

Zerust® Axxaclean® 2048

CLEAN TECHNOLOGY THAT REMOVES RUST & TARNISH

PRODUCT INFORMATION

FEATURES

- Quickly removes rust and tarnish
- Built-in rust inhibition
- Rinse is not necessary
- No VOC's, CFC's, no silicones, or heavy metals
- Non-toxic and biodegradable
- Safe for all types of metals
- Compatible with rubbers and elastomers
- Compatible with painted surfaces
- Cleaned surface can be painted or welded
- Does not leave stain or gray-black carbon residues

BENEFITS

- Saves time and rework
- Saves money
- Improves yields and productivity
- Reduces scrap and waste

Zerust®Axxaclean® 2048 rust remover is compatible with all Zerust® corrosion inhibiting film & packaging products.

APPLICATION TYPE



Zerust® Axxaclean® 2048 is a fast acting, economical, and environmentally safe rust and tarnish remover. It completely removes light to medium rust and tarnish in minutes*. Zerust®Axxaclean® 2048 can be used for all ferrous metals, brass, copper and various alloys. Cleaned parts are free of gray-black carbon residue. Heavily rusted parts damaged from the rust process may have surface roughness, but scale and rust will be gone.

Corrosion Protection

Unlike many rust removers in the market, metal parts cleaned by Zerust® Axxaclean® 2048 and then thoroughly dried may not require post rinsing with de-ionized water.** Zerust® Axxaclean® 2048 has temporary rust-preventive chemistry built-in for immediate protection from flash-rust for up to 2 weeks of sheltered storage. For corrosion protection longer than 2 weeks or unsheltered parts, use Zerust® packaging films or Zerust® corrosion preventative coatings such as Z-Maxx™, Axxanol™ and Axxatec® products.

Properties

Zerust® Axxaclean® 2048 contains weak organic acid cleaning components to eliminate gray surface residues after rust removal. The solution has a mildly acidic pH of 2.5 which is a bit more acidic than lemonade and tomato juice, and less acidic than vinegar and cola soda. Spent rust remover is safe and non-toxic, containing only dilute concentrations of iron ions. It can be flushed down the drain, unless limited by local regulations or local waste water treatment facility.

Formulations

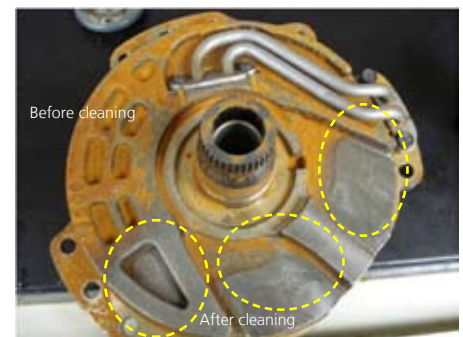
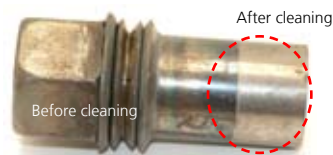
Zerust® Axxaclean® 2048 comes in multiple delivery forms: Spray-on, Immersion, Brush-on and Spray-Polish Kit.

*Results and time may vary depending on the degree of rust or tarnish on the metal.

**Intricate parts with crevices that cannot be thoroughly dried should be rinsed.

APPLICATION EXAMPLES

RECOVER RUSTED PARTS WITH ZERUST® AXXACLEAN® 2048



After several minutes of Spray-on Zerust® Axxaclean® 2048



RUST REMOVAL CAPABILITY

ORDERING INFORMATION

■ AVAILABILITY/PART NUMBER

Spray-on Version:

16 oz: 350-M-00014 PT

1 gal: 350-M-00014 GL

5 gal: 350-M-00014 PL

55 gal: 350-M-00014 DR

Spray-on & Polish Kit:

16 oz: 350-M-00014 KIT

Polishing Sponge: 350-X-00004 (2/pk)

Immersion Version:

16 oz: 350-M-00015 PT

1 gal: 350-M-00015 GL

5 gal: 350-M-00015 PL

55 gal: 350-M-00015 DR

■ COVERAGE

186 ft² (17.3 m²) of 1 mil (25µm) rust removal per gallon.

Axxaclean® 2048 is ready to use without dilution.

■ SHELF LIFE & HANDLING

Shelf life of 2 years if stored out of direct sunlight. Zerust® Axxaclean® 2048 may freeze as it contains a large percentage of water, but will remain fully functional when thawed to ambient temperature.

■ DISPOSAL

Separate residue from the spent Zerust® Axxaclean® 2048 solution and properly dispose of according to federal, state and local regulations. Spent or unused Zerust® Axxaclean® 2048 by itself may be disposed of down the drain and into the sewer.

Always consult federal, state and local regulations.

