



# Safety Data Sheet (SDS)

BIO-DEX LABORATOIRES, LLC

## Zeo Filter Cleaner

SDS Number: 236

Revision Date: 5/9/2015

Page 1 of 8

### 1 PRODUCT AND COMPANY IDENTIFICATION

#### Manufacturer

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

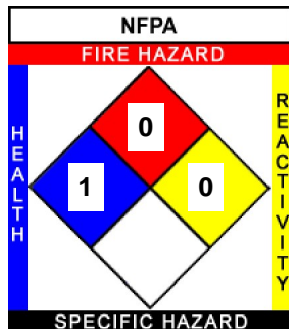
**Contact:** BIO-DEX LABORATOIRES, LLC  
**Phone:** 800-617-3477 // 623-582-2400  
**Web:** www.biodex.com

**Product Name:** Zeo Filter Cleaner  
**Revision Date:** 5/9/2015  
**Version:** 1  
**SDS Number:** 236  
**CAS Number:** MIXTURE  
**Chemical Family:** Mineral acid, organic acid solution  
**Chemical Formula:** \*\*PROPRIETARY\*\*  
**Synonyms:** Filter Cleaner for Cleaning and Refreshing Zeo Filter Media  
**Product Use:** Removing Dirt and Scale from Zeo Filter Media and Refreshing the Media for Continued Efficiency  
**Emergency Phone:** (800) 424-9300 (CHEMTREC)

### 2 HAZARDS IDENTIFICATION

NFPA:  
HMIS III:

Health = 1, Fire = 0, Reactivity = 0  
H1/F0/PH0



HMIS III	
HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARDS	0
PERSONAL PROTECTION B   Safety Glasses, Gloves	

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	
n		O	
O		p	
p		q	
q		r	
r		s	
t		u	
u		w	
w		y	
y		z	
t		z	

GHS Signal Word:  
WARNING

GHS Hazard Pictograms:





## Zeo Filter Cleaner

SDS Number: 236

Revision Date: 5/9/2015

Page 2 of 8

### GHS Classifications:

Health, Skin corrosion/irritation, 2  
Health, Serious Eye Damage/Eye Irritation, 2 A

### GHS Phrases:

H315 - Causes skin irritation  
H319 - Causes serious eye irritation

### GHS Precautionary Statements:

P262 - Do not get in eyes, on skin, or on clothing.  
P264 - Wash skin thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
P332+313 - If skin irritation occurs: Get medical advice/attention.  
P337+313 - If eye irritation persists: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P405 - Store locked up.  
P501 - Dispose of contents/container to an approved waste disposal plant.

## 3

### COMPOSITION/INFORMATION ON INGREDIENTS

#### Ingredients:

Cas #	Percentage	Chemical Name
N/A	67-77%	Proprietary, non-hazardous, non-regulated
77-92-9	20-30%	Citric acid
N/A	<3%	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.

## 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:** Take off contaminated clothing and shoes immediately. Promptly flush skin with water for at least 15 minutes to ensure all chemical is removed. If reddening develops and/or persists, obtain medical attention.

**Eye Contact:** Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Remove contact lenses if present and easy to do so. If eye irritation persists, obtain medical attention.

**Ingestion:** Rinse mouth with water. Do NOT induce vomiting unless instructed to do so. Give 3-4 glasses of water or milk to dilute stomach contents. Never give anything by mouth to an unconscious person. Contact a Poison Control Center for advice. If symptoms develop and/or persist, obtain medical attention.

#### 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.



**Zeo Filter Cleaner**

SDS Number: 236

Revision Date: 5/9/2015

Page 3 of 8

**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:** DNA  
**UEL:** DNA

**Extinguishing Media:**

Water Spray  
Carbon Dioxide  
Alcohol-Resistant Foam  
Dry Chemical

**Special Hazards Arising From the Substance or Mixture:**

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

**Advice for Firefighters:**

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

**Further Information:**

If incinerated, may release toxic fumes.  
Gives off Hydrogen by reaction with metals. Hydrogen is flammable and potentially explosive. Use caution.  
Use water spray to cool unopened containers.  
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.

**6 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:**



**Zeo Filter Cleaner**

SDS Number: 236

Revision Date: 5/9/2015

Page 4 of 8

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:**

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.

**7 HANDLING AND STORAGE**

**Handling Precautions:** Avoid breathing vapors or mist.  
Avoid contact with eyes, skin, or clothing.  
Keep containers closed when not in use.  
Use approved, original containers only.  
Do not use corrosive sensitive materials for handling this product (metals, etc.).  
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.  
Do not store in direct sunlight.  
Store above freezing point.  
Store away from strong acids, strong bases, strong oxidizing agents, strong reducing agents, Potassium tartrate, Alkaline earth Carbonates and Bicarbonates, Acetates and Sulfides.

**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:** Eye/face protection:  
When using material use safety goggles and gloves according to HMIS PP, B. 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 Neoprene, Nitrile, PVC or Buna 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 gloves and safety goggles are recommended. Type of protective



## Zeo Filter Cleaner

SDS Number: 236

Revision Date: 5/9/2015

Page 5 of 8

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 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:

Contains no substances with occupational exposure limits values.

