



EMS Basic CR

SYNTHETIC, SAFE MURIATIC ACID REPLACEMENT

- Removes Concrete
- Non-Corrosive
- 100% Acid Free
- Non-Fuming
- Non-D.O.T. Regulated
- 100% Biodegradable
- Safe on Glass & Chrome
- One-Step Process
- OSHA and EPA Compliant
- Removes Mineral Stains
- Safe on Skin

Until now, the only effective way to remove calcium carbonate, scaling and mineral build up has been to use harsh mineral acids. While these acids do the job, they pose significant dangers to equipment, the environment and to the person using them.

Powered by SynTech®, the world’s only synthetic acid, Basic-CR offers the identical cleaning properties of Muriatic (hydrochloric) acid with none of the harmful side-effects. Basic-CR is non-D.O.T. regulated, non-fuming, will not corrode or rust metals and is 100% OSHA & EPA compliant.

Basic-CR is a direct replacement for Muriatic acid blends, yet it carries a triple zero Hazardous Materials Information Score. It is so safe it is recommended by leaders in the cement industry including Mack, Shumaker, McNeilus, Oshkosh and Volvo.

And because Basic-CR contains no acid and is non-corrosive, you can apply it to any kind of equipment. Simply apply and rinse. No neutralizing step is needed. Ideal for:

- | | |
|------------------|------------------|
| Concrete Cleanup | Masonry Cleaner |
| Pool Cleaner | Ready Mix Trucks |
| Tool Cleaner | Cement Haulers |
| Concrete Mixers | Concrete Etching |
| Rust Remover | Gunite Equipment |



The technology in Basic-CR is the driving force in other EMS formulations made specifically for maritime, food processing, construction, aviation, golf, and water treatment industries.

Visit our website or call for more information.



Technical Data

NITRATE LEVEL: **0% - None**
FORM: **Liquid**
ODOR: **Mild Soapy Odor**
COLD STABILITY: **-26° F**
DETERGENCY: **Moderate**
TOXICITY: **Non-Toxic**
WETTING ABILITY: **Excellent**
STORAGE STABILITY: **1 Year+**

SHIPPER REGULATIONS: **None**
FLASH POINT: **None**
BOILING POINT: **210° F**
SOLUBILITY IN WATER: **100%**
BIODEGRADABLE: **Yes/100%**
VOLATILE BY VOLUME: **N/A**
CARCINOGENS: **None**
VISCOSITY: **Thin**

Dissolving Properties

Calcium Carbonate Dissolving Properties of Acids with 3 Minute Exposure

Acid	% Dissolved
Basic-CR	8.9
HCl (Muriatic)	8.9
Urea HCl	7.2
Formic	0.7
Phosphoric	0.9
Citric	0.0
Lactic	0.2
Acetic	0.1
Glycolic	0.2
Gluconic	0.1
Rydlyme	0.3
Oxalic	0.0
Malic	0.4

Test Conditions

200 grams of 5% active solution
1 Calcium Carbonate Cube
3 Minutes @ 70° F

Clearly, Basic-CR out-performs other acids when it comes to dissolving calcium carbonate, 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: Basic-CR 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.

Results of Basic-CR: SAE 1020 carbon steel = 0.18 mmpy

Conclusion: Basic-CR is NON-CORROSIVE

Dilution Specifications

Light to moderate, everyday buildup:
Dilute 5:1

Moderate to heavy buildup:
Dilute 3:1

Heavy to extra heavy buildup:
Dilute 1:1

Severe buildup:
Undiluted

Apply to buildup, agitate, rinse. Repeat as needed.
May be left overnight.

Toxicity Studies

Toxicity Limits: Test Procedure OECD 202, 48 hr.

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

Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals

Basic-CR 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.

Basic-CR 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 Basic-CR was found to be 100% Biodegradable

COD = **Low Detectable Limits**

BOD = **No Detectable Limits**

Classifications & Approvals

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

FDA

Approved as Safe (GRAS)
(CGMP) CFR 184.1923

USDA Authorization

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

Approvals

Mack, Volvo, Shumaker, Indiana Phoenix, Elkin, CBMW, Zimmerman,
McNeilus, London Machinery and Oshkosh

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