



Metal cleaning and care





Polishing

chemistry:

- influence not very important
- lubricant
- protection layer

temperature:

- could be very high at very small areas
- should not be too high because of possible reactions with the air (oxidation)

mechanics:

- most important part of the polishing process
- selective choice of the polishing particles

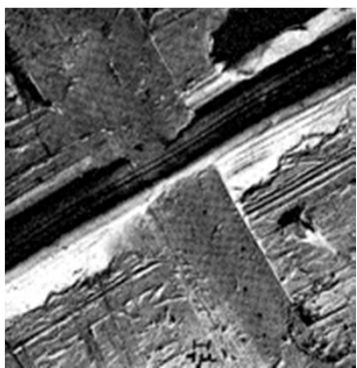
time:

- the longer the polishing process the smaller the polishing particles
- to avoid scratches do not polish until dry

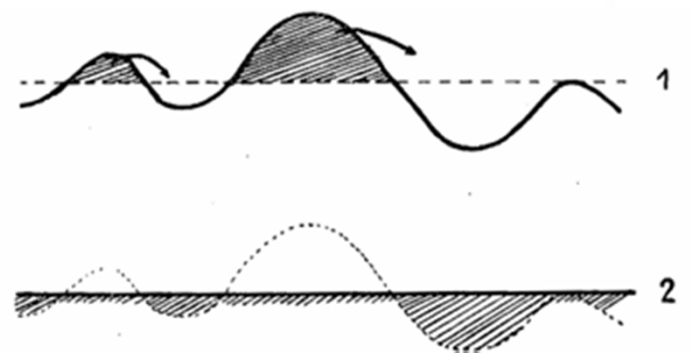




Polishing



scratched metal surface



principle of a perfect polishing process





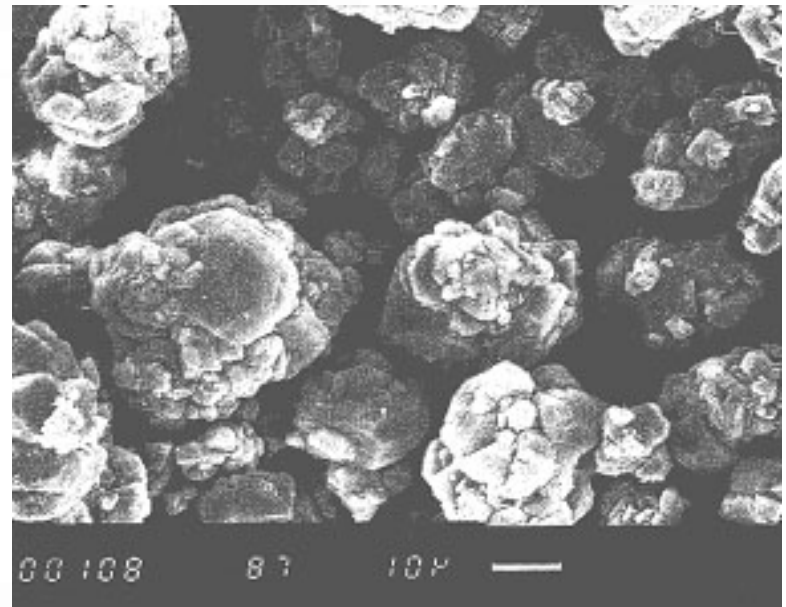
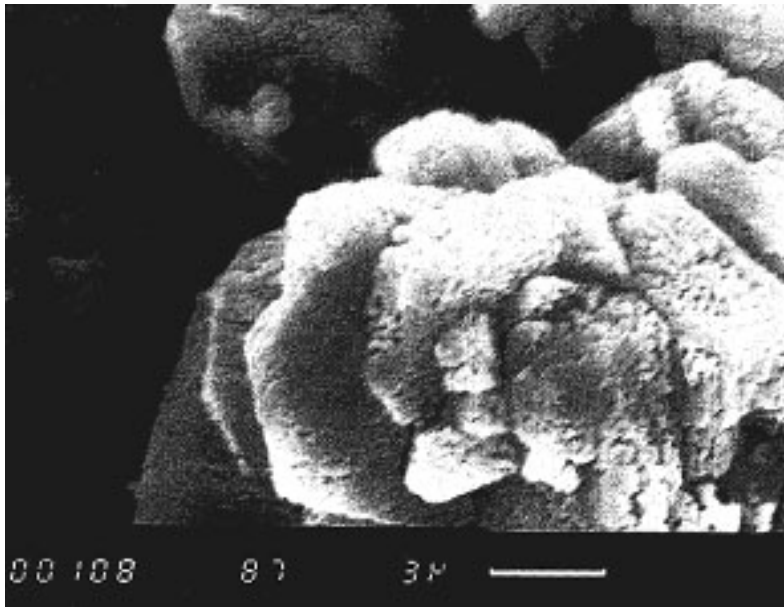
Polishes

