



ZERUST® Zerion™ PGH-300 and PGH-400

Technical Data Sheet

Product Description

ZERUST® Zerion™ PGH-300 and PGH-400 are gels engineered for use in pipeline casing annuli. When hydrated with water and Zerion™ corrosion inhibitors, PGH forms a viscous, non-metallic gel that functions as a casing filler to retain inhibitors, bridge small penetrations in the casing, and reduce ingress of external moisture and contaminants. Combined with Zerion™ FVS soluble corrosion inhibitors (SCI) and vapor corrosion inhibitors (VCI), the system provides comprehensive protection to carrier pipes within metallic casings.

Typical Applications

Recommended uses for ZERUST® Zerion™ PGH-300 and PGH-400 include (but are not limited to):

- Annuli with metallic shorts or semi-shorts, where filler/inhibitor systems help reduce corrosion potential and supplement CP.
- Geometrically complex or long annuli, where uniform inhibitor distribution and retention are critical.
- Remediation projects where casings cannot be feasibly decoupled or removed, and filler installation is recognized by SP0200 as a corrosion-mitigation option.

Key Advantages

- Retains Zerion™ inhibitors in casings for long-term protection
- Mitigates corrosion in carrier pipes and vapor spaces
- Reduces contaminant ingress through end seals and vents
- Flexible application: gel slurry (preferred), powder (settling release), or dry fill (special cases)
- Easy to handle and compatible with standard casing injection practices

Operating Summary

- **Injection method:** Prepare a 5 wt% ZERUST® Zerion™ FVS inhibitor solution in clean potable water. Just prior to injection, introduce ~3 wt% Zerion™ PGH using a hopper/eductator. Avoid premixing and recirculation to prevent premature swelling.
- **Filling:** Pump the inhibitor–gel slurry into the casing annulus from the low-end vent/port until breakthrough at the high end. Seal vents after fill is confirmed.
- **Function:** Once hydrated, PGH retains inhibitors in the annulus, raises effective resistivity, and reduces leakage and contaminant ingress. The gel is non-metallic and does not short carrier/casing but can conduct limited ionic current.
- **Service life:** Protection duration depends on annulus volume, seal integrity, site water chemistry, and dosage. Periodic monitoring (short surveys, ER probes, CP potential) is recommended.

Product Selection*

- **ZERUST® Zerion™ PGH-300:** Smooth gel consistency; best for static fills and sealing small penetrations.
- **ZERUST® Zerion™ PGH-400:** Granular texture; improved handling and flow in larger or complex geometries.
- **Combined Use:** In many casing applications, a blend of PGH-300 and PGH-400 is recommended. Using both grades together allows the system to take advantage of PGH-300's ability to form a uniform, sealing gel while also leveraging PGH-400's improved flow characteristics for filling long or geometrically complex annuli. This combination enhances inhibitor distribution, improves void coverage, and provides a more stable annular fill.

*Please contact a ZERUST® representative for specific dosage, application equipment guidance and recommendations.

Scan QR for more



product information

ZERUST® Zerion™ PGH-300 and PGH-400

Technical Data Sheet

Typical Properties

Properties**	PGH-300	PGH-400
Appearance	White to off-white fine powder	White to off-white granular powder
Bulk Density	~0.6 - 0.8 g/cm ³	~0.6 - 0.8 g/cm ³
Absorbency (DI water)	300 - 500 g/g	250 - 450 g/g
Absorbency (tap water)	200 - 350 g/g	180 - 300 g/g
Swelling Time	<20 min to reach 70% capacity	<20 min to reach 70% capacity
pH (1% slurry)	Neutral–slightly alkaline	Neutral–slightly alkaline

**Typical values are not meant to be a specification.

Availability

Contact a ZERUST® representative for ordering information.

Product Name	Product Number	Unit of Measure***
ZERUST® Zerion™ PGH-300 Corrosion Inhibitor	1020-0172	10kg (~22lbs) pail
ZERUST® Zerion™ PGH-400 Corrosion Inhibitor	1020-0173	10kg (~22lbs) pail

***Product sold in US customary units. Metric units approximate.

Storage

Store in a cool, dry place in sealed containers, protected from humidity and sunlight; shelf life is 24 months unopened.

Precautions

Add PGH at the injection stage (not in premix tanks); avoid breathing dust and wear PPE; clean spills immediately as product is slippery when wet; refer to SDS for full handling and disposal guidance.

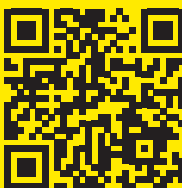
† DECLARATION

Corrosion protection claims are based on Northern Technologies International Corporation (NTIC) internal laboratory testing performed under controlled parameters on contaminate-free substrates. Real-world application corrosion protection duration on different substrates will vary and depends on factors such as, but not limited to, the application or use, environmental/ storage conditions, surface cleanliness, type of substrates, and coating thickness (where applicable). The use of the term "Up to" in reference to time is defined as any time duration from zero up to a specified time frame, but in no event beyond the specified time frame. The use of the term "for years" is based on NTIC's experience with its products but is in no way guaranteed. The use of the term "Up to" in reference to volume is defined as any volume from zero up to a specified volume but in no event beyond the specified volume of protection. It is the customer's/user's obligation to evaluate product performance, corrosion protection duration, safety, and suitability for intended use within the scope advised in the data sheet and to comply with all applicable laws and regulations.

LIMITED WARRANTY/DISCLAIMER Warranty is limited to the replacement of a product that fails to meet specifications. For full warranty and disclaimer information, visit www.zerust.com/warranty.

©2013-2025 Northern Technologies International Corporation (NTIC). All Rights Reserved. NTIC is the owner of the following trademarks: ActivPak, Cor Tab, EXCOR®, Flange Saver, ICT®, Natur-VCI®, NTIO, Plastabs, Z-CISO, Zerion, ZERUST™, 5alf-111i, Z-PAKO and the Color "Yellow". ABRIGO®, UNICO®, and VALENO® are registered trademarks of EXCOR GmbH, a Joint Venture Partner of NTIC.

Contact Us



Scan QR Code

A product of:
 Northern Technologies
 International Corp
 4201 Woodland Road
 Circle Pines, MN 55014 USA
 Toll-Free: +1 (800) 328-2433
www.ZerustIS.com

Supersedes: v1
 Revised: 09/17/2025



With over 50 years of experience, ZERUST® Integrity Solutions™, a division of Northern Technologies International Corporation (NTIC), creates unique inhibitor-based corrosion prevention solutions to serve terminals, pipelines, exploration and production, equipment suppliers, transportation sectors, and more.

ZERUST® Integrity Solutions, ZERUST®/EXCOR®, and Natur-Tec® are sister companies under NTIC.

