

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

## 1 Identification

- **Product identifier**
- **Trade name:** Endurmo Vinyl Topcoat - HIGH GLOSS Part B
- **Other means of identification:** Hardener

### Recommended use and restriction on use

- **Recommended use:** Hardening agent/ Curing agent
- **Restrictions on use:** No relevant information available.

### Details of the supplier of the Safety Data Sheet

- **Manufacturer/Supplier:**  
Endurmo  
7S608 Plaifield/Naperville Road  
Naperville, IL 60540  
Phone: (331)214-1655

- **Emergency telephone number:**  
KPA DOT & Hazmat  
(888)429-6287 or +1(352)323-3500

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Acute Tox. 4 H332 Harmful if inhaled.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.

### Label elements

- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **Signal word:** Warning
- **Hazard-determining components of labeling:**  
Hexane, 1,6-diisocyanato-, homopolymer  
HDI oligomers, isocyanurate
- **Hazard statements:**  
H332 Harmful if inhaled.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.
- **Precautionary statements:**  
P261 Avoid breathing mist, vapors, or spray.  
P280 Wear protective gloves and eye protection.  
P271 Use only outdoors or in a well-ventilated area.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

(Cont'd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 1)

P363 Wash contaminated clothing before reuse.  
 P312 Call a POISON CENTER/doctor if you feel unwell.  
 P405 Store locked up.  
 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** There are no other hazards not otherwise classified that have been identified.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Dangerous components:**

28182-81-2	Hexane, 1,6-diisocyanato-, homopolymer ⚠ Acute Tox. 4, H332; STOT SE 3, H335	50-100%
28182-81-2	HDI oligomers, isocyanurate ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	10-25%

· **Additional information:**

For the wording of the listed Hazard Statements refer to section 16.

For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

· **Notable Trace Components (≤ 0,1% w/w)**

822-06-0	hexamethylene-di-isocyanate ⚠ Acute Tox. 1, H330 ⚠ Resp. Sens. 1, H334 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335
----------	--

### 4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

· **After inhalation:**

Supply fresh air; consult doctor in case of complaints.

Provide oxygen treatment if affected person has difficulty breathing.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After skin contact:**

Do not pull solidified product away from the skin.

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Immediately remove contact lenses if possible.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Cont'd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 2)

- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**  
Asthma attacks  
Slight irritant effect on eyes.  
May cause respiratory irritation.  
Slight irritant effect on skin and mucous membranes.  
Gastric or intestinal disorders when ingested.  
Coughing  
Breathing difficulty  
Allergic reactions
- **Danger:**  
Harmful if inhaled.  
Danger of impaired breathing.  
Danger of disturbed cardiac rhythm.
- **Indication of any immediate medical attention and special treatment needed:**  
Contains isocyanates. May produce an allergic reaction.  
If necessary oxygen respiration treatment.  
Monitor circulation, possible shock treatment.  
Treat skin and mucous membrane with antihistamine and corticoid preparations.  
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.  
Contains Hexane, 1,6-diisocyanato-, homopolymer, HDI oligomers, isocyanurate. May produce an allergic reaction.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.  
Wear fully protective suit.
- **Additional information:** Evacuate area and fight fire from from the upwind side.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Keep people at a distance and stay upwind.  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

(Cont'd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 3)

- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Pick up mechanically.
- **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.

## 7 Handling and storage

- **Handling**
- **Precautions for safe handling:**  
Avoid splashes or spray in enclosed areas.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Keep receptacles tightly sealed.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Store only in the original receptacle.  
Provide ventilation for receptacles.  
Avoid storage near extreme heat, ignition sources or open flame.  
Protect from humidity and water.
- **Information about storage in one common storage facility:**  
Do not store together with alkalis (caustic solutions).  
Store away from oxidizing agents.  
Store away from foodstuffs.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **Specific end use(s):** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.

(Cont'd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 4)

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:**



Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:**

Contact lenses should not be worn.



Safety glasses

· **Body protection:**

Protective work clothing

Full head, face and neck protection

· **Limitation and supervision of exposure into the environment**

No relevant information available.

· **Risk management measures** See Section 7 for additional information.

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

· **Form:** Liquid

· **Color:** Light yellow

· **Odor:** Mild

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** 170 °C (338 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self-igniting.