Ingredients:

- polishing particles (α -aluminiumoxide, layered silicates, plastic flour, quartz/silica, pumice)
- fatty acids (emulsifier, lubricant)
- oil and wax components (lubricant, gloss enhancer, protection)



Polishing particles



Scanning Electron Microscope picture of α -aluminium oxide.

The characteristics of the polishing particles are depending on the size of the primary crystals and on the size and shape of the agglomerates.





The mother of metal polishes





Metal Polish (liquid)





Nonfood Compounds
Program Listed A7
(Registration #)

Metal Polish Liquid

- higher amount of solvent, higher pH-Value
→ dissolves greasy dirt
- higher amount of (protective-)oil
→ protects the metal against oxidation
easy to polish with
- no water rinse after application
→ residues remain after polishing

Fields of application

workshop, commercial cleaners,
hotel industry



Nonfood Compounds
Program Listed A7
(Registration #)

Metal Refresh

- contains citric acid, low pH-Value
→ dissolves chalk & scale
- contains surfactants
→ removes greasy dirt
- water rinse after application
→ no residues remain



Fields of application

perfect for the bathroom and
the kitchen maintenance



„same“ polishing materials





Series

Aluminium cleaning & care



- Polish → we talked about
- Power Cleaner (water based, with solvents & surfactants)
→ Degreasing
- Protective oil → leaves a thin protection layer





Series



REGISTERED

Stainless Steel cleaning & care





Gold- and Silver-Polish



- especially selected soft polishing particles
- anti-tarnishing for silver





Specialised products



M1 Cleaning Polish for Chrome Plated Plastics



Anodised Aluminium Polish





Metal Polish

Stainless Steel Polish

Aluminium Polish

M1 Cleansing Polish

Gold and Silver Polish



Max. Cleaning

Max. Polishing

- hard metals like Chrome, Nickel...
- really dirty
- oxidized metals
- „outdoor“ metals
- highest amount of polishing materials

- Stainless Steel...
- scratched
- „normal“ dirty
- all around use

- soft metals like Aluminium, Copper, Brass
- slightly scratched

- mirror finish
- plated metals and plastics

- softest polishing materials
- anti-tarnish for silver





AUTOSOL® Metal Miracle



- ⇒ Maximum shine on all metal surfaces
- ⇒ Easy-to-use
- ⇒ Spray on - wipe off
- ⇒ Anti-fingerprint effect
- ⇒ Best protection against corrosion
- ⇒ Makes repeat cleaning easier
- ⇒ Applied sparingly
- ⇒ Can be used in and around food processing areas
- ⇒ Ideal for brushed metal surfaces





Live safer.™

The ***N**ational **S**anitation **F**oundation **I**nternational (NSF®)*, an independent, not-for-profit, non-governmental organization is dedicated to being the leading global provider of public health and safety-based risk management solutions while serving the interests of all stakeholders.





