



Safety Data Sheet (SDS)

BIO-DEX LABORATORIES, LLC

300 Swimming Pool Tile Cleaner

SDS Number: 218

Revision Date: 5/2/2015

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1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

BIO-DEX LABORATORIES, LLC
4212 W. INNOVATION DR.
PHOENIX, AZ 85086

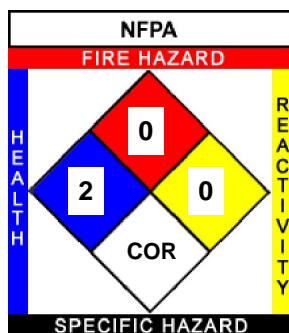
Contact: BIO-DEX LABORATORIES, LLC
Phone: 800-617-3477 // 623-582-2400
Web: www.bio-dex.com

Product Name: 300 Swimming Pool Tile Cleaner
Revision Date: 5/2/2015
Version: 1.00
SDS Number: 218
CAS Number: MIXTURE
Chemical Family: Inorganic Acid Solution
Chemical Formula: *** PROPRIETARY ***
Synonyms: Swimming Pool Tile Cleaner
Product Use: Swimming Pool Tile Cleaner
Emergency Phone: (800) 424-9300 (CHEMTREC)

2 HAZARDS IDENTIFICATION

NFPA:
HMIS III:

Health = 2, Fire = 0, Reactivity = 0
H*2/F0/PH0



HMIS III	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARDS	0
PERSONAL PROTECTION D Face Shield and Eye Protection, Gloves, Apron	

PERSONAL PROTECTION INDEX			
A		G	
B		H	
C		I	
D		J	
E		K	
F		X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions
A	n	o	p
q	r	s	
t	u	w	y
z	Additional information		

GHS Signal Word:
DANGER

GHS Hazard Pictograms:





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GHS Classifications:

- Physical, Corrosive to Metals, 1
- Health, Acute toxicity, 4 Oral
- Health, Acute toxicity, 4 Dermal
- Health, Skin corrosion/irritation, 1 B
- Health, Serious Eye Damage/Eye Irritation, 1
- Health, Acute toxicity, 4 Inhalation

GHS Phrases:

- H290 - May be corrosive to metals
- H302 - Harmful if swallowed
- H312 - Harmful in contact with skin
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H332 - Harmful if inhaled

GHS Precautionary Statements:

- P234 - Keep only in original container.
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
- P262 - Do not get in eyes, on skin, or on clothing.
- P264 - Wash skin thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+312 - IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P308+313 - IF exposed or concerned: Get medical advice/attention.
- P321 - Specific treatment (see supplementary first aid instructions on this label).
- P362 - Take off contaminated clothing and wash before reuse.
- P403+233 - Store in a well ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container to an approved waste disposal plant.

3	COMPOSITION/INFORMATION ON INGREDIENTS
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Ingredients:

Cas #	Percentage	Chemical Name
N/A	>87%	Proprietary, non-hazardous, non-regulated
7647-01-0	<5%	Hydrochloric acid
7664-38-2	<3%	Phosphoric acid
7664-39-3	<3%	Hydrofluoric acid
N/A	<2%	Trade Secret*

*The specific chemical identities of the ingredients of this mixture labeled as "Trade Secret" are considered to be proprietary and are withheld in accordance with the provisions of 29CFR1910.1200 Sect. (i) Trade Secrets.



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4 FIRST AID MEASURES

- Inhalation:** Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.
- Skin Contact:** Get immediate medical attention. Remove contaminated clothing immediately; wash before reuse. Promptly flush skin with water until all chemical is removed. Immediately apply Calcium Gluconate gel, 2.5%, and massage into the affected area using rubber gloves. Continue to massage while repeatedly applying gel until 15 minutes after pain is relieved. If fingers/finger nails are touched, even if there is not pain, dip them in a bath of 5% Calcium Gluconate for 15 to 20 minutes. More serious skin exposure may require subcutaneous calcium gluconate gel, except for digital areas (unless the physcain is experienced in this tequinique) due to potential for tissue injusr from increased pressure. Absorption can readily occur in subungual areas and should be considered during decontamination.
- Eye Contact:** Get immediate medical attention. Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation. Rinse to eyes with a calcium gluconate, 1%, solution in physiological serum (10 ml of Calcium Gluconate 10% in 90 ml of physiological serum). In the case of difficulty of opening eyelids, administer an analgesic eye wash (oxybuprocaine).
- Ingestion:** Call a physician immediately. Take victim immediately to hospital. Prevention of absorption of the Fluoride ion can be obtained by giving a source of Calcium or Magnesium.

