

## SAFETY DATA SHEET

SDS: 0063363  
Date Prepared: 23-May-2023

Version: 3  
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### 1. IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

**Product Name:** NUTHANE® HARDENER  
**Product Description:** Mixture of MDI and MDI polyurethane prepolymer  
**Intended/Recommended Use:** Recommended for Industrial and/or Professional use only  
**Uses advised against:** Not available

**Allnex New Zealand Ltd.**  
14 Industry Road, Penrose, Auckland 1061, New Zealand

**For Product and all Non-Emergency Information call** +64 (09) 583 6500 (business hours only) or contact us at <http://www.allnex.com/contact>

**EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:**

+64 0800 803 002 (Allnex New Zealand)  
See Section 16 for Emergency phone numbers for other regions.

### 2. HAZARDS IDENTIFICATION

#### Regulatory information

Classified as Hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Notice 2020

**EPA New Zealand HSNO approval code or group standard:** HSR002512

Group Standard: Additives, Process Chemicals and Raw Materials (Carcinogenic) Group Standard 2020

#### GHS Classification

Carcinogenicity Category 2  
Acute Toxicity (Inhalation) Category 4  
Specific Target Organ Toxicity - Repeated Exposure Category 2  
Specific Target Organ Toxicity - Single Exposure Category 3  
Skin Irritation Category 2  
Serious Eye Damage / Eye Irritation Category 2  
Respiratory Sensitizer Category 1  
Skin Sensitizer Category 1B

#### LABEL ELEMENTS



**Signal Word**  
Danger

**Hazard Statements**

Suspected of causing cancer

Harmful if inhaled

May cause damage to organs through prolonged or repeated exposure

May cause respiratory irritation

Causes skin irritation

Causes serious eye irritation

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

**Precautionary Statements****Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace.

**Response**

IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (see supplemental first aid instructions on this label). Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention.

**Storage**

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

**Disposal**

Dispose of contents/container in accordance with local and national regulations.

**OTHER HAZARDS**

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**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

Substance or Mixture?:	Mixture
<b>Component / CAS No.</b>	<b>%</b>
Oligomer of MDI (NLP) 9016-87-9	40-50
Methylenediphenyl diisocyanate (MDI) 101-68-8	40-50
2,4`-Diphenylmethane Diisocyanate (MDI) - 2,4`-Diisocyanatodiphenylmethane 5873-54-1	5-10

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**4. FIRST-AID MEASURES****Emergency telephone number**

Poisons Information Centre, New Zealand: 0800 764 766

**First-aid Measures**

**Inhalation:**

MAY CAUSE ALLERGIC RESPIRATORY REACTION. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.

**Skin Contact:**

Wash immediately with plenty of water and soap. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Get medical attention if irritation develops and persists. Wash off immediately with soap and plenty of water for at least 15 minutes.

**Eye Contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**Ingestion:**

May produce an allergic reaction. If an allergic reaction occurs, stop use and seek medical help right away. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention. Call a doctor.

**Most Important Symptoms and Effects, Acute and Delayed**

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. Burning sensation.

**Immediate Medical Attention and Special Treatment****Notes To Physician:**

May cause sensitisation in susceptible persons. Treat symptomatically.

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## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media:**

full water jet.

**Protective Equipment:**

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

**Special Hazards:**

In case of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapours. Product is or contains a sensitiser. May cause sensitization by skin contact.

**HAZCHEM Code:** Not applicable

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Methods For Containment:**

Prevent further leakage or spillage if safe to do so.

**Methods For Cleaning Up:**

Take up mechanically, placing in appropriate containers for disposal. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

**Environmental Precautions:**

None known.

**References to other sections:**

See Sections 7, 8 and 13 for additional information.

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## 7. HANDLING AND STORAGE

**Handling**

**Precautions:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace.

**Special Handling Statements:** Handle in accordance with good industrial hygiene and safety practices. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes without delay. Take off contaminated clothing and wash it before reuse. Persons with a pre-existing, non-specific bronchial hyper-reactivity can respond to concentrations below the exposure limits with symptoms like irritation of the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction), as well as asthma attack or asthma-like symptoms. Individuals previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Avoid excessive heat, contamination or exposure to direct sunlight to prevent polymerization.

**Storage**

Keep container tightly closed and dry in a cool, well-ventilated place. Store locked up. Keep out of reach of children.

**Storage Temperature:** Store at 20 - 25 °C 68 - 77 °F

**Reason:** Quality.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**CONTROL PARAMETERS - Limits****Methylenediphenyl diisocyanate (MDI) 101-68-8**

New Zealand: 0.02 mg/m<sup>3</sup> dust, mist or vapours (TWA)  
0.07 mg/m<sup>3</sup> (STEL)

ACGIH (TLV): 0.005 ppm (TWA)

**2,4'-Diphenylmethane Diisocyanate (MDI) - 2,4'-Diisocyanatodiphenylmethane 5873-54-1**

New Zealand: 0.02 mg/m<sup>3</sup> NCO dust, mist or vapours (TWA)  
0.07 mg/m<sup>3</sup> NCO dust, mist or vapours (STEL)

**Biological Exposure Limit(s)****Methylenediphenyl diisocyanate (MDI) 101-68-8**

Biological Exposure Indices 10 µg/g creatinine (urine - end of shift or end of work week)

**Engineering Measures:**

Minimize exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

**Respiratory Protection:**

Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. Where exposures are below the established exposure limit, no respiratory protection is required. Where respiratory protection is required, use a respirator selected and in accordance with AS/NZS 1715 and AS/NZS 1716.