*A voluntary registration program for
Nonfood Compounds [1] and Proprietary Substances [2]*

Nonfood Compounds and Proprietary Substances are products used in the processing and pre-processing stages of food production. NSF® International launched its voluntary Nonfood Compounds and Proprietary Substances Registration Program in 1999 to re-introduce the previous authorization program administered by the U.S. Department of Agriculture (USDA). The NSF® Nonfood Compounds Registration Guidelines are based on former USDA requirements and include:

- ✓ *Formulation review*
- ✓ *Label review and confirmation of appropriate use instructions*
- ✓ *Verification of intended use classifications and category code*

[1] Nonfood-Compounds are e.g.: **Cleaning Products**, Laundry Products, Disinfectants, Lubricants...

[2] Proprietary Substances are e.g.: Smoke flavouring, Branding inks, Denaturants...





Products complying with the *Registration Guidelines* are issued a registration letter and carry the NSF® Registration Mark on their product label and literature. For the convenience of regulatory inspectors and users, registered products are listed online in the NSF White Book™ at www.nsfwhitebook.org

NSF Registered Nonfood Compounds assure food safety inspectors and endusers that products used in and around food processing meet the appropriate food safety requirements.





NSF International

RECOGNIZES

DURSOL-FABRIK OTTO DURST GMBH & CO.KG
GERMANY

AS COMPLYING WITH THE NSF REGISTRATION GUIDELINES FOR PROPRIETARY
SUBSTANCES AND NONFOOD COMPOUNDS. PRODUCTS APPEARING IN THE
NSF OFFICIAL LISTING ARE AUTHORIZED TO BEAR THE NSF REGISTRATION
MARK.



Nonfood Compounds
Program Listed

This certificate is the property of NSF International and must be returned upon request. For the most current and complete information, please access NSF's website (www.nsf.org/usda).

May 2, 2008
Certificate# 4R790 - 01

Nancy J. Culotta, Vice President, Food Safety & Product Ce
Nonfood Compounds





NSF International / Nonfood Compounds Registration Program

Nonfood Compounds
Program Listed

November 12, 2008

Dr. Oliver Kerp
DURSOL-FABRIK OTTO DURST GMBH & CO.KG
MARTINSTRASSE 22
42655 SOLINGEN
GERMANY

RE: AUTOSOL® METAL POLISH / EDEL-CHROMGLANZ
Category Code: A7
NSF Registration No. 140759

Dear Dr. Oliver Kerp:

NSF has processed the application for Registration of **AUTOSOL® METAL POLISH / EDEL-CHROMGLANZ** to the NSF International Registration Guidelines for Proprietary Substances and Nonfood Compounds (2008), which are available at www.nsfwhitebook.org. The NSF Nonfood Compounds Registration Program is a continuation of the USDA product approval and listing program, which is based on meeting regulatory requirements including FDA 21 CFR for appropriate use, ingredient and labeling review.

This product is acceptable as a metal cleaner and polisher for nonfood contact surfaces (A7) in and around food processing areas. All food products and packaging materials shall be removed or carefully protected prior to usage. This compound must be used in a manner so that all odors associated with the compound are dissipated before food products or packaging materials are re-exposed in the area.

NSF Registration of this product is current when the NSF Registration Number, Category Code, and Registration Mark appear on the NSF-approved product label, and the Registered product name is included in the current NSF White Book Listing of Nonfood Compounds at the NSF website (www.nsfwhitebook.org). The NSF Registration Mark can be downloaded by clicking the "Download Registration Mark" link on the NSF website (www.nsfwhitebook.org).

NSF Listing of all Registered Nonfood compounds by NSF International is not an endorsement of those compounds, or of any performance or efficacy claims made by the manufacturer.

Registration status may be verified at any time via the NSF website, at www.nsfwhitebook.org. Changes in formulation or label, without the prior written consent of NSF, will void Registration, and will supersede the on-line listing.

Sincerely,

Clifton J. Mclellan
NSF Nonfood Compounds Registration Program

Company No: 4R790





NSF International/Nonfood Compounds Registration Program

Nonfood Compounds
Program Listed

OFFICIAL LISTING

NSF International Certifies that the products appearing on this Listing conform to the requirements of the NSF Nonfood Compounds Registration Program

This is the Official Listing recorded on November 14, 2008.