If victim is conscious:

If swallowed, rinse mouth with water (only if the person is conscious). Give to drink one of the following: 3-4 glasses of milk, chewable calcium carbonate tablets, Milk of Magnesia or a 1% aqueous Calcium Gluconate solution. Do NOT induce vomiting. Artificial respiration and/or oxygen may be necessary.

If victim in unconscious, but breathing:

Artificial respiration and/or oxygen may be necessary.

General advice:

Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After initial decontamination with water, subsequent damage can occur due to penetration/absorption of the Fluoride (F⁻) ion. Treatment should be directed toward binding the Fluoride ion as well as the effects of exposure. Show this Safety Data Sheet to the doctor in attendance. If possible, call ahead to hospital or paramedics and make them aware of the Hydrofluoric acid exposure risk to themselves, and so they may prepare the proper first aid treatments ahead of time. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11.

Indication of any immediate medical attention and special treatment needed:

No data available.

5 FIRE FIGHTING MEASURES

- Flammability:** Not flammable
- Flash Point:** DNA
- Flash Point Method:** DNA
- Burning Rate:** No data available
- Autoignition Temp:** No data available
- LEL:** No data available
- UEL:** No data available



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Extinguishing Media:

Water Spray
Water Fog
Carbon Dioxide
Alcohol-Resistant Foam
Dry Chemical

Special Hazards Arising From the Substance or Mixture:

Carbon Oxides
Hydrochloric Acid gas
Hydrofluoric Acid gas
Nitrogen Oxides (NOx)
Phosphorous Oxides

Advice for Firefighters:

Firefighters should wear full-face, positive-pressure respirators.

Further Information:

If incinerated, may release toxic fumes.
Use water spray to cool unopened containers.
Product gives off Hydrogen by reaction with metals. Hydrogen is flammable and potentially explosive. Use caution.
See Section 7 for more information on safe handling.
See Section 8 for more information on personal protection equipment.
See Section 13 for disposal information.

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ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment.
Keep from contacting skin or eyes.
Avoid breathing vapors, mist or gas.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

Environmental precautions:

Prevent further release (leakage/spillage) if safe to do so.
Do not allow product to enter drains.
Do not allow to drain to environment.

Methods and materials for containments and cleaning up:

Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).
Neutralizing agent like Sodium Bicarbonate may also be used to absorb/neutralize any spilled material.
Place contaminated material into suitable, closed containers for disposal.
Dispose of contaminated material according to Section 13.
After spillage has been collected, area may be flushed with water or wet-brushed.
Ensure adequate ventilation.

Reference to other sections:

Comply with federal, state and local regulations on reporting spills.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on proper disposal.



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7 HANDLING AND STORAGE

- Handling Precautions:**
- Avoid breathing vapors or mist.
 - Avoid contact with eyes, skin, or clothing.
 - Use approved, original containers only.
 - Do not use Silicate containing materials for handling material (glass, cement, etc.).
 - Do not use corrosive-sensitive materials such as mild steel, aluminum and 304 stainless steel for handling product.
 - Keep containers closed when not in use.
 - Do not expose containers to open flame, excessive heat, or direct sunlight.
 - Do not puncture or drop containers.
 - Handle with care and avoid spillage on the floor.
 - Keep material out of reach of children.
 - Keep material away from incompatible materials.
 - Wash thoroughly after handling.
 - Ensure adequate ventilation.
- Storage Requirements:**
- Keep container tightly closed.
 - Avoid inhalation of vapors or mist upon opening container.
 - Store in a well-ventilated place.
 - Do not store in direct sunlight.
 - Store away from strong bases, strong oxidizing agents, Alcohols, Amines, Aldehydes, Mercaptans, Sulfides, Sulfites, powdered metals, reactive metals (Zinc & Aluminum) and their alloys (Brass, etc.) , Alkali metals, metals, mild steel, metal acetylides, Halides, Zinc iodide, Carbides, Fulminates, Nitrates, Pictrates, Cyanides, Chlorates, Alkali Halides, metal salts, Azides, Perchlorates, Nitromethane, Phosphorous, Cyclopentadiene, Cyclopentanone Oxime, Nitroaryl Amines, Hexalithium Disilicide and Phosphorous(III) Oxide.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls:**
- All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.
- Personal Protective Equip:**
- HMIS PP, D | Face Shield and Eye Protection, Gloves, Apron
- Eye/face protection:**
- When using material use safety glasses, gloves, face shield and apron according to HMIS PP, D. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
- Skin protection:**
- Handle with gloves made from PVC, Neoprene, Nitrile or Buma rubber. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.
- Body Protection:**
- Chemically resistant safety glasses, gloves and apron are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.
- Respiratory protection:**
- Full-face vapor respirator may be required as backup to engineering controls when proper



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engineering controls are not in place to keep TLV and PEL limits below defined thresholds.
Respiratory protection must comply with 29 CFR 1910.134.

