

# SAFETY DATA SHEET

Date of issue/Date of revision

: 20 December 2023

Version

: 6.03



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

### 1.1 Product identifier

**Product name** : Sigmadur 500 US Hardener Clear

**Product code** : 00333330

**Other means of identification**

Not available.

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

**Product use** : Professional applications.

**Use of the substance/  
mixture** : Coating.

**Uses advised against** : Product is not intended, labelled or packaged for consumer use.

### 1.3 Details of the supplier of the safety data sheet

Sigma Paint Saudi Arabia Ltd.  
PO Box 7509  
Dammam 31472  
Saudi Arabia  
Tel: 00966 138 47 31 00  
Fax: 00966 138 47 17 34

**e-mail address of person  
responsible for this SDS** : ndpic@sfga.gov.sa

**1.4 Emergency telephone  
number** : 00966 138473100 extn 1001

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Flam. Liq. 3, H226  
Acute Tox. 4, H332  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
STOT SE 3, H335  
STOT SE 3, H336  
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmatdur 500 US Hardener Clear

## SECTION 2: Hazards identification

Hazard pictograms

:



Signal word

: Warning

Hazard statements

: Flammable liquid and vapour.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Harmful if inhaled.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Harmful to aquatic life with long lasting effects.

### Precautionary statements

Prevention

: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.

Response

: IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

Storage

: Store in a well-ventilated place. Keep container tightly closed.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.  
P280, P210, P273, P304 + P312, P403 + P233, P501

Hazardous ingredients

: Hexamethylene diisocyanate, oligomers (isocyanurate type)  
butanone  
hexamethylene-di-isocyanate

Supplemental label elements

: Contains isocyanates. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: As from August 24 2023 adequate training is required before industrial or professional use.

### Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

Tactile warning of danger

: Not applicable.

### 2.3 Other hazards

Product meets the criteria for PBT or vPvB

: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

: Prolonged or repeated contact may dry skin and cause irritation.

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Hexamethylene diisocyanate, oligomers (isocyanurate type)	REACH #: 01-2119485796-17 EC: 500-060-2 CAS: 28182-81-2	≥50 - ≤75	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1] [2]
butanone	REACH #: 01-2119457290-43 EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3	≥25 - ≤50	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥1.0 - ≤5.0	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	-	[1] [2]
Hydrocarbons, C9, aromatics > 0.1% cumene	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 64742-95-6	≥1.0 - ≤5.0	Flam. Liq. 3, H226 Carc. 1B, H350 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	Carc. 1B, H350: C ≥ 10% EUH066: C ≥ 20%	[1]
hexamethylene-di-isocyanate	REACH #: 01-2119457571-37 EC: 212-485-8 CAS: 822-06-0 Index: 615-011-00-1	≤0.30	Acute Tox. 4, H302 Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335  See Section 16 for the full text of the H statements declared above.	ATE [Oral] = 710 mg/kg ATE [Inhalation (vapours)] = 0.151 mg/l Resp. Sens. 1, H334: C ≥ 0.5% Skin Sens. 1, H317: C ≥ 0.5%	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

#### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

**SUB codes represent substances without registered CAS Numbers.**

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
Cyanate and isocyanate.  
hydrogen cyanide

### 5.3 Advice for firefighters

**Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 6.3 Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

## SECTION 6: Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- Special provisions** : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878

Code : 00333330

Date of issue/Date of revision : 20 December 2023

Sigmatdur 500 US Hardener Clear

SECTION 7: Handling and storage

Precautions should be taken to minimise exposure to atmospheric humidity or water. CO<sub>2</sub> will be formed, which, in closed containers, could result in pressurisation.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
butanone	<b>Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016).</b> STEL: 885 mg/m <sup>3</sup> 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m <sup>3</sup> 8 hours. TWA: 200 ppm 8 hours. <b>Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006).</b> STEL: 300 ppm 15 minutes. TWA: 590 mg/m <sup>3</sup> 8 hours. STEL: 885 mg/m <sup>3</sup> 15 minutes. TWA: 200 ppm 8 hours. <b>ACGIH TLV (United States, 1/2023). Notes: Substances for which there is a Biological Exposure Index or Indices</b> STEL: 885 mg/m <sup>3</sup> 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m <sup>3</sup> 8 hours. TWA: 200 ppm 8 hours.
n-butyl acetate	<b>Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016).</b> STEL: 950 mg/m <sup>3</sup> 15 minutes. STEL: 200 ppm 15 minutes. TWA: 713 mg/m <sup>3</sup> 8 hours. TWA: 150 ppm 8 hours. <b>ACGIH TLV (United States, 1/2023). [Butyl acetates all isomers]</b> STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.
1,2,4-trimethylbenzene	<b>Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016). [trimethyl benzene (mixed isomers)]</b> TWA: 123 mg/m <sup>3</sup> 8 hours. TWA: 25 ppm 8 hours. <b>ACGIH TLV (United States, 1/2023).</b> TWA: 10 ppm 8 hours.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination

English (GB)

United Arab Emirates

7/16



Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

of hazardous substances will also be required.

## 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Chemical splash goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

**Gloves** : butyl rubber

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator conforming to EN140. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Mask type: full-face mask half-face mask Filter type: organic vapour filter (Type A) particulate filter P3 Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

**Restrictions on use** : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.



Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmatdur 500 US Hardener Clear

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- Melting point/freezing point** : May start to solidify at the following temperature: -51.3 to -28.4°C (-60.3 to -19.1°F)  
This is based on data for the following ingredient: Hexamethylene diisocyanate, oligomers (isocyanurate type). Weighted average: -56.88°C (-70.4°F)

**Initial boiling point and boiling range** : >37.78°C

**Flammability** : Not available.

**Upper/lower flammability or explosive limits** : Greatest known range: Lower: 1.8% Upper: 11.5% (butanone)

**Flash point** : Closed cup: 26.67°C

<b>Auto-ignition temperature</b>	<b>Ingredient name</b>	<b>°C</b>	<b>°F</b>	<b>Method</b>
	butanone	404	759.2	

**Decomposition temperature** : Stable under recommended storage and handling conditions (see Section 7).

**pH** : Not applicable. insoluble in water.

**Viscosity** : Kinematic (40°C): >21 mm<sup>2</sup>/s

**Solubility(ies)** :

Media	Result
cold water	Not soluble

**Water Solubility at room temperature** : 8.3 g/l

**Partition coefficient: n-octanol/ water** : Not applicable.

**Vapour pressure** : 8.5 kPa (63.7 mm Hg)

**Evaporation rate** : 6.25 (butyl acetate = 1)

**Relative density** : 1.01

**Vapour density** : Highest known value: 4.1 (Air = 1) (1,2,4-trimethylbenzene). Weighted average: 2.61 (Air = 1)

**Explosive properties** : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.

**Oxidising properties** : Product does not present an oxidizing hazard.

#### Particle characteristics

**Median particle size** : Not applicable.

### 9.2 Other information

No additional information.

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : In a fire, hazardous decomposition products may be produced.  
Refer to protective measures listed in sections 7 and 8.

**10.5 Incompatible materials** : Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water.  
Uncontrolled exothermic reactions occur with amines and alcohols.

**10.6 Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials:  
Cyanate and isocyanate. carbon oxides nitrogen oxides hydrogen cyanide

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene diisocyanate, oligomers (isocyanurate type)	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2500 mg/kg	-
butanone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
n-butyl acetate	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	2000 ppm	4 hours
Hydrocarbons, C9, aromatics > 0.1% cumene	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
	LD50 Dermal	Rabbit	>3160 mg/kg	-
	LD50 Oral	Rat - Female	3492 mg/kg	-
hexamethylene-di-isocyanate	LC50 Inhalation Dusts and mists	Rat	124 mg/m <sup>3</sup>	4 hours
	LC50 Inhalation Vapour	Rat	151 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	0.57 g/kg	-
	LD50 Oral	Rat	0.71 g/kg	-

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Irritation/Corrosion

##### **Conclusion/Summary**

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Sensitisation

##### **Conclusion/Summary**

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Mutagenicity

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmatdur 500 US Hardener Clear

## SECTION 11: Toxicological information

**Conclusion/Summary** : There are no data available on the mixture itself.

### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Hexamethylene diisocyanate, oligomers (isocyanurate type)	Category 3	-	Respiratory tract irritation
butanone	Category 3	-	Narcotic effects
n-butyl acetate	Category 3	-	Narcotic effects
Hydrocarbons, C9, aromatics > 0.1% cumene	Category 3	-	Respiratory tract irritation
	Category 3	-	Narcotic effects
hexamethylene-di-isocyanate	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C9, aromatics > 0.1% cumene	ASPIRATION HAZARD - Category 1