DURSOL-FABRIK OTTO DURST GMBH & CO.KG
MARTINSTRASSE 22
42655 SOLINGEN
GERMANY
49 212 27 18 27

Product Designation	Registration Number	Category Code
AUTOSOL® METAL POLISH / EDEL- CHROMGLANZ	140759	A7
AUTOSOL® METAL POLISH LIQUID	140761	A7
AUTOSOL® METAL REFRESH / METALL GRUNDREINIGER	140493	A7
AUTOSOL® POWER STAINLESS STEEL CLEANER / EDELSTAHL KRAFTREINIGER	140492	A7
AUTOSOL® STAINLESS STEEL POLISH / EDELSTAHL-POLITUR	140760	A7
AUTOSOL® STAINLESS STEEL PROTECTIVE OIL / EDELSTAHL PFLEGE ÖL	141422	A7

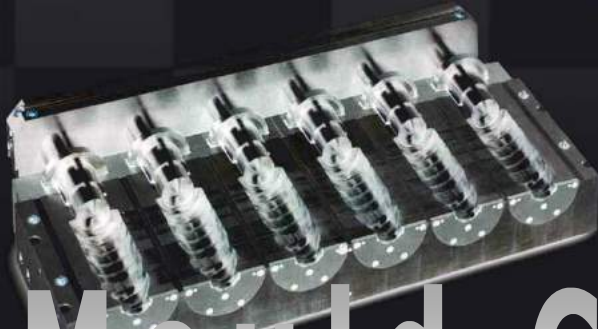
A7 Metal cleaners and polishes for nonfood contact surfaces.



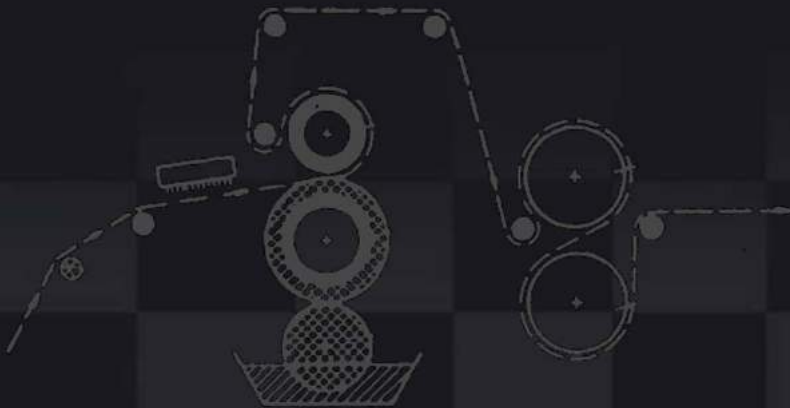
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Mould Cleaning & Care



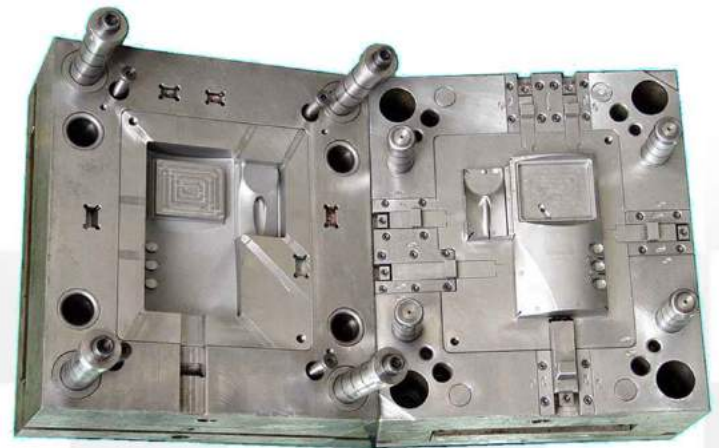
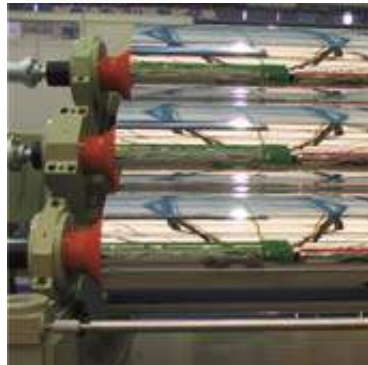


