



# MASTER HARDENER

Safety Data Sheet

## SECTION 1: IDENTIFICATION

### Product Identifier

**Product Form:** Mixture

**Product Name:** MASTER HARDENER

### Intended Use of the Product

**Use of the Substance/Mixture:** No use is specified.

### **Name, Address, and Telephone of the Responsible Party Company**

Petronio Shoe Products

305 Cortlandt Street

Belleville, NJ 07109

973-751-7579

[www.petronioshoeproducts.com](http://www.petronioshoeproducts.com)

### Emergency Telephone Number

**Emergency Number** : INFOTRAC: 800-535-5053

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the Substance or Mixture

#### **Classification (GHS-US)**

Resp Sens. 1 H334

Eye Dam. 1 H318

Acute Tox. 4 H332

Skin Irrit. 2 H315

Skin Sens. 1 H317

STOT RE 3 H335

Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

### Label Elements

#### **GHS-US Labeling**

#### **Hazard Pictograms (GHS-US)**



#### **Signal Word (GHS-US)**

: Danger

#### **Hazard Statements (GHS-US)**

: H332 Harmful if inhaled.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects.

#### **Precautionary Statements (GHS-US)**

: P260 Do not breathe mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.



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P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 If on skin: Wash with plenty of water.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

### Other Hazards

Combustible liquid.

On contact with water carbon dioxide is released.

**Unknown Acute Toxicity (GHS-US)** Not available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product Identifier	% (w/w)
Hexamethylene diisocyanate oligomers, Isocyanurate	(CAS No) 28182-81-2	60 -100
Polyoxyethylene tridecyl ether phosphate	(CAS No) 9046-01-9	1 -5
Cyclohexyldimethylamine	(CAS No) 98-94-2	0.1 -1
Hexamethylene-di-isocyanate	(CAS No) 822-06-0	0.1 -1

## SECTION 4: FIRST AID MEASURES

### Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

**Inhalation:** Move the person away from the contaminated area. Fresh air and rest. If necessary seek medical advice. Show this sheet to the doctor.

**Skin Contact:** Use appropriate protective equipment when treating a contaminated person. Immediately remove any clothing soiled by the product. Wash with soap and water. Wash immediately and thoroughly for a prolonged period (at least 15 minutes). In case of inflammation (redness, irritation, ...) obtain medical attention. Place contaminated clothing in a sealed bag for disposal.

**Eye Contact:** Immediately rinse with plenty of running water for a prolonged period, (at least 15 minutes) while keeping the eyes wide open. If irritation persists, consult a doctor. Show this sheet to the doctor.

**Ingestion:** NEVER attempt to induce vomiting. Rinse mouth out with water. Do not give anything to drink. If necessary seek medical advice. Show this sheet to the doctor.

### Most Important Symptoms and Effects Both Acute and Delayed

No further relevant information available.

#### **Danger**

**Skin Contact:** Skin contact may aggravate existing skin disease. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

## SECTION 5: FIRE-FIGHTING MEASURES

### Extinguishing Media

**Suitable Extinguishing Media:** Foam. Powders. Carbon dioxide

**Unsuitable Extinguishing Media:** Water.

### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Combustible liquid. During combustion toxic vapors are released.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Reacts with water releasing large amounts of carbon dioxide which may cause pressure build-up in



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confined spaces.

## **Advice for Firefighters**

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

**Protection During Firefighting:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

## **Additional Information**

Stay upwind.

Evacuate the personnel away from the fumes.

In case of fire close by: Cool down the containers/equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product. Do not breathe fumes. Do NOT attempt to fight the fire without suitable protective equipment.

If there is a fire close by and if packaging has not been damaged: Use suitable extinguishers.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

Avoid contact with skin and eyes.

Do not breathe gas.

Do NOT approach from DOWNWIND.

Do NOT attempt to take action WITHOUT suitable protective equipment.

Self-contained breathing apparatus.

Full impermeable protective clothing and equipment.

Mark out the contaminated area with signs and prevent access to unauthorized personnel.

### **Environmental Precautions**

Contain the spilled material by binding.

Do not allow to enter sewers/ surface or ground water.

### **Methods and Material for Containment and Cleaning Up**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Pump any free liquid into a closed but not sealed container to allow for the escape of any CO<sub>2</sub> that forms. Sealing the container may lead to rupture as any contaminated isocyanate reacts.