Control of environmental exposure:
Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with workplace control parameters:

Component(s): Hydrochloric acid ; Phosphoric acid; Hydrogen Fluoride
CAS No(s): 7647-01-0; 7664-38-2; 7664-39-3
USA ACGIH (TWA/TLV): 0.2 mg/m³
USA ACGIH (STEL/TLV): 3 mg/m³
USA ACGIH (C/TLV): 1.7 mg/m³
USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminants (TWA): 1 mg/m³
USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminants (C): 7 mg/m³
USA OSHA Table Z-1 Limits for Air Contaminants - 1910.1000 (STEL): 3 mg/m³
USA OSHA Table Z-1 Limits for Air Contaminants - 1910.1000 (C): 7 mg/m³
USA OSHA Table Z2 (TWA): 2.5 mg/m³
USA NIOSH Recommended Exposure Limits (TWA): 1 mg/m³
USA NIOSH Recommended Exposure Limits (ST): 3 mg/m³
USA NIOSH Recommended Exposure Limits (C/REL): 7 mg/m³

Biological occupational exposure limits:

Component(s): Hydrogen Fluoride
CAS No(s): 7664-39-3
Parameters: Fluorides
Biological Specimen: Urine
USA ACGIH Biological Exposure Indices: Prior to shift (16 hours after exposure ceases), 3 mg/g
USA ACGIH Biological Exposure Indices: End of shift (As soon as possible after exposure ceases), 3 mg/g

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, golden brown liquid	Odor:	Acrid
Physical State:	Liquid	Molecular Formula:	MIXTURE
Odor Threshold:	Not determined	Solubility:	100%
Particle Size:	Not determined	Softening Point:	Not determined
Spec Grav./Density:	1.080 - 1.200 g/ml (9.01 - 10.01 lbs/gal)	Percent Volatile:	96.11%
Viscosity:	Not determined	Heat Value:	Not determined
Sat. Vap. Conc.:	Not determined	Freezing/Melting Pt.:	< 0.0 °C (32.0 °F)
Boiling Point:	100.0 °C (212.0 °F)	Flash Point:	DNA
Flammability:	(solid, gas): Not flammable	Octanol:	Not determined
Partition Coefficient:	Not determined	Vapor Density:	(air = 1): Not determined
Vapor Pressure:	(kPa @ 20 °C): < 2.3	VOC:	DNA
pH:	@ 1%: < 1.0	Bulk Density:	Not determined
Evap. Rate:	(N-Butyl Acetate = 1): Not determined	Auto-Ignition Temp:	Not determined
Molecular weight:	MIXTURE	UFL/LFL:	Not determined
Decomp Temp:	Not determined		



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10 STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.
Conditions to Avoid: Incompatibilities, flames, ignition sources.
Materials to Avoid: Strong bases, strong oxidizing agents, Alcohols, Amines, Aldehydes, Mercaptans, Sulfides, Sulfites, powdered metals, reactive metals (Zinc & Aluminum) and their alloys (Brass, etc.) , Alkali metals, metals, mild steel, metal acetylides, Halides, Zinc iodide, Carbides, Fulminates, Nitrates, Picrates, Cyanides, Chlorates, Alkali Halides, metal salts, Azides, Perchlorates, Nitromethane, Phosphorous, Cyclopentadiene, Cyclopentanone Oxime, Nitroaryl Amines, Hexalithium Disilicide and Phosphorous(III) Oxide.
Hazardous Decomposition: Carbon Oxides, Hydrochloric Acid gas, Hydrofluoric Acid gas, Nitrogen Oxides (NOx) and Phosphorous Oxides.
Hazardous Polymerization: Will not occur.

11 TOXICOLOGICAL INFORMATION

Component(s): Hydrochloric Acid; Phosphoric acid; Hydrofluoric Acid
CAS No(s): 7647-01-0; 7664-38-2; 1310-73-2

Acute Toxicity:
LD50 Oral - Rat: 238 mg/kg
LC50 Dermal - Rabbit: 2,740 mg/kg
LC50 Inhalation - Rabbit: 1.689 mg/l (1 h)
LC50 Inhalation - Rat: > 0.85 mg/l (1 h)

Skin Corrosion/Irritation: Rabbit skin - Extremely corrosive and destructive to tissue.

Serious Eye Damage/Eye Irritation: Rabbit eyes - Corrosive to eyes.

Respiratory or Skin Sensitation: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP or OSHA classification (Hydrochloric acid, Hydrofluoric Acid).

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric Acid). 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrofluoric Acid).