Mould Cleaning & Care





Application Areas



Mould Polish



- Cut "Down Time" and increase machine run time
- Perfect formulated for the plastic's industry
- Excellent for polishing thermoforming moulds, injection moulds, blow moulding moulds, extrusion dies, extrusion chill rolls etc.
- Restores mirror finish
- The perfect polished surface is protected against plastic residue and build up





Examples



Mould Cleaner

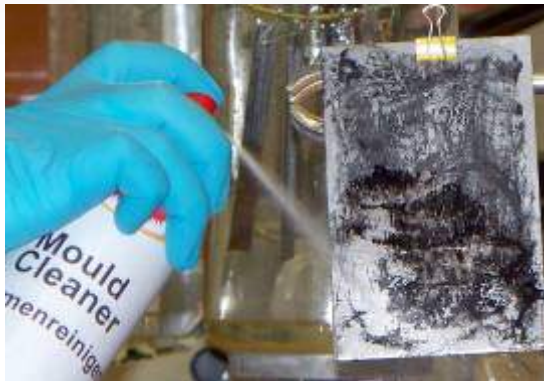


- Solvent-based
- Efficient degreasing and cleaning of metal parts
- Evaporates quickly
- Residue-free
- Prepares the surface for the application of AUTOSOL®
Mould Protection
- Also suitable for others non-absorbant surfaces such as glass or plastic





Laboratory Testing of AUTOSOL® Mould Cleaner



Mould Protection

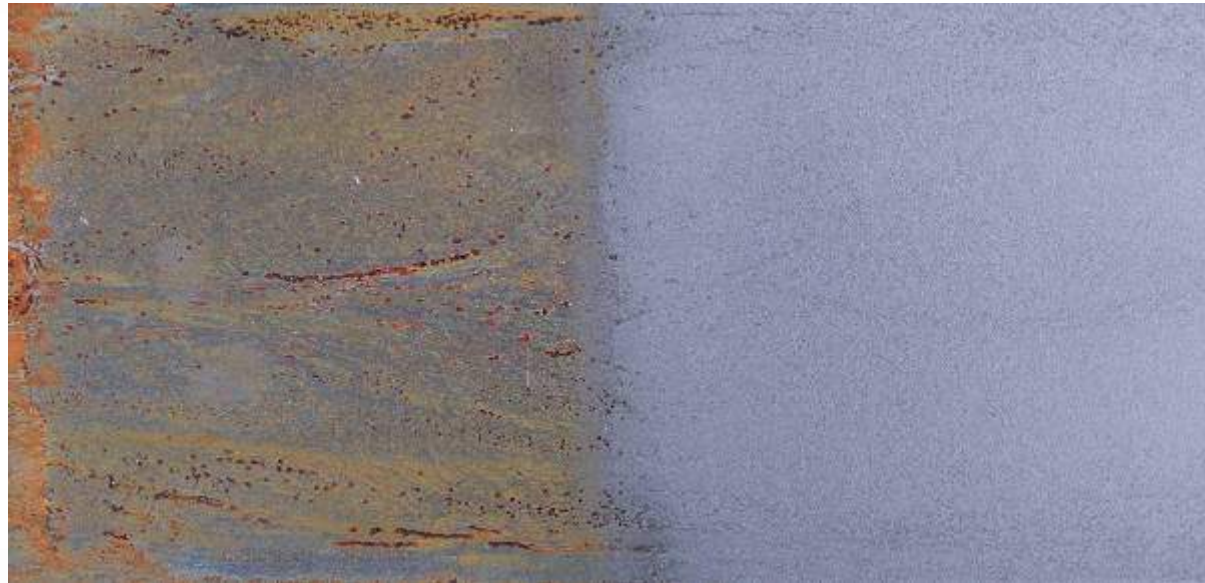


- Complete protection against humidity and corrosion
- Wax like, temporary preservation for all metal surfaces
- Protects moulds, industrial tools, gardening tools, cavity areas within the vehicle, etc.
- Ideally suited for objects, which are to be stored or transported
- The mould remains in top condition
- Easy to remove with AUTOSOL® Mould Cleaner
- Colourless and silicone-free.





Close-up of the metal surface

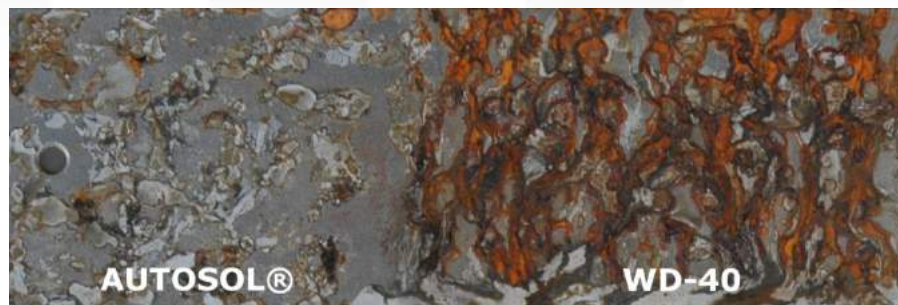


Sample plate of DC04 Steel after two days in a **Condensed Water Test**.
Left: untreated – **right:** treated with AUTOSOL® Mold Protection.





Competition



96 hour salt spray test according to
DIN EN ISO 9227 NSS

In each case the left side of the DC04 Steel sample plate was treated with AUTOSOL® Mould Protection and the right side with a competitors product. The impressive results show that non of the competitors' products protects as well or performance as good as AUTOSOL® Mould Protection.





Mould Cleaning & Care



since



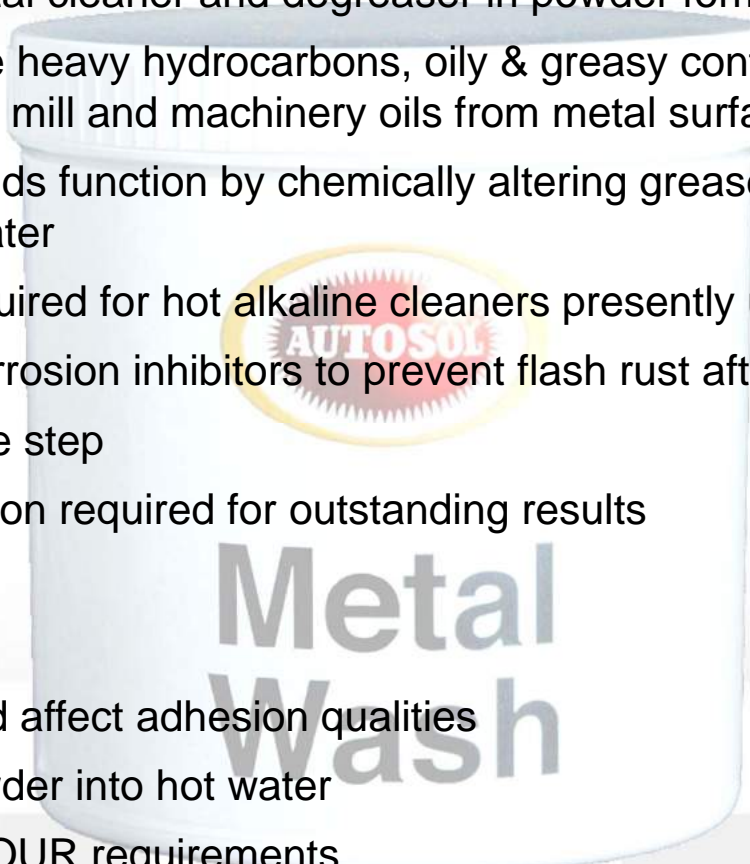
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Metal Wash