**Eye protection:**

Tight sealing safety goggles. Wear safety glasses with side shields (or goggles). Face protection shield.

**Skin Protection:**

Gloves made of plastic or rubber. Wear protective Neoprene™ gloves. Wear rubber gloves. Wear suitable protective clothing. Apron.

**Hand protection:**

Wear protective gloves. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

**Additional Advice:**

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and after work. When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	liquid viscous
<b>Colour:</b>	brownish-red
<b>Odor:</b>	slight
<b>Odor Threshold:</b>	See Section 8 for exposure limits.
<b>Melting Point:</b>	Not available
<b>Boiling Point:</b>	Not applicable
<b>Flammability:</b>	Not available
<b>Flammable Limits (% By Vol):</b>	Not available
<b>Flash point:</b>	220 °C closed cup
<b>Autoignition temperature:</b>	Not available
<b>Decomposition Temperature:</b>	> 300 °C
<b>pH:</b>	Not applicable
<b>Viscosity (Kinematic):</b>	Not applicable
<b>Viscosity (Dynamic):</b>	No information available
<b>Solubility In Water:</b>	Insoluble
<b>Solubility In Solvent:</b>	Not available
<b>Partition coefficient (n-octanol/water):</b>	Not available
<b>Vapor Pressure:</b>	Not available
<b>Specific Gravity/Density:</b>	1.23 g/cm <sup>3</sup>
<b>Vapour density:</b>	Not available
<b>Particle characteristics:</b>	Not applicable

### 9.2 OTHER INFORMATION

#### 9.2.1 Information with regard to physical hazard classes

Not applicable

## 9.2.2 Other safety characteristics

Not applicable

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## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No information available
<b>Stability:</b>	Stable under normal conditions of handling and storage.
<b>Conditions To Avoid:</b>	Protect from heat and direct sunlight. Keep from any possible contact with water. Storage near to reactive materials.
<b>Polymerization:</b>	May occur
<b>Conditions To Avoid:</b>	Avoid contact with acids, free radical initiators.
<b>Materials To Avoid:</b>	Strong oxidizing agents. Strong acids Strong bases
<b>Hazardous Decomposition Products:</b>	Carbon dioxide Carbon monoxide (CO) nitrogen oxides (NOx) HYDROGEN CYANIDE Thermal decomposition can lead to release of irritating and toxic gases and vapours.

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## 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Skin, Eyes, Oral, Respiratory System.

### HEALTH HAZARD INFORMATION

**Acute toxicity - oral:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Acute toxicity - dermal:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Acute toxicity - inhalation:** Harmful if inhaled

**Skin corrosion / irritation:** Causes skin irritation

**Serious eye damage / eye irritation:** Causes serious eye irritation

**Respiratory sensitization:** May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Skin sensitization:** May cause an allergic skin reaction

**Carcinogenicity:** Suspected of causing cancer

**Germ cell mutagenicity:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Reproductive toxicity:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Specific target organ toxicity (single exposure):** May cause respiratory irritation.

**Specific target organ toxicity (repeated exposure):** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

## PRODUCT TOXICITY INFORMATION

### ACUTE TOXICITY DATA

oral	rat	Acute LD50	> 2000	mg/kg
dermal	rabbit	Acute LD50	> 2000	
inhalation	rat	Acute LC50	4 hr	~ 1.50 mg/l (Dust/Mist)
inhalation	rat	Acute LC50	4 hr	~ 11 mg/l (Vapors)

### LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	Skin	Irritating to skin.
Acute Irritation	eye	Irritating to eyes.

### ALLERGIC SENSITIZATION

Sensitization	Skin	Sensitizing
Sensitization	respiratory	Sensitizing

### SUBACUTE/SUBCHRONIC TOXICITY

**Specific target organ toxicity (repeated exposure):** Causes damage to lung and respiratory system through prolonged or repeated exposure by inhalation. .

### GENOTOXICITY

#### Assays for Gene Mutations

Ames Salmonella Assay No data

### CARCINOGENICITY

Contains a known or suspected carcinogen

#### Chronic toxicity

Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

### OTHER INFORMATION

The product toxicity information above has been estimated.

## HAZARDOUS INGREDIENT TOXICITY DATA

Acute overexposure to Methylene-diphenyl diisocyanate (MDI) vapor may cause severe respiratory irritation. Repeated overexposure to low levels may cause respiratory sensitization and allergic reactions. