technical Name | Polycarboxylate Superplasticizer (PCE) Powder |
| Product Code | GAC-IC-TDS-Polycarboxylate-Superplasticizer-PCE |
| CAS No. | Mixture / proprietary polymer |
| Chemical Formula / Type | Modified polycarboxylate ether polymer |
| Synonyms | PCE; Polycarboxylate ether superplasticizer; High-range water reducer powder |
| HS Code | Not specified |
| Supplier | GREEN AGROCHEM CO., LIMITED |
| Address | South West Station Road, Fengtai District, Beijing, China |
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| Website | www.lignincorp.com |

2. Product Description

Polycarboxylate Superplasticizer (PCE) is an advanced dry powdered high-range water reducer. Based on modified polyether chemistry, it provides high water reduction, excellent slump control and strong compatibility in modern cementitious systems when applied according to formulation guidance.

3. Main Specifications

| Parameter | Specification |
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| Appearance | White or yellowish powder |
| Solid Content | 98 +/- 0.5% |
| pH (at 23 deg C) | 7 - 10 |
| Sodium Sulfate (Na ₂ SO ₄) | 3% max |
| Water Content | 3% max |
| Loss on Ignition | 86% min |
| Chloride Content | 0.1% max |
| Bulk Density | 500 - 700 kg/m ³ |
| Water Reducing Rate | 25% min |
| Fluidity of Cement Paste | 209 mm min |

4. Key Features and Industrial Performance

- High-Range Water Reduction: Can significantly reduce concrete water demand and lower the water-cement ratio, supporting high early and ultimate compressive strength.
- Enhanced Slump Control: Supports high slump and slump retention during long haul, high temperature or delayed placement conditions.
- Flexible Dosing: Insensitive to time of addition compared with traditional PNS superplasticizers, providing batching flexibility.
- Air Entrainment Management: Formulated to control unwanted entrapped air and support efficient use of air-entraining admixtures.
- Strength Synergy: Can show synergy with calcium-based set accelerators and corrosion inhibitors in optimized concrete systems.
- Safe and Non-Corrosive: Free of calcium chloride, nitrates, nitrites and other potentially corrosive materials according to product design.

5. Applications

- High-range water reducer for modern concrete systems.
- Precast, ready-mix and high-performance concrete admixture formulations.
- Cementitious system dispersant requiring high water reduction and slump retention.

6. Application and Usage Guidelines

- Dosage depends on cement type, aggregate clay content, admixture system and target slump retention.
- Trial mix is required before commercial use.
- Do not mix with PNS-based products unless compatibility is confirmed.

Important compatibility notes:

- Clay fines in aggregates may adsorb PCE polymers and increase dosage demand.
- Do not use together with PNS superplasticizers in the same concrete mixture without confirmed compatibility; rapid loss of workability may occur.

7. Packaging

- 25kg woven bags, kraft bags or jumbo bags with inner liner.
- Customized packaging can be supplied according to customer requirements.

8. Storage and Shelf Life

- Store in a cool, dry and ventilated warehouse.
- Keep packaging sealed and protect from moisture, contamination and direct sunlight.

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| Shelf Life | 12 months under recommended storage conditions. |
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9. Handling and Safety Note

- Avoid dust generation and unnecessary inhalation of powder during handling.
- Wear safety glasses, gloves and dust mask where dusty conditions occur.
- This TDS is for technical guidance only. Refer to the corresponding SDS/MSDS for full safety, transport and disposal information.

10. Disclaimer

The information in this Technical Data Sheet is based on available product data and is provided for reference to support product selection and application testing. It does not constitute a warranty or a final specification for every application. Users should conduct their own trials and confirm compliance with local regulations and project requirements before use.

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