AUTOSOL® Metal Wash

- ⇒ Heavy-duty alkaline metal cleaner and degreaser in powder form
- ⇒ Unique ability to remove heavy hydrocarbons, oily & greasy contaminants, drawing and buffing compounds, and mill and machinery oils from metal surfaces
- ⇒ The containing compounds function by chemically altering grease and dirt so that deposits can be removed with water
- ⇒ Saves energy costs required for hot alkaline cleaners presently used in industry
- ⇒ Contains multi metal corrosion inhibitors to prevent flash rust after cleaning
- ⇒ Cleans & protects in one step
- ⇒ Minimal mechanical action required for outstanding results
- ⇒ Non toxic
- ⇒ Low foaming
- ⇒ No residues which could affect adhesion qualities
- ⇒ Simply dissolve the powder into hot water
- ⇒ Variable dosage to fit YOUR requirements





How to use

AUTOSOL® Metal Wash can be applied with any standard cleaning equipment including power washers, steam cleaners, sprayers and dipping tanks.

⇒ ***Light cleaning:***

Use 2 %-w/w AUTOSOL® Metal Wash in water.

⇒ ***Normal cleaning:***

For machinery, Rail Cars, Industrial Equipment and Tanks contaminated with medium deposits, use 3 %-w/w AUTOSOL® Metal Wash in water.

⇒ ***Heavy-duty cleaning:***

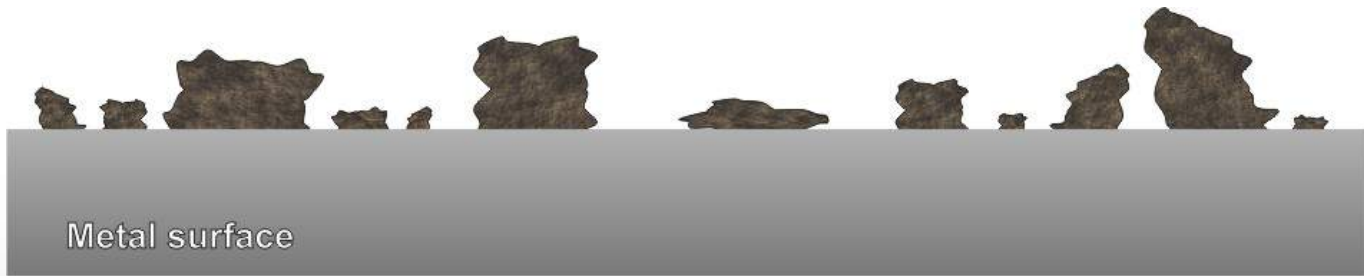
For Heavy-Duty trucks, Marine, Drilling Tools, Grease, Crude, Bilges, concrete surfaces and structures, use 5-10 %-w/w AUTOSOL® Metal Wash in water.





Advantages of AUTOSOL® Metal Wash over standard degreaser.

Having an in depth look at the cleaning process and the mechanism of corrosion. . .





The safest and most common way to degrease metal surfaces is to use a water based alkaline cleaner. This is based on price and the elimination of ignition hazards from solvent based products.