(Cont'd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 5)

· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20 °C (68 °F):</b>	1.15 g/cm <sup>3</sup> (9.597 lbs/gal)
· <b>Relative density:</b>	Not determined.
· <b>Vapor density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>VOC (California):</b>	0.219 g/L
· <b>Other information</b>	No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition, do not overheat.
- **Possibility of hazardous reactions:**
  - Reacts with water.
  - Reacts with amines.
  - Reacts with strong alkali.
  - Reacts with alcohols.
  - Exothermic polymerization.
  - Toxic fumes may be released if heated above the decomposition point.
  - Reacts with humid air.
- **Conditions to avoid:**
  - Store away from oxidizing agents.
  - Moisture.
  - Keep away from heat and direct sunlight.
- **Incompatible materials:** No relevant information available.
- **Hazardous decomposition products:**
  - Carbon monoxide and carbon dioxide
  - Nitrogen oxides
  - Isocyanate
  - Hydrogen cyanide (prussic acid)

(Cont'd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B

(Cont'd. of page 6)

## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**28182-81-2 Hexane, 1,6-diisocyanato-, homopolymer**

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

**28182-81-2 HDI oligomers, isocyanurate**

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

- **Primary irritant effect:**

- **On the skin:** Slight irritant effect on skin and mucous membranes.

- **On the eye:** Slight irritant effect on eyes.

- **Sensitization:**

Sensitizing effect through inhalation is possible with prolonged exposure.

Sensitization possible through skin contact.

- **Carcinogenic categories**

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

None of the ingredients are listed.

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

- **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):**

Harmful if inhaled.

May cause respiratory irritation.

- **Repeated dose toxicity:** Repeated exposures may result in skin and/or respiratory sensitivity.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

- **Carcinogenicity:** Based on available data, the classification criteria are not met.

- **Reproductive toxicity:** Based on available data, the classification criteria are not met.

- **STOT-single exposure:** May cause respiratory irritation.

- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

- **Aspiration hazard:** Based on available data, the classification criteria are not met.

(Cont'd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B

(Cont'd. of page 7)

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Behavior in environmental systems**
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Ecotoxicological effects:**
- **Remark:** The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.
- **Additional ecological information**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Other adverse effects:** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.  
Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |                |
|--|----------------|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· DOT, ADR, IMDG, IATA</li> </ul>                                   | Not regulated. |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· DOT, ADR, IMDG, IATA</li> </ul>                     | Not regulated. |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· DOT, ADR, IMDG, IATA</li> <li>· Class</li> </ul> | Not regulated. |

(Cont'd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B

(Cont'd. of page 8)

- |  |                 |
|--|-----------------|
| <b>· Packing group</b>   |                 |
| <b>· DOT, ADR, IMDG, IATA</b>  | Not regulated.  |
| <b>· Environmental hazards</b>   |                 |
| <b>· Marine pollutant:</b>   | No              |
| <b>· Special precautions for user</b>  | Not applicable. |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

<b>· Section 302 (extremely hazardous substances):</b>	
--	--

None of the ingredients are listed.

<b>· Section 304 (emergency release notification):</b>	
--	--

None of the ingredients are listed.

<b>· Sections 311/312 (hazardous chemical threshold planning quantity in pounds):</b>	
---	--

None of the ingredients are listed.

<b>· Section 355 (extremely hazardous substances):</b>	
--	--

None of the ingredients are listed.

<b>· Section 313 (Specific toxic chemical listings):</b>	
--	--

None of the ingredients are listed.

<b>· TSCA (Toxic Substances Control Act)</b>	
--	--

All ingredients are listed.

<b>· Proposition 65 (California)</b>	
--------------------------------------	--

<b>· Chemicals known to cause cancer:</b>	
---	--

None of the ingredients are listed.

<b>· Chemicals known to cause reproductive toxicity for females:</b>	
--	--

None of the ingredients are listed.

<b>· Chemicals known to cause reproductive toxicity for males:</b>	
--	--

None of the ingredients are listed.

<b>· Chemicals known to cause developmental toxicity:</b>	
---	--

None of the ingredients are listed.

<b>· Carcinogenic categories</b>	
----------------------------------	--

<b>· EPA (Environmental Protection Agency):</b>	
---	--

None of the ingredients are listed.

(Cont'd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 9)

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

None of the ingredients are listed.

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

None of the ingredients are listed.

· **Canadian substance listings**

· **Canadian Domestic Substances List (DSL):**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%):**

None of the ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 1%):**

None of the ingredients are listed.

## 16 Other information

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.

· **Date of preparation / last revision** 04/01/2023

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

(Cont'd. on page 11)

**Safety Data Sheet**  
acc. to OSHA HCS (29 CFR 1910.1200)

Revision: 04/01/2023

**Trade name: Endurmo Vinyl Topcoat - HIGH GLOSS Part B**

(Cont'd. of page 10)

Website: [www.chemtelinc.com](http://www.chemtelinc.com)