

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 05/01/2023 Revision date: n/a Printed: 05/01/2023 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Endurable Concrete Sealer-Component 1

Product code : n/a

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use
Construction sealer

Use advised against : None identified

1.3. Details of the supplier of the safety data sheet

Endurable
8351 Lucerne Loop
Lakewood Ranch, FL
34202
Tel: 800-910-3120

1.4. Emergency telephone number

Emergency number : 800-910-3120
Mon - Fri 8:30- 4:30 (PST)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Acute Tox. 4. H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Dam. 1 H318 Causes serious eye damage.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2. Label elements

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard Pictograms



• **Signal word** Danger

- **Hazard-determining components of labeling:**
Hexamethylene diisocyanate oligomers, Isocyanurate Polyoxyethylene tridecyl ether phosphate cyclohexyldimethylamine hexamethylene-diisocyanate
- **Hazard statements**
 - H332 Harmful if inhaled.**
 - H315 Causes skin irritation.**
 - H318 Causes serious eye damage.**
 - H317 May cause an allergic skin reaction.**
 - H335 May cause respiratory irritation.**
 - H412 Harmful to aquatic life with long lasting effects.**

Precautionary statements

P260 Do not breathe mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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.

Hazard description:

CAUTION! HARMFUL IF INHALED. MAY CAUSE SKIN, EYE AND RESPIRATORY TRACT IRRITATION. POSSIBLE SENSITIZER. REACTS WITH COMMON MATERIALS INCLUDING WATER, ALCOHOLS, BASES AND AMINES RELEASING LARGE AMOUNTS OF CARBON DIOXIDE.

- Classification system:

- NFPA ratings (scale 0 - 4)



- **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	1	Fire = 1
REACTIVITY	1	Reactivity = 1

2.3. Other hazards

Combustible liquid.

On contact with water carbon dioxide is released.

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

SECTION 3: Composition/information on ingredients

3.1. Mixture

Name	Product identifier	%
Hexamethylene diisocyanate oligomers, Isocyanurate	CAS: 28182-81-2 EC number: 931-274-8	96%
Polyoxyethylene tridecyl ether phosphate	CAS: 9046-01-9 Polymer	3%
cyclohexyldimethylamine	CAS: 98-94-2 EINECS: 202-715-5	<1%
hexamethylene-di-isocyanate	CAS: 822-06-0 EINECS: 212-485-8	<0.5%

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person away from the contaminated area. Fresh air and rest. If necessary seek medical advice. Show this sheet to the doctor.
- First-aid measures after 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.
- First-aid measures after 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.
- First-aid measures after 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.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available.

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

4.4. 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: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing agents : Foam. Powders. Carbon dioxide.

For safety reasons unsuitable extinguishing agents : Water

5.2. Special hazards arising from the substance or mixture

Combustible. During combustion toxic vapors are released. Under fire conditions, corrosive fumes are emitted: oxides of nitrogen oxides of carbon. Reacts with water releasing large amounts of carbon dioxide which may cause pressure build-up in confined spaces.

5.3. Advice for firefighters

Protective equipment for firefighters : 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.
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 packing has not been damaged: use suitable extinguishers

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : 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.

6.2. Environmental precautions

Contain the spilled material by binding. Do not allow to enter sewers/surface or ground water.

6.3. Methods and material for containment and cleaning up

Methods for 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 CO₂ 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.

6.4. 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

7.1. Precautions for safe handling

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.
Comply with instructions for use (refer to technical sheet).

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : 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.

7.3. Requirements to be met by storerooms and receptacles

Product must only be kept in the original packaging.

-Metallic drums.

-Storage tank with a dry nitrogen blanket.

Suitable material for receptacles and pipes: Aluminum.

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

8.1. 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 ³ , C 0.02* ppm Long-term value: 0.035 mg/m ³ , 0.005 ppm *10-min	
TLV	0.034 mg/m ³ , 0.005 ppm	

28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate		
	vencorex C 1 mg/m ³	

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	

8.2. Exposure controls

General protective and hygienic measures:

: Ensure good ventilation of the work station. Separate normal clothes from work-clothes. Safely shower. Eye wash. Immediately removed 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.
Protection of hands	: 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid
Color	: Colorless to pale yellow
Odor	: None
Odor threshold	: Not applicable
Melting point/Melting range	: Not applicable
Boiling point/Boiling range	: 150 °C (302 °F)
Freezing point	: Not applicable
Flash point	: 160 °C (320 °F)
Explosive limits	: Not applicable
Oxidising properties	: Non oxidizing material according to EC criteria
Flammability (solid, gas)	: Not applicable
Density at 25 °C (77 °F)	: 1.13 g/cm ³ (9.43 lbs/gal)
Solubility in water	Reacts
Solubility in ketones	: Soluble
Solubility in aromatic hydrocarbons	: Soluble
Solubility in esters	: Soluble

Segregation coefficient (n-octanol/water)

Hexamethylene diisocyanate oligomers:
Not applicable (reacts with water and/or octanol).

Viscosity, Dynamic 25 °C (77 °F)

1400 mPas

9.2. Other information

No further relevant information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No further relevant information available

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

- alcohols.
- amines.
- bases.
- protic solvents.
- strong oxidizing agents.
- water and aqueous solutions.

with a great release of CO₂, and hence a risk of pressure build-up in confined areas, and forms an insoluble solid precipitate

10.4. Conditions to avoid

- extreme heat
- open flame
- moisture
- static electricity
- ignition sources

10.5. Incompatible materials:

No further relevant information available.