Metal surface

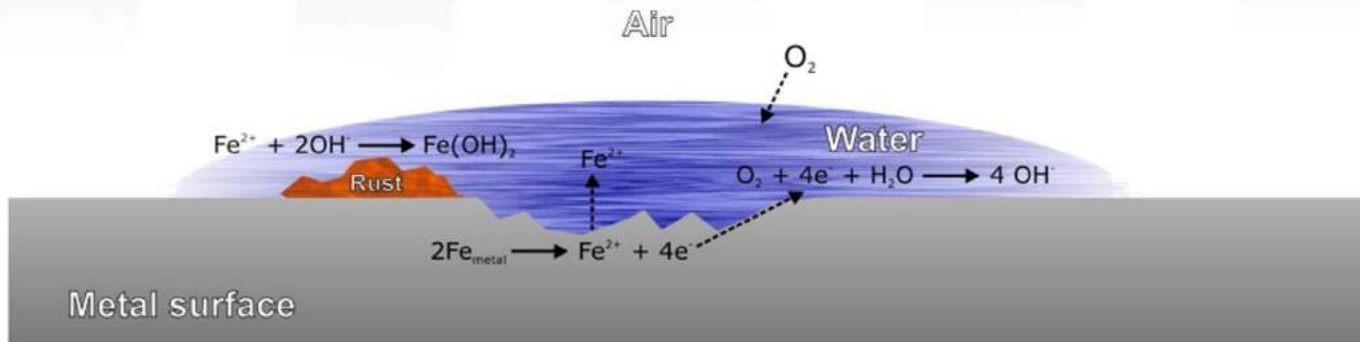


Metal surface

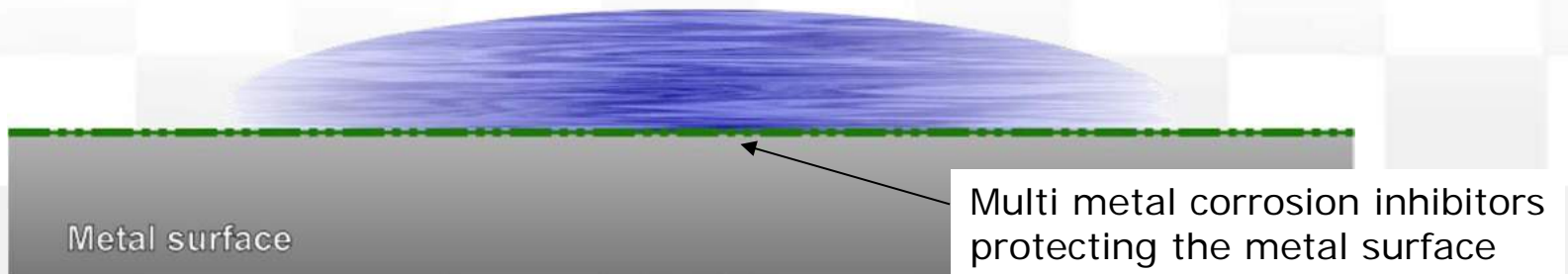




A wet and unprotected metal surface will rust. Corrosion is an electro-chemical reaction and a fresh cleaned wet surface is highly vulnerable to attacked from the combination of water and oxygen.



AUTOSOL® Metal Wash leaves a temporarily protection on the metal surface that effectively prevents corrosion from flash rust after the cleaning process.





Laboratory Testing



Sample plates of DC04 Steel after four weeks in 0.5% cleaning solution

Left. Competitor – **right.** AUTOSOL® Metal Wash



Application test: Contaminated chain dipped 5 min. into a 2.0% solution of AUTOSOL® Metal Wash. Then rinsed/wiped off.

Left. Treated with AUTOSOL® Metal Wash – **right.** Untreated

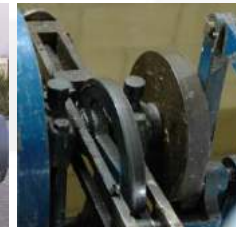




Areas of Application



- ⇒ Machinery, engines, cars, heavy duty trucks coated with grease or oil deposits
- ⇒ Plate and sheet metal covered with stamping and drawing fluids or oil films prior to painting or machining
- ⇒ Machine parts contaminated with cutting fluids prior to assembly
- ⇒ Concrete floors, plastics, wood, and glass
- ⇒ Oil field tools, pipes, tanks, marine, and vessels
- ⇒ Refinery vessels, heat exchangers, pipes, etc





Available sizes:
750 ml (450 g), 10 Liters (6 kg), 30 Liters (18 kg), 60 Liters (36 kg), 150 Liters (90 kg)

