

## Foro SapH Etch

NON-REGULATED, SYNTHETIC ACID LOW pH CLEANER

- Non-Corrosive
- 100% Synthetic Acid
- Non-Fuming
- Non-D.O.T. Regulated
- 100% Biodegradable
- Removes Rust
- Etches Concrete
- Safe on Glass & Metal
- OSHA and EPA Compliant
- Safe on Skin
- Liquid or Gel Versions

Foro is a non-corrosive, non-skin irritant, and biodegradable cleaner capable effectively as traditional acids. Powered by SynTech<sup>®</sup>, the world's only synthetic acid, Foro earns a triple zero HMIS score.

Foro SapH Etch can be used for a variety of uses. The Foro formulation was made to replace 32% hydrochloric acid without the dangers associated with hazardous cleaners. Foro contains no free acid and is non-corrosive. And because it is 100% synthetic, no neutralizing step is needed. Simply rinse with water.

Foro SapH Etch is the easiest etching product you have ever used. The extreme hydrogen load in Foro's active ingredient gives Foro the punch it needs to dissolve calcium carbonate. But because the hydrogen in SynTech has a much stronger bond to the H<sup>+</sup> ion than those in acids, Foro SapH Etch has a slower spending nature. This makes it ideal for use in detailed and architectural etching. And because Foro is non-fuming, it can be used indoors where using HCl would be problematic.

Foro is non-DG regulated, and is readily biodegradable per OECD 301D. Foro is FDA GRAS and considered non-hazardous by OSHA. Foro SapH Etch is made in a GreenCircle certified factory.

Foro SapH Etch. Powered by SynTech. Safe by Design.



## Technical Data

NITRATE LEVEL: **0% - None**  
FORM: **Liquid**  
ODOR: **Mild Soapy Odor**  
COLD STABILITY: **0° C**  
DETERGENCY: **Moderate**  
TOXICITY: **Non Toxic**  
WETTING ABILITY: **Excellent**  
STORAGE STABILITY: **1 Year+**

SHIPPER REGULATIONS: **None**  
FLASH POINT: **None**  
BOILING POINT: **101° C**  
SOLUBILITY IN WATER: **100%**  
BIODEGRADABLE: **Yes/100%**  
VOLATILE BY VOLUME: **N/A**  
CARCINOGENS: **None**  
VISCOSITY: **Thin**

## Dissolving Properties

Calcium Oxide Dissolving Properties with 3 Minute Exposure

<b>Foro SapH Etch</b>	<b>17.2</b>
HCl (Muriatic)	8.9
Urea HCL	7.2
Urea Sulfuric	6.1
Phosphoric	0.9
Citric	0.0
Lactic	0.2
Acetic	0.1
Glycolic	0.2
Oxalic	0.0
Malic	0.4

### Test Conditions

200 grams of 5% active solution  
1 Calcium Oxide Cube  
3 Minutes @ 20° C

Clearly, Foro out performs other acids when it comes to dissolving calcium oxide, including HCl (Muriatic) which is highly corrosive.

## Metal Studies

Dept. of Transportation (D.O.T.) Test Protocols as per Section 173.154  
Exceptions for Class 8 (corrosive materials): The material being tested must be proven to be non-destructive or not to cause irreversible alterations in human skin tissue. Testing was conducted on an albino rabbit.

**Conclusion:** Foro was proven to be NON-DESTRUCTIVE on human skin tissue.

**Metal Test Limits:** D.O.T. Classifies a material to be CORROSIVE if it has a corrosion rate that exceeds 6.25 mmpy on SAE C1020 carbon steel.

Results of Foro: SAE 1020 carbon steel = 0.59 mmpy

**Conclusion:** Foro is NON-CORROSIVE

## Dilution Specifications

Please refer to the product label.

## Toxicity Studies

**Toxicity Limits: Test Procedure OECD 202, 48 hr.**

LC 50 and LD 50 (rat oral) scores found Foro to be NON-TOXIC.

**Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals**

Foro was found NOT TO BE MUTAGENIC

**Dermal Irritation & Corrosion Test**

A modified Draize method was used as described in OECD Guidelines for the Testing of Chemicals Sec. 404 and complies with the requirements of OECD Principles of GLP, Annex revised as of July 1992.

Foro received a Primary Irritation Score of .09 +/-0.2 and is classified as a "Very Mild Skin Irritant"

**Biodegradation & Aquatic Safety**

Test Procedure: Hach Reactor Digestion method for Waste Water and Sea Water. Hach Reactor Digestion Method is a semi-micro adaptation of the Standard Methods.

Test Results Conclude Foro was found to be 100% Biodegradable

COD = **Low Detectable Limits**

BOD = **No Detectable Limits**

## Classifications & Approvals

**ADG, D.O.T., TDG, IMO, IATA, IMDG, SARA 313 311/312, California Prop 65** NON-Regulated

**FDA**

Approved as Safe (GRAS)

**USDA Authorization**

A1, A2, A3, A4, A7, A8, C2, G6 & G7

Additional Studies & Results: When tested, Foro showed no potential for the generation of Carbon Dioxide under NIOSH 7903, OSHA & ACGIH testing protocols governing workplace environments.