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| **Type:** Biodegradable acid-base descalant and deep cleaner | **Dilution Range:** 1% – 7% typical; undiluted for drains and heavy soil | **Packaging:** 5 L, 25 L and 1 000 L flow bins |

GEARTH ClearScale is an extremely powerful, fully biodegradable descalant and deep cleaning chemical formulated with natural oils for the removal of body fats, lime scale, dirt and rust. It is a non-volatile formulation for the deep cleaning and descaling of neglected environments, cutting through dirt deposits, lime scale and rust with ease, and is exceptional for cleaning and brightening stainless steel, aluminium and copper equipment.

ClearScale is formulated with a naturally occurring oil extract additive that carries excellent cleaning properties in its own right. It helps remove odour and control the growth and spread of harmful pathogens, while imparting a powerful, fresh and long-lasting clean fragrance.

## 1 KEY FEATURES & BENEFITS

- Removes lime scale, hard water deposits, body fats, dirt, grime and rust
- Natural oil extract additive adds cleaning power, odour removal and pathogen control
- A milder alternative to harsh acid-base cleaners on concrete, tile, grout and stone
- Dissolves rust (iron oxide) while etching iron very slowly — metals can soak far longer than with competing technologies
- Leaves a fine iron phosphate coating that temporarily prevents rust and gives a bright, paint-ready metal finish
- Removes surface rust from stainless steel without attacking chromium, chromium oxide or nickel
- Suitable for interior and exterior use
- Fully biodegradable and non-volatile
- Highly versatile and cost effective across washroom, food, brewing, dairy and masonry applications

## 2 WASHROOM DEEP CLEANING

ClearScale excels at deep cleaning washrooms, particularly high-traffic environments such as mines, slicing through body fats and hard water build-up to leave a visibly shiny surface.

- Step 1 — Apply: Apply with a pressurised sprayer, starting at the top of the walls and evenly coating all surfaces including toilets, basins and urinals.
- Step 2 — Dwell: Allow a 10 minute contact period.
- Step 3 — Scrub: Manually scrub sprayed surfaces to loosen embedded soils.
- Step 4 — Rinse: Rinse thoroughly with a high pressure water sprayer.
- Step 5 — Dry: Do not wipe surfaces down — allow natural drying to prevent cross contamination. Perform swab tests if required.

## 3 APPLICATION AREAS & DILUTIONS

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| **Concrete & Masonry** | Fast-acting acid-base cleaner for pre-cast concrete, concrete, masonry, sanded grout, tile and natural stone. Removes cement grout haze, mortar residue, joint cement, lime and hard water deposits, efflorescence, rust and grime. Suits pavers, cleft and honed slate, flamed and honed limestone, unglazed ceramic, quarry and porcelain tile, and pool slides and tiles at the water surface. |
| **Catering Equipment** | Calcium and lime scale in bain-maries, kettles and dishwashers — use at 1% to 5% depending on soiling. |
| **Stainless Steel** | Removes surface rust without impacting the substrate — dissolves iron oxide while leaving chromium, chromium oxide, nickel and iron intact. |
| **Rust Removal & Paint Prep** | Dissolves rust while etching iron slowly; leaves a bright, paint-ready finish with a thin protective iron phosphate coating. Suits panel beaters as a pre-paint wash removing waxes, oils and light rust formed between sand blasting and painting. |
| **Aluminium & Copper** | Removes dust, dirt, grime and grease from aluminium and copper coils and fins of cooling units and air conditioners. Regular use keeps coils clean, improving efficiency and lowering power consumption. |
| **Pipe & Drain Cleaning** | Pour 500 ml to 1 L undiluted directly into the blocked toilet, drain, urinal, shower or basin and leave overnight. Rinse with a kettle of boiling water and repeat if needed. Also restores flow in old plumbing narrowed by years of calcium and magnesium deposits. |
| **Dairy — Milkstone** | Occasional descaling of H.T.S.T. plant, storage tanks and pipelines at 1% to 5% at approximately 80 °C. Two-stage cleaning following alkali: 1% at 80 °C. U.H.T. plant following alkali circulation: 2%. Churns: soak in a warm 5% solution, or run the churn washer for 24 hours at 1%. |
| **Brewing** | Fermenting and maturation vessels: circulate for 45 minutes; repeat with the same solution if scaling persists. Paraflows, liquor and product side: 7% circulated 45 minutes at up to 50 °C. Routine cleaning of maturation tanks, mains, bright beer tanks, stainless keg fillers and bottle fillers at 3% in warm water removes beerstone and light protein soiling. Suitable for cleaning under a carbon dioxide atmosphere, allowing the $CO_2$ to be retained. Casks: soak stainless steel and aluminium in a hot 3% solution, or run the cask washer briefly at 1%. |
| **Food Industry** | General descaling of tanks, pipes and heat exchangers. Use undiluted to remove fish slime from fish boxes and dried blood from tiled abattoir surfaces. |

## 4 PRECAUTIONS & HANDLING

- Do not use on acid-sensitive or polished surfaces.
- Test an inconspicuous patch before use.
- Protect incompatible neighbouring surfaces before application.
- Wear appropriate personal protective equipment.
- Avoid contact with strong bases, zinc, magnesium, oxidising agents, chrome plating and marble.

## 5 TECHNICAL SPECIFICATIONS

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| **Physical State** | Liquid |
| **Chemistry** | Acid-base descalant and deep cleaner with naturally occurring oil extract additive |
| **Volatility** | Non-volatile |
| **Biodegradability** | Fully biodegradable |
| **Targets** | Lime scale, hard water deposits, body fats, rust, iron oxide, milkstone, beerstone, efflorescence, grout haze, mortar residue |
| **Rust Chemistry** | Dissolves iron oxide rapidly while etching iron slowly; deposits a fine iron phosphate protective coating |
| **Stainless Steel Compatibility** | Removes surface rust without attacking chromium, chromium oxide or nickel |
| **Typical Dilutions** | 1% – 5% catering and dairy; 3% brewing routine; 7% paraflows; undiluted for drains, fish boxes and dried blood |
| **Material Incompatibility** | Acid-sensitive and polished surfaces, strong bases, zinc, magnesium, oxidising agents, chrome plating, marble |
| **Secondary Action** | Odour removal and control of harmful pathogen growth via the natural oil additive |
| **Supply Options** | Super concentrate available for self-manufacture |
| **Country of Manufacture** | South Africa |

## 6 STORAGE & SHELF LIFE

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| **Shelf Life** | Stable for 12 months |
| **Storage Conditions** | Store at ambient temperature out of direct sunlight, sealed when not in use. |

## 7 PACKAGING

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| **5 L** | Standard container |
| **25 L** | Standard container |
| **1 000 L** | Flow bin / IBC |

*This Technical Data Sheet reflects GEARTH's current product specification and application guidance at the date of issue. GEARTH (Pty) Ltd continually develops its formulations and reserves the right to revise specifications without prior notice. Because site conditions, substrates and effluent loads vary, the user remains responsible for confirming suitability for a specific application — GEARTH technical staff are available to assist with site-specific dosing and trial protocols. Handle all products in accordance with the applicable Safety Data Sheet and South African health, safety and environmental legislation.*