### Biological occupational exposure limits:

Contains no substances with biological occupational exposure limits values.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear, yellow liquid	<b>Odor:</b>	Characteristic
<b>Physical State:</b>	Liquid	<b>Molecular Formula:</b>	MIXTURE
<b>Odor Threshold:</b>	Not determined	<b>Solubility:</b>	100%
<b>Particle Size:</b>	Not determined	<b>Softening Point:</b>	Not determined
<b>Spec Grav./Density:</b>	1.380 g/ml (11.52 lbs/gal)	<b>Percent Volatile:</b>	57.6%
<b>Viscosity:</b>	Not determined	<b>Heat Value:</b>	Not determined
<b>Sat. Vap. Conc.:</b>	Not determined	<b>Freezing/Melting Pt.:</b>	< 0.0 °C (32.0 °F)
<b>Boiling Point:</b>	121.0 °C (249.8 °F)	<b>Flash Point:</b>	DNA
<b>Flammability:</b>	(solid, gas): Not flammable	<b>Octanol:</b>	Not determined
<b>Partition Coefficient:</b>	Not determined	<b>Vapor Density:</b>	(air = 1): Not determined
<b>Vapor Pressure:</b>	(mm Hg @ 20 °C): Not determined	<b>VOC:</b>	DNA
<b>pH:</b>	@ 100%: < 4.0	<b>Bulk Density:</b>	Not determined
<b>Evap. Rate:</b>	(N-Butyl Acetate = 1): Not determined	<b>Auto-Ignition Temp:</b>	Not determined
<b>Molecular weight:</b>	MIXTURE	<b>UFL/LFL:</b>	Not determined
<b>Decomp Temp:</b>	Not determined		

## 10 STABILITY AND REACTIVITY

<b>Stability:</b>	Product is stable under normal conditions.
<b>Conditions to Avoid:</b>	Incompatibilities, flames, ignition sources.
<b>Materials to Avoid:</b>	Strong acids, strong bases, strong oxidizing agents, strong reducing agents, Potassium tartrate, Alkaline earth Carbonates and Bicarbonates, Acetates and Sulfides.
<b>Hazardous Decomposition:</b>	Carbon Oxides, Hydrochloric Acid gas, Nitrogen Oxides (NOx), Phosphorous Oxides and Sodium Oxides.
<b>Hazardous Polymerization:</b>	Will not occur.



**Zeo Filter Cleaner**

SDS Number: 236

Revision Date: 5/9/2015

Page 6 of 8

11

**TOXICOLOGICAL INFORMATION**

**Component(s):** Citric acid; Trade Secret  
**CAS No(s):** 77-92-9; N/A

**Acute Toxicity:**

LD50 Oral - Rat: 1,878 mg/kg  
LD50 Oral - Mouse: 5,040 mg/kg  
LDL Oral - Rabbit: 7,000 mg/kg  
LC50 Dermal - Rat: 2,000 mg/kg

**Skin Corrosion/Irritation:** Rabbit skin - Mild skin irritation.

**Serious Eye Damage/Eye Irritation:** Rabbit eyes - Irritating to eyes.

**Respiratory or Skin Sensitation:** Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

**Germ Cell Mutagenicity:** No data available.

**Carcinogenicity:**

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

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:** No data available.

**Specific Target Organ Toxicity - Single Exposure:** No data available.

**Specific Target Organ Toxicity - Repeated Exposure:** No data available.

**Aspiration Hazard:** No data available.

**Additional Information:**

Component: Citric acid; RTECS: GE7350000



**Zeo Filter Cleaner**

SDS Number: 236

Revision Date: 5/9/2015

Page 7 of 8

**12 ECOLOGICAL INFORMATION**

**Component(s):** Citric acid; Trade Secret  
**CAS No(s):** 77-92-9; N/A

**Toxicity:**

*Toxicity to fish:*

Mortality LC50 - *Leuciscus idus melanotus* (Orfe): 440 mg/l (48 h)  
LC50 - *Lepomis macrochirus* (Bluegill Sunfish): 868 mg/l (69 h)  
LC<sub>50</sub> - *Oncorhynchus mykiss* (Rainbow Trout): 360 mg/l (96 h)

*Toxicity to daphnia and other aquatic invertebrates:*

Static test EC50 - *Daphnia magna* (Water Flea): 1,535 mg/l (24 h)  
EC50 - *Daphnia magna* (Water Flea): 527 mg/l (48 h)

**Persistence and Degradability:**

No data available.

**Bioaccumulative potential:**

No data available.

**Mobility in Soil:**

No data available.

**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. Toxic to aquatic life with long lasting effects.

**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**

**DOT (US)**

Non-regulated material, liquid

**IMDG**

Non-regulated material, liquid

**IATA**

Non-regulated material, liquid



# Safety Data Sheet (SDS)

BIO-DEX LABORATORIES, LLC

## Zeo Filter Cleaner

SDS Number: 236

Revision Date: 5/9/2015

Page 8 of 8

### 15 REGULATORY INFORMATION

#### COMPONENT / (CAS/PERC) / CODES

\*Citric acid (77929 20-40%) NJHS, PA, SARA311/312, TSCA

\*Trade Secret (N/A <3%) NJHS, PA, SARA311/312, TSCA

#### REGULATORY KEY DESCRIPTIONS

NJHS = NJ Right-to-Know Hazardous Substances  
PA = PA Right-To-Know List of Hazardous Substances  
SARA311/312 = SARA 311/312 Toxic Chemicals  
TSCA = Toxic Substances Control Act

### 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.

#### Preparation Information:

GHS Conversion Services  
[www.ghsconversionservices.com](http://www.ghsconversionservices.com)  
(414) 336-2546