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: Overexposure may cause reproductive disorders based on tests with laboratory animals. Foetotoxic effect, effect on fertility.

Specific Target Organ Toxicity - Single Exposure: Respiratory system - Respiratory tract irritant (single exposure, category 3).

Specific Target Organ Toxicity - Repeated Exposure: May cause damage to organs through prolonged or repeated



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exposure.

Aspiration Hazard: No data available.

Additional Information:

Component: Hydrochloric Acid; RTECS: MW4025000

Component: Phosphoric acid; RTECS: TB6300000

Component: Hydrofluoric Acid; RTECS: MW7875000

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ECOLOGICAL INFORMATION

Component(s): Hydrochloric Acid; Phosphoric acid; Hydrofluoric Acid

CAS No(s): 7647-01-0; 7664-38-2; 1310-73-2

Toxicity:

Toxicity to fish:

LC50 - *Gambusia affinis* (Mosquito Fish): 138 mg/l (96 h)

LC50 - *Salmo gairdneri*: 2.7 - 4.7 mg/l (96 h, Fluorides)

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water Flea): 270 mg/l (48 h)

Toxicity to bacteria:

EC50 - Activated sludge: 270 mg/l

Persistence and Degradability:

Abiotic degradation:

Air: Neutralization by natural alkalinity.

Water/Soil: Ionization/neutralization, complexation/.preceipitation or inorganic material.

Bioaccumulative potential:

Result ($\log_{P_{ow}}$): Accumulation into vegetable leaves.

Result (Fluorides): Not applicable.

Mobility in Soil:

Result (Fluorides): Potential adsorption.

Results of PBT and vPvB assessment:

Not required/conducted.

Other Adverse Effects:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Concentrated spills may present environmental hazard due to low pH. May be harmful to aquatic life.



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13 DISPOSAL CONSIDERATIONS

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

14 TRANSPORT INFORMATION

UN #: UN 3264, Class: 8, Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric Acid, Phosphoric Acid)

DOT (US)

UN Number: 3264

Class: 8

Packing Group: II

ERG #: 154

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric Acid, Phosphoric Acid)

Marine Pollutant: No

Poison Inhalation Hazard(s): No

Reportable Quantity (RQ): > 5,000 lbs (as Phosphoric Acid)

IMDG

UN Number: 3264

Class: 8

Packing Group: II

EMS-No: F-A, S-B

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric Acid, Phosphoric Acid)

Marine Pollutant: No

IATA

UN Number: 3264

Class: 8

Packing Group: II

ERG #: 154

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric Acid, Phosphoric Acid)

Marine Pollutant: No





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15 REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Hydrochloric acid (7647010 <5%) CERCLA, CSWHS, EHS302, EPCRAWPC, HAP, MASS, NJEHS, NJHS, OSHAPSM, OSHAWAC, PA, SARA311/312, SARA313, TSCA, TXAIR

*Phosphoric acid (7664382 <3%) CERCLA, CSWHS, EPCRAWPC, MASS, NJHS, OSHAWAC, PA, SARA311/312, SARA313, TSCA, TXAIR

*Hydrofluoric acid (7664393 <3%) CERCLA, CSWHS, EHS302, EPCRAWPC, HAP, MASS, NJEHS, NJHS, OSHAPSM, OSHAWAC, PA, PROP65, SARA311/312, SARA313, TOXICRCRA, TSCA, TXAIR, TXHWL

*Trade Secret (N/A <2%) TSCA

REGULATORY KEY DESCRIPTIONS

- CERCLA = Superfund clean up substance
- CSWHS = Clean Water Act Hazardous substances
- EHS302 = Extremely Hazardous Substance
- EPCRAWPC = EPCRA Water Priority Chemicals
- HAP = Hazardous Air Pollutants
- MASS = MA Massachusetts Hazardous Substances List
- NJEHS = NJ Extraordinarily Hazardous Substances
- NJHS = NJ Right-to-Know Hazardous Substances
- OSHAPSM = OSHA Chemicals Requiring process safety management
- OSHAWAC = OSHA Workplace Air Contaminants
- PA = PA Right-To-Know List of Hazardous Substances
- PROP65 = CA PROP 65
- SARA311/312 = SARA 311/312 Toxic Chemicals
- SARA313 = SARA 313 Title III Toxic Chemicals
- TSCA = Toxic Substances Control Act
- TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)
- TXAIR = TX Air Contaminants with Health Effects Screening Level
- TXHWL = TX Hazardous Waste List

16 OTHER INFORMATION

Disclaimer:

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that BIO-DEX LABORATORIES, LLC. believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of BIO-DEX LABORATORIES, LLC's control, BIO-DEX LABORATORIES, LLC. makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

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