

ZERUST® Zerion® TR-70, TR-110, TR-170

Technical Data Sheet

Product Description

ZERUST® Zerion® TR is a versatile corrosion inhibitor formulation specifically designed to protect ferrous metals in aggressive environments subject to seawater ingress, moisture accumulation, or water intrusion. It combines Vapor Corrosion Inhibitors (VCIs) to protect air-space voids and exposed surfaces, and Soluble Corrosion Inhibitors (SCIs) to mitigate corrosion in areas exposed to moisture or water.

ZERUST® Zerion® TR series (TR-70, TR-110, TR-170) is optimized for use based on the maximum operating temperature of the asset. These products provide long-term corrosion protection for carbon steel, stainless steel, and super duplex stainless steel.

Typical Applications

Recommended uses for Zerion® TR corrosion inhibitors include:

- Offshore platform trunnions
- Permanent or physical dead-legs in piping/tubing systems
- Temporary dead-legs (mothballed or out-of-service systems)
- Pipe supports

Key Advantages

- Provides corrosion protection against seawater ingress and residual salt accumulation in trunnions.
- Effective on multiple substrates: carbon steel, stainless steel, and super duplex stainless steel.
- Combines both VCI and SCI technologies for comprehensive protection.
- Protects welded joints, crevices, coating holidays, and other vulnerable areas.
- Demonstrated ability to mitigate corrosion under intermittent seawater exposure.
- Easy installation through standard vent and drain holes, with auger feeder options for larger volumes.

Operating Summary

Trunnion Preparation

1. Ensure each trunnion has two access points:
 - a. Vent hole
 - b. Drain hole
2. Inspect the trunnion and identify the existing vent hole.
 - a. Typical vent hole size: 12-13 mm (½")
3. Select a location for the drain hole.
 - a. Drill at the lowest point of the trunnion
 - b. Thread the drain hole
 - c. Typical drain hole size: 12-13 mm (½")
4. Clean the trunnion interior thoroughly by flushing with compressed air.

Inhibitor Installation

1. Install a plug into the drain hole.
2. Calculate the required inhibitor volume for the trunnion.
 - a. Target fill volume: 25% of the trunnion's internal capacity.
3. Measure the inhibitor using a calibrated beaker.
4. Insert the tubing from the funnel/tubing assembly into the vent hole.
5. Pour the inhibitor powder into the funnel to the required volume.
6. Seal the system by installing a plug into the vent hole.

Note: For trunnions requiring 1 liter or more of inhibitor, the use of an auger feeder is recommended.

*Consult a ZERUST® representative to discuss specific needs.

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product information

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Typical Properties

Properties**	Details
Appearance	White
Substrate	Ferrous
pH	9 - 9.5 (1% in water)

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

Availability

Contact a ZERUST® representative for ordering information.

Product Name	Product Number	Unit of Measure***	Application Guide
ZERUST® Zerion® TR-70	460-F-00019PL	4.4lbs (2kg) pail	For assets operating ambient to 70°C
ZERUST® Zerion® TR-110	460-F-00020PL	4.4lbs (2kg) pail	For assets operating 70°C to 110°C
ZERUST® Zerion® TR-170	460-F-00021PL	4.4lbs (2kg) pail	For assets operating 110°C to 170°C

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

Storage

Store in original packaging in a dry, well-ventilated area at room temperature; keep tightly closed for a shelf life of 36 months, unopened.

† 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.

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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.