ZERUST® AXACLEAN® 2048 PRODUCT INFORMATION

PRODUCT PERFORMANCE COMPARISON:

Type of Rust Remover/ Attribute	Strong Acid	Strong Alkali	Media Blast (grit, sand, glass)	Acid Conversion (primer paint)	Zerust® Axxaclean® 2048
Effectiveness of Rust Removal	Removes all rust	Removes all rust	Removes surface rust	Converts surface rust to paintable tannic acid iron complex	Removes all rust - even in cracks and crevices Metal is clean with up to 2 weeks rust protection
Speed <i>Depends on degree of rust</i>	Light rust removed: minutes Heavy rust: hour or more	Light rust: hour or more	Removal takes seconds to minutes after time and equipment set-up	Light rust removed: up to half-hour Heavy rust: must remove before conversion coating	Light rust: up to 3 minutes Medium rust: up to 15 minutes Heavy rust: 30 minutes or more
Ease of Use	Soak parts at ambient temp	Soak in heated solution	Skilled labor to blast, and pressure wash to clean	Brush, spray or soak	Brush-on version with brush or roller Choose Dip or Spray versions as appropriate
Harm to Metal Surfaces	Attacks soft metals and causes hydrogen embrittlement pH 1 or less	Attacks soft metals and paint pH 11 or more	Harms surfaces of soft metals and plastics, removes paint	Attacks soft metals	Safe for all metals, painted surfaces, gaskets, rubber, plastics pH about 2.5
Post Cleaning Action	Requires post rinse, then immediate corrosion protection	Requires post rinse, then in some cases, added corrosion protection	If not painted immediately, requires corrosion protection	Requires rinsing	Water rinse—not necessary but recommended, or wipe, then dry well
Flammability	Generates explosive hydrogen	Non-flammable	None	Depends on formulation	Non-flammable
Disposal	Must remove heavy metals, then neutralized prior to disposal	Must remove heavy metals, then neutralized prior to disposal	Landfill in most cases AFTER remove paint and blast media	Landfill in most cases	Separate oil and metal contaminants, then rinse water and spent solutions can be flushed down drain per local regulations Unused product can be flushed down drain per local regulations
Equipment Required	Proper ventilation	Proper ventilation	Blasting equipment	Brushes or sprayers	Brush-on version with brush or roller OR Plastic, glass or ceramic for dip version

DIRECTIONS FOR USE:

IMMERSION APPLICATION PRODUCT

- Use wire brush or high pressure water blast to remove loose scale if present.
- Pour Zerust® Axxaclean® 2048 into a plastic, glass, or big stainless steel container to fully cover corroded parts.
- Soak the rusted parts in Zerust® Axxaclean® 2048 for about 5 minutes for light rust, about 15 minutes for medium rust and longer for heavier rust (soak times vary with degree of rust or tarnish).
- Agitate to ensure that fresh chemistry is in contact with the metal surfaces regularly.
- Rinse the part with de-ionized water (optional but recommended) and inspect.
- Wipe with clean dry cloth for faster more complete drying.
- Blow dry to assure moisture is removed from crevices and cavities.
- Parts can now be preserved from further corrosion with paint, or package the parts in Zerust® packaging products for shipment and/or storage, or use Zerust® surface coatings if the bare metal is to be exposed to outdoor elements for weeks or months (under shelter and normal ambient conditions).

SPRAY-ON APPLICATION PRODUCT

- Use wire brush to remove loose scale if present.
- Spray Zerust® Axxaclean® 2048 to cover and wet areas of rust completely.
- Leave Zerust® Axxaclean® 2048 on for several minutes for light rust —longer for medium or heavier rust. More than 1 application may be necessary.
- Wipe parts off with clean dry cloth. Optional but recommended: rinse with de-ionized water and inspect.
- Blow dry to assure no moisture is trapped in crevices and cavities.
- Package parts in Zerust® packaging products for shipment and/or storage, or use Zerust® surface coatings if the part is to be used with bare metal exposed to outdoor elements for weeks or months (under shelter and normal ambient conditions).

SPRAY-ON & POLISH KIT

- Use wire brush to remove loose scale if present completely.
- Spray Zerust® Axxaclean® 2048 to cover and wet areas of rust completely.
- Leave Zerust® Axxaclean® 2048 for several minutes for light rust and —longer for medium rust to heavier rust.
- Using the included polish sponge, rub the rusted area to remove rust.
- Repeat steps 2-4, if needed.
- Wipe parts off with dry cloth. Optional but recommended: rinse parts with de-ionized water.
- Blow dry to assure no moisture is trapped in crevices and cavities.
- Package parts in Zerust® packaging products for shipment and/or storage, or use Zerust® surface coatings if the part is to be used with bare metal exposed to outdoor elements for weeks or months (under shelter and normal conditions).



A product of:
Northern Technologies International Corporation
 4201 Woodland Road
 P.O. Box 69
 Circle Pines, MN 55014
 PH: +1 (763) 225-6600
 FAX: +1 (763) 225-6645
 EMAIL: sales@zerust.com
 WEB: www.zerust.com

Warranty and Disclaimer information

All statements, technical information and recommendations contained herein are based on testing and experiences NTIC believes to be reliable, but the accuracy or completeness thereof is not guaranteed.

We guarantee our product conforms to production specifications and was made in accordance with documented internal Quality Procedures. We expressly disclaim responsibility for its use. We make NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, as to the effects of use (including, but not limited to, damage or injury) or the results to be obtained, whether or not used in accordance with the directions. Buyer/user agrees that, if product proves to be defective, Seller's obligation shall be to replace or refund the purchase price of such product at Buyer's option. Seller shall not be liable in tort or contract for any loss or damage, incidental or consequential.

©2009 Northern Technologies International Corporation (NTIC). All Rights Reserved. NTIC is the owner of the following trademarks: NTI®, NIC®, ZERUST®, The ZERUST People®, MATCH TECH®, Cor-Tab®, Plastabs®, ICT, COR-SCI®, Z-CIS™ and the Color "Yellow". EXCOR®, VALENO®, ABRIGO® and UNICO® are registered trademarks of EXCOR GmbH, a Joint Venture Partner of NTIC.