



EMS BlowOut

SYNTHETIC ACID, NON-CAUSTIC, NON-REGULATED LINE CLEANER AND DESCALER

- 100% Synthetic Acid
- Non-Caustic
- Dissolves Calcium
- U.S. Navy Approved
- U.S. Coast Guard Approved
- Descals Heat Exchangers
- Cleans Cooling Towers
- Cleans Boilers
- Removes Milk/Beer Stone
- Neutralizes with Water
- No Disposal Requirements
- Non-D.O.T. Regulated

BlowOut is the most aggressive line cleaner and descaler ever developed. Independent tests confirm that our patented SynTech[®], the world's only synthetic acid, dissolves nearly 15% more calcium than Muriatic (hydrochloric) acid. Still, all that potency comes with a triple-zero Hazardous Material Index Score, which makes our line cleaner safe for your equipment, safe for your personnel and safe to store anywhere you wish.

BlowOut breaks down calcium, lime, scale, milk stone, beer stone and other deposits which, until now, required the use of corrosive and dangerous acids or caustics. What's more, because SynTech is not an acid, we can combine it with surfactants, detergents and other ingredients to eliminate secondary and tertiary steps in your cleaning process.

The potency of BlowOut combined, with our safety profile, makes it the natural choice of the U.S. Navy and U.S. Coast Guard. In fact, BlowOut is the only non-acid cleaner that meets current Navy requirements for the cleaning of heat exchangers aboard their ships.

BlowOut can also be used to safely descale cooling towers, heating coils, boilers and any equipment that tends to build up calcium such as in food preparation plants, hospitals, even nuclear power facilities.

As BlowOut neutralizes instantly with fresh water, we remove the time and material costs associated with additional steps needed with acid-based products. BlowOut is biodegradable per OECD 301D and removes no trace metals from the system, making it legal to dispose of the treated water directly into the sanitary system. BlowOut is 100% non-corrosive and non-regulated by the D.O.T., and is non-mutagenic to marine life.

BlowOut has been recognized for safer chemistry by the EPA's Design for Environment program and is certified as a direct release product.



Technical Data

NITRATE LEVEL: **0% - None**
FORM: **Liquid**
ODOR: **Mild Soapy Odor**
COLD STABILITY: **08° 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 Oxide Dissolving Properties

HCl (Muriatic)	8.9
BlowOut	8.1
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 @ 70° F

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: BlowOut 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 BlowOut: SAE 1020 carbon steel = 0.23 mmpy

Conclusion: BlowOut is NON-CORROSIVE

Guarantee

EMS guarantees this product to be free from urea hydrochloride, other organic salts and traditional acids, free from defects and true to its contents.

Toxicity Studies

Toxicity Limits: Test Procedure OECD 202, 48 hr.

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

Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals

BlowOut 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.

BlowOut received a Primary Irritation Score of 0.6 +/-0.1 and is classified as a "Non-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 BlowOut was found to be 100% Biodegradable

Ecological Safety

96 hr LC50: Flathead Minnow >600 mg/l = Non-Toxic
96 hr LC50: Bluegill >20 mg/l = Non-Toxic
96hr LC50: Rainbow Trout >20 mg/l = Non-Toxic

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 184.1914

USDA Authorization

USDA A1, A2, A3, A4, A7, A8 C2, C6, C7

Approvals

NAVSEA
NSN-6850015428898 / 5 gallon pail
NSN-68500154288904 / 55 gallon drum
NSN-68500154288912 / 275 gallon tote
U.S. Coast Guard
NOAA
HRSD for direct disposal into VA sewer system

EPA Design for Environment

Recognized for Safer Chemistry www.epa.gov/dfe

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