Wash contaminated area with large amounts of water.

Recover the cleaning water for subsequent disposal.

### **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 disposal information.

## **SECTION 7: HANDLING AND STORAGE**

### **Precautions for Safe Handling**

Ensure good ventilation/aspiration at the workplace.

Avoid contact with water or humidity.

Avoid any direct contact with the product.

Any measure to eliminate exposure should be considered.

### **Conditions for Safe Storage, Including Any Incompatibilities**

The floor of the depot should be impermeable.

Store receptacle in a well ventilated area.

Store in cool, dry conditions in well sealed receptacles.

Store only in the original receptacle.

### **Requirements to be met by storerooms and receptacles:**

Product must only be kept in the original packaging.



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- 
- Metallic drums.
  - Storage tank with a dry nitrogen blanket.
- Suitable material for receptacles and pipes: Aluminium.  
Suitable material for receptacles and pipes: steel or stainless steel.  
Unsuitable material for receptacle: Polystyrene.  
Unsuitable material for receptacle: Copper.  
Unsuitable material for receptacle: Tin

## Specific End Use(s)

No further relevant information available.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control Parameters

#### **Components with limit values that require monitoring at the workplace:**

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

The recommended limits SHOULD NOT be exceeded.

#### **822-06-0 hexamethylene-di-isocyanate**

REL Short-term value: C 0.14\* mg/m<sup>3</sup>, C 0.02\* ppm

Long-term value: 0.035 mg/m<sup>3</sup>, 0.005 ppm

\*10-min

TLV 0.034 mg/m<sup>3</sup>, 0.005 ppm

#### **28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate**

VENCOREX C 1 mg/m<sup>3</sup>

#### **TLV (Threshold Limit Value established by ACGIH)**

822-06-0 hexamethylene-di-isocyanate 0.005 ppm

#### **NIOSH-Ca (National Institute for Occupational Safety and Health)**

822-06-0 hexamethylene-di-isocyanate

### Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

#### **Personal Protective Equipment:**

##### **General protective and hygienic measures:**

Ensure good ventilation of the work station.

Separate normal clothes from work-clothes.

Safety shower.

Eye wash.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Keep away from foodstuffs, beverages and feed.

##### **Breathing equipment:**

When using a spray-gun, wear: Self-contained breathing apparatus. In the event of insufficient ventilation: Self-contained breathing apparatus. When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.



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## · Protection of hands:



Protective gloves

Protective gloves must be chosen according to the function of the work station: other chemicals which may be handled, physical protection necessary (resistance to cutting, puncture, heat), dexterity required.

The selection of gloves must take into account the extent and duration of use at the workstation.

**Material of gloves** Nitrile rubber, NBR

## Eye protection:

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.



Tightly sealed goggles

**Body protection:** Protective work clothing

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colourless to pale yellow
Odor	: None
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not applicable
Freezing Point	: Not available
Boiling Point	: 150 C (302 F)
Flash Point	: 160 C (320 F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: 1.13
Solubility with Water	: Reacts
Solubility with Ketones	: Soluble
Solubility with Aromatic Hydrocarbons	: Soluble
Solubility with Esters	: Soluble



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<b>Segregation Coefficient: N-Octanol/Water</b>	:	Hexamethylene diisocyanate oligomers: Not applicable (reacts with water and/or octanol).
<b>Viscosity</b>	:	1400 mPas at 25C (77F)
<b>Explosion Data – Sensitivity to Mechanical Impact</b>	:	Not expected to present an explosion hazard due to mechanical impact.
<b>Explosion Data – Sensitivity to Static Discharge</b>	:	Not expected to present an explosion hazard due to static discharge.

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

### Chemical stability

**Thermal decomposition / conditions to be avoided:** Stable at ambient temperature.

### Possibility of hazardous reactions

alcohols.

amines.

bases.

protic solvents.

strong oxidizing agents.

water and aqueous solutions.

with a great release of CO<sub>2</sub>, and hence a risk of a pressure build-up in confined areas, and forms an insoluble solid precipitate.

### Conditions to avoid

extreme heat

open flame

moisture

static electricity

ignition sources

**Incompatible materials:** No further relevant information available.

### Hazardous decomposition products:

Toxic gases.