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

**Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

**Ingestion** : Can cause central nervous system (CNS) depression.

**Skin contact** : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

**Eye contact** : Causes serious eye irritation.

### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness

**Ingestion** : No specific data.

**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Code	: 00333330	Date of issue/Date of revision	: 20 December 2023
Sigmadur 500 US Hardener Clear			

SECTION 11: Toxicological information

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Repeated exposure may lead to permanent respiratory disability. Moisture-sensitive material. Avoid contact with skin and clothing.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers (isocyanurate type)	Acute EC50 >1000 mg/l	Algae - <i>scenedesmus subspicatus</i>	72 hours
	Acute EC50 >100 mg/l	Daphnia - <i>daphnia magna</i>	48 hours
	Acute LC50 >100 mg/l	Fish - <i>Danio rerio (zebra fish)</i>	96 hours
n-butyl acetate	Acute LC50 18 mg/l	Fish	96 hours
Hydrocarbons, C9, aromatics > 0.1% cumene	EC50 3.2 mg/l	Daphnia	48 hours
	LC50 9.2 mg/l	Fish	96 hours

Conclusion/Summary : There are no data available on the mixture itself.

12.2 Persistence and degradability

Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmadur 500 US Hardener Clear

## SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	TEPA and OECD 301D	83 % - Readily - 28 days	-	-
Hydrocarbons, C9, aromatics > 0.1% cumene	-	75 % - Readily - 28 days	-	-

**Conclusion/Summary** : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers (isocyanurate type)	-	-	Not readily
n-butyl acetate	-	-	Readily
Hydrocarbons, C9, aromatics > 0.1% cumene	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Hexamethylene diisocyanate, oligomers (isocyanurate type)	5.54	3.2	Low
butanone	0.3	-	Low
n-butyl acetate	2.3	-	Low
hexamethylene-di-isocyanate	0.02	-	Low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Not available.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

[European waste catalogue \(EWC\)](#)

**Code** : 00333330 **Date of issue/Date of revision** : 20 December 2023  
 Sigmadur 500 US Hardener Clear

## SECTION 13: Disposal considerations

Waste code	Waste designation
08 01 99	wastes not otherwise specified

### Packaging

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
<b>14.1 UN number or ID number</b>	UN1263	UN1263	UN1263
<b>14.2 UN proper shipping name</b>	PAINT	PAINT	PAINT
<b>14.3 Transport hazard class(es)</b>	3	3	3
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>	No.	No.	No.
<b>Marine pollutant substances</b>	Not applicable.	Not applicable.	Not applicable.

### Additional information

- ADR/RID** : None identified.  
**Tunnel code** : (D/E)  
**IMDG** : None identified.  
**IATA** : None identified.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not applicable.



Code : 00333330

Date of issue/Date of revision

: 20 December 2023

Sigmatdur 500 US Hardener Clear

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : As from August 24 2023 adequate training is required before industrial or professional use.

#### Other national and international regulations.

**Explosive precursors** : Not applicable.

#### Ozone depleting substances (1005/2009/EU)

Not listed.

**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

#### **Abbreviations and acronyms**

: ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number

#### **Full text of abbreviated H statements**

: H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H332 Harmful if inhaled.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.  
H350 May cause cancer.  
H411 Toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.  
EUH066 Repeated exposure may cause skin dryness or cracking.

#### **Full text of classifications [CLP/GHS]**

: Acute Tox. 1 ACUTE TOXICITY - Category 1  
Acute Tox. 4 ACUTE TOXICITY - Category 4  
Aquatic Chronic 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2  
Aquatic Chronic 3 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3  
Asp. Tox. 1 ASPIRATION HAZARD - Category 1  
Carc. 1B CARCINOGENICITY - Category 1B  
Eye Irrit. 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2  
Flam. Liq. 2 FLAMMABLE LIQUIDS - Category 2

Code	: 00333330	Date of issue/Date of revision	: 20 December 2023
Sigmadur 500 US Hardener Clear			

SECTION 16: Other information

Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

History

Date of issue/ Date of revision	: 20 December 2023
Date of previous issue	: 21 October 2023
Prepared by	: EHS
Version	: 6.03

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.