

EMS Basic CR

SYNTHETIC, SAFE MURIATIC ACID REPLACEMENT

- **Removes Concrete**
- **Non-Corrosive**
- **Non-Acid**
- **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.

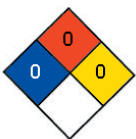
Powered by SynTech®, the world’s only synthetic acid, Basic-CR offers the identical cleaning properties of Muriatic (hydrochloric) acid with none of the harmful side-effects. Basic-CR is non-D.O.T. regulated, non-fuming, will not corrode or rust metals and is 100% OSHA & EPA compliant.

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
Sulfamic	1.6
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 steel or 7075-Y6 Aluminum.

Results of Basic-CR: SAE 1020 carbon steel = 0.18 mmpy
7075-Y6 aluminum = 0.76 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

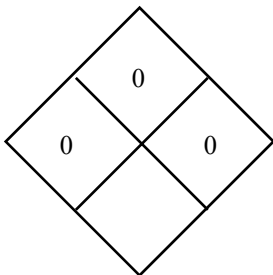
USDA Authorization

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.



Material Safety Data Sheet



This MSDS complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200 and OSHA FORM 174.
OMB No. 1218-0072

Identity (Trade Name As Used On Label)

SECTION 1 - COMPANY/PRODUCT INFORMATION

Manufacturer's Name: Environmental Manufacturing Solutions, L.L.C.

Address: 7705 Progress Circle

Melbourne, Florida 32904

Phone Number (For Information): 321-837-0050

Emergency Phone Number (Chemtrec) 800-424-9300

IDENTITY: BASIC-CR

CAUSE FOR MSDS: NON-D.O.T. Regulated
29CFR Regs

MSDS Number: N/A

Date Prepared: REVISED 05/05/04

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

SECTION 2 - HAZARD INGREDIENTS/IDENTITY INFORMATION

COMPONENTS - Chemical Name & Component Names (Hazardous Components 1% or greater. Carcinogens 1% or greater)	OSHA PEL	ACGIH TLV	OTHER LIMIT RECOMMENDED
PROPRIETARY TRADE SECRET PERMITTED	N/A	N/A	N/A
NON HAZARDOUS / NON REGULATED/NON NITRATE FORMULA			
NONE AS PER 29CFR Part 1910.1200.			
See Section—Federal Register Vol. 48 No. 228 Nov. 25, 1983 Rules & Regulations			

SECTION 3 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 214° F	Specified Gravity (H ₂ O = 1) 1.10
Vapor Pressure (mm Hg.) 18	Melting Point N/A
Vapor Density >1	Evaporation Rate (Butyl Acetate = 1) <.01
Solubility In Water 100%	Appearance and Odor Light Yellow to Colorless in Color, Mild Soapy Odor

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) None	Flammable Limits None	LEL N/A
Extinguisher Media None	Special Fire Fighting Procedures None	UEL N/A
Unusual Fire and Explosion None Known		

SECTION 5 - REACTIVITY DATA

STABILITY: Unstable No Stable Yes-100%

CONDITIONS TO AVOID: None Known

Incompatibility (Materials to Avoid) Strong Caustics Such as Sodium Hydroxide

Hazardous Decomposition or Byproducts None Known

HAZARDOUS POLYMERIZATION: May Occur No Will Not Occur Yes

CONDITIONS TO AVOID: None Known

N/A

SECTION 6 - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: Inhalation? No Skin? No Ingestion? Yes

HEALTH HAZARDS (*Acute and Chronic*) If Ingested, May cause loose Stools. Drink Plenty of Water and Consult a Physician. Do not Induce Vomiting.

N/A

N/A

CARCINOGENICITY: NTP? No IARC No OSHA Regulated? No

SIGNS AND SYMPTOMS OF EXPOSURE: None Known, See HEALTH HAZARDS

N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None Known

N/A

EMERGENCY AND FIRST AID PROCEDURES: As with any Chemical, Use Caution and Good Safety Measures when in use. Ingestion: Drink Plenty of Water/2-3 Glasses

and Consult Physician Immediately. Eyes: Flush with Plenty of Water for 15 minutes. Skin: Wash Thoroughly with Soap and Water. Inhalation: None Known

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled Spilled Material should be washed away promptly with copious amounts of water.

Product Material instantly Neutralizes with water.

N/A

Waste Disposal Method Non Hazardous. No Special Requirements are known to be applicable. Product instantly neutralized with water.

Always offer Drums and/or Bulk Containers to be returned to your Supplier or for Recycling to your local Recycler.

Precautions to Be Taken in Handling and Storing None Known. As with all Chemical Products and Materials, take care as to where and how you store them.

N/A

Other Precautions None Known

N/A

N/A

SECTION 8 - Control Measures

Respiratory Protection (*Specify Type*) N/A

Ventilation No Special Ventilation is Known to be Needed.

Local Exhaust N/A

Special N/A

Other N/A

Mechanical(*General*) N/A

Protective Gloves N/A

Eye Protection As with any Chemical Product or Material, care should be taken as not to get anything in the Eyes. Safety Glasses or Goggles are suggested for use

Other Protective Clothing or Equipment N/A

N/A

Work/Hygienic Practices N/A

N/A