Carbon dioxide

Nitrogen oxides (NO<sub>x</sub>)

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Harmful by inhalation. To comply with regulatory guidelines, the substance was tested in a form (i.e. specific particle size distribution) that is different from the form in which the substance is placed on the market and in which it can reasonably be expected to be used. The acute inhalation toxicity of the substance is due to its local action on the distal part of the respiratory tract. As, in the conditions in which the product can reasonably be expected to be used, only a small fraction of the aerosols formed may reach this part of the respiratory tract, a correction has been made to take this difference into consideration. Based on our Expert judgment, the classification Acute inhalation toxicity category 4 is justified.

Not harmful if swallowed. Not harmful by skin contact.

<b>Hexamethylene diisocyanate oligomers, Isocyanurate (28182-81-2)</b>	
<b>LD0 Oral</b>	> 2500 mg/kg (rat) (OECD 423 (female))
<b>LD0 Dermal</b>	> 2000 mg/kg (rabbit) (OECD 402)
<b>LC50/4h Inhalation</b>	0.390 mg/l (rat) (OECD 403 (female))
<b>cyclohexyldimethylamine (98-94-2)</b>	
<b>LD50 Oral</b>	272 mg/kg (rat)
<b>LD50 Dermal</b>	370 mg/kg (rat) (402 OCDE)
<b>LC50/4h Inhalation</b>	4.45 mg/l (rat)
<b>Trichloroethylene (79-01-6)</b>	
<b>hexamethylene-di-isocyanate (822-06-0)</b>	
<b>LD50 Oral</b>	746 mg/kg (rat) (OECD 401)
<b>LD50 Dermal</b>	> 7000 mg/kg (rat) (OECD 402)



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LC50/4h Inhalation	0.124 mg/l (rat) (OECD 403)
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**Skin Corrosion/Irritation:** Irritating to the skin.

**Serious Eye Damage/Irritation:** Causes serious eye damage.

**Respiratory or Skin Sensitization:** May cause respiratory irritation.

<b>Hexamethylene diisocyanate oligomers, Isocyanurate (28182-81-2)</b>	
LC50/NOAEC/6h Inhalation	3 mg/m <sup>3</sup> (rat) ((OECD TG 403) (TRGS))

**Additional toxicological information:**

· **Carcinogenic categories**

<b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
Not listed.

**Sensitization**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause sensitization by skin contact.

**Carcinogenicity:** Not considered to be carcinogen.

<b>hexamethylene-di-isocyanate (822-06-0)</b>		
Inhalation	NOAEC Carc	0.164 ppm (rat) (OECD 453)

· **Mutagenicity:** Is not considered genotoxic.

· **Reproductive toxicity:** Is not considered hazardous to the reproduction.

<b>hexamethylene-di-isocyanate (822-06-0)</b>		
Inhalation	NOAEC Dvlp/Tera Tox	0.3 ppm (rat) (OECD 414)
	NOAEC Maternal Tox	0.005 ppm (rat) (OECD 414)
	NOEC Fert	0.3 ppm (rat) (OECD 422)

## SECTION 12: ECOLOGICAL INFORMATION

**Toxicity**

**Aquatic toxicity:**

According to the data on the components:

Harmful to aquatic organisms tested.

**28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate**

EC10/72h (static) 370 mg/l (Desmodesmus subspicatus) (EU C.3)

EL50/48h (static) 127 mg/l (Daphnia magna) (EU C.2)

ErC50(0-72h) (static) > 1000 mg/l (Desmodesmus subspicatus) (EU C.3)

LL0/96h

≥ 82.8 mg/l (Brachydanio rerio) (EU C.1)

**9046-01-9 Polyoxyethylene tridecyl ether phosphate**

**EC50 10 mg/l (Danio rerio)**

**98-94-2 cyclohexyldimethylamine**

EC50/48h 75 mg/l (Daphnia magna)

EC50/72h > 2 mg/l (algae) (DIN 38412)

IC50/96h (static) >22- < 46 mg/l (fish) (DIN 38412)

**822-06-0 hexamethylene-di-isocyanate**

EC0/48h (static) ≥89.1 mg/l (Daphnia magna) (EU C.2)

ErC50(0-72h) (static) > 77.4 mg/l (Desmodesmus subspicatus) (EU C.3)

LC0/96h (static) ≥82.8 mg/l (Brachydanio rerio) (EU C.1)

**NOEC/72h (static) 11.7 mg/l (Desmodesmus subspicatus) (EU C.3)**

**Persistence and degradability**

Hexamethylene diisocyanate oligomers :

Not biodegradable.