10.6. Hazardous decomposition products:

- Toxic gases
- Carbon dioxide
- Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

LD/LC50 values:

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.

28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate		
Oral	LD0	> 2500 mg/kg (rat) (OECD 423 (female))
Dermal	LD0	> 2000 mg/kg (rabbit) (OECD 402) > 2000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4h	0.390 mg/l (rat) (OECD 403 (female))

98-94-2 cyclohexyldimethylamine		
Oral	LD50	272 mg/kg (rat)
Dermal	LD50	370 mg/kg (rat) (402 OCDE)
Inhalative	LC50/4h	4.45 mg/l (rat)

822-06-0 hexamethylene-di-isocyanate		
Oral	LD50	746 mg/kg (rat) (OECD 401)
Dermal	LD50	> 7000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4h	0.124 mg/l (rat) (OECD 403)

Primary irritant effect : May cause respiratory irritation.

-Inhalation

28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate		
Inhalative	NOAEC/6h	3 mg/m ³ (rat) ((OECD TG 403) (TRGS))

- **Additional toxicological information**
- **Carcinogenic categories**

OSHA-Ca (Occupational Safety & Health Administration)-Not Listed**11.2. Sensitization:**

No pulmonary sensitisation was observed in guinea pigs after either intradermal injection or inhalation induction with HDI polyisocyanates.

There is no indication from reports in exposed workers that the substance can cause respiratory sensitisation, if the risk management measures are respected.

May cause sensitisation by skin contact.

11.3. Carcinogenicity:

Not considered to be carcinogen.

822-06-0 hexamethylene-di-isocyanate		
Inhalative	NOAEC Carc	0.164 ppm (rat) (OECD 453)

11.4. Mutagenicity: Is not considered genotoxic.

11.5. Reproductive toxicity: Is not considered hazardous to the reproduction.

822-06-0 hexamethylene-di-isocyanate		
Inhalative	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

12.1. Toxicity

· **Aquatic toxicity:**

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)

28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate

ErC50(0-72h) (static)	> 1000 mg/l (Desmodesmus subspicatus) (EU C.3)
LL0/96h	82.8 mg/l (Brachydanio rerio) (EU C.1)

According to the data on the components: Harmful to aquatic organisms tested.

9046-01-9 Polyoxyethylene tridecyl ether phosphate

EC50	10 mg/l (Danio rerio)
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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)	\geq 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)

12.2. Persistence and degradability

Hexamethylene diisocyanate oligomers : Not biodegradable.

Polyoxyethylene tridecyl ether phosphate. 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)

12.3. 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)

28182-81-2 Hexamethylene diisocyanate oligomers, Isocyanurate	
822-06-0 hexamethylene-di-isocyanate	
Log Koc	5861 (.) (PCKOC v1.66)

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

Ecotoxic 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

13.1. Waste treatment methods

Waste treatment methods recommendations :

- Discharging waste into rivers and drains is forbidden.
- Incinerate at a licensed installation.
- Disposal must be made according to federal, state and local regulations.

Waste disposal key :

- EPA Hazardous Waste - NO

Uncleaned packagings: Contaminated packaging materials must be disposed of in the same manner as the product.

Recommendation:

- Allow it to drain thoroughly.
- Thoroughly emptied and clean packagings may be recycled. Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

UN Number NOT regulated.

DOT, ADR, ADN, IMDG, IATA

—

Proper shipping name (Technical Name) NOT regulated.

—

Transport hazard class(es)

DOT, ADN

—

Class

ADR, IMDG,

—

Class

Not regulated.

Packing group

—

DOT, ADR, IMDG, IATA

Environmental hazards:

Marine pollutant (environmentally hazardous mark):

No

Special precautions for user Not applicable.

Transport in bulk according to Annex II of Not applicable.

MARPOL73/78 and the IBC Code

Transport/Additional information:

The above regulatory prescriptions are those valid on the date of publication of this sheet. However, given the possible evolution of transport regulations for hazardous materials and in the event of the SDS in your possession dating back more than 12 months, it is advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1. National legislation

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

Sara Section 312

Fire Hazard - NO

Reactive Hazard-NO

Release of Pressure - NO

Acute Health Hazard - YES

Chronic Health Hazard - YES

15.2. Section 355 (extremely hazardous substances):

None of the ingredient is listed.

15.3. 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.

15.4. Inventory status:

Australian Inventory of Chemical Substances (AICS): All ingredients are listed.

Canadian Domestic Substance List (DSL): All ingredients are listed.

Canadian Non Domestic Substance List (NDSL): Not listed.

Chinese Chemical Inventory of Existing Chemical Substances (CIECS): All ingredients are listed.

European EINECS/ELINCS Listing: All ingredients are listed.

Japan Existing and New chemical Substance List (ENCS): All ingredients are listed.

Korea Existing Chemical Inventory (KECI): All ingredients are listed.

Philippines Inventory of Chemicals and Chemical Substances (PICCS): All ingredients are listed.

TSCA listing: All ingredients are listed.

15.5. 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

Indication of changes: Not applicable

Revision date: Not applicable

- *This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*