Polyoxyethylene tridecyl ether phosphate.



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Inherently biodegradable.

### **28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate**

BOD28 1 % (bacteria) ((EU C.4-E) (Unpublished report))

DT50 3 h (Photolysis) ((25 °C) (AOPWIN v1.92) (Internal evaluation))

7.7 h (Hydrolysis) ((23 °C) (ASTM D4666) (Internal evaluation))

### **822-06-0 hexamethylene-di-isocyanate**

BOD28 42 % (bacteria) (EU C.4-D)

DT50 25 °C, 48.44 h (Photolysis) (AOPWIN v1.92)

23 °C, 0.23 h (Hydrolysis) (ASTM D4666)

### **Behavior in environmental systems:**

#### **Bioaccumulative potential**

According to the data on the components:

Not potentially bioaccumulable.

Hexamethylene diisocyanate oligomers :

#### **Ultimate destination of the product: SOIL and SEDIMENT.**

### **28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate**

BCF 3.2 (fish) (BCFWIN v. 2.17)

### **822-06-0 hexamethylene-di-isocyanate**

BCF 58 (fish) (BCFWIN v.2.17)

#### **Mobility in soil**

### **28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate**

Log Koc 7.8 (.) (PCKOC v1.66)

### **822-06-0 hexamethylene-di-isocyanate**

Log Koc 5861 (.) (PCKOC v1.66)

**Other information:** Formation of insoluble polyurea and/or amine derivative.

#### **Ecotoxicological effects:**

#### **Behavior in sewage processing plants:**

### **28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate**

EC50/3h (static) 3828 mg/l (activated sludge) (OECD 209)

### **822-06-0 hexamethylene-di-isocyanate EC50/3h (static) 842 mg/l (bacteria) (OECD 209)**

**Other information:** This preparation is classified as :

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Results of PBT and vPvB assessment**                      **PBT:** Not applicable.      **vPvB:** Not applicable.

Other adverse effects **No further relevant information available.**

## **SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**Ecology – Waste Materials:** Avoid release to the environment.

## **SECTION 14: TRANSPORT INFORMATION**

**In Accordance with DOT** Not regulated for transport

**In Accordance with IMDG** Not regulated for transport

**In Accordance with IATA** Not regulated for transport

**In Accordance with TDG** Not regulated for transport

## **SECTION 15: REGULATORY INFORMATION**

### **National legislation**

**Safety, health and environmental regulations/legislation specific for the substance or**





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## mixture

**Sara Section 312 Fire**

Hazard - NO Reactive

Hazard - NO

Release of Pressure - NO Acute

Health Hazard - YES Chronic

Health Hazard - YES

**Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

**Section 313 (Specific toxic chemical listings):**

CERCLA RQ 100 lbs for 822-06-0

822-06-0 hexamethylene-di-isocyanate

**Carcinogenic categories**

**EPA (Environmental Protection Agency)**

Not listed.

**IARC (International Agency for Research on Cancer)**

Not listed.

**NTP (National Toxicology Program)**

Not listed.

**Inventory status:**

**Canadian Domestic Substance List (DSL)**

All ingredients are listed.

**Canadian Non Domestic Substance List (NDSL)**

Not listed.

**TSCA listing**

All ingredients are listed.

**Other regulations, limitations and prohibitive regulations State**

**of California, Proposition 65:**

**Chemicals known to cause cancer:**

Not listed.

**Chemicals known to cause reproductive toxicity for females:**

Not listed.

**Chemicals known to cause reproductive toxicity for males:**

Not listed.

**Chemicals known to cause developmental toxicity:**

Not listed.

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Revision Date** : 05/11/2015

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**GHS Full Text Phrases:**

H332	Harmful if inhaled.
H315	Causes skin irritation.
H318	H318 Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.



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### Party Responsible for the Preparation of This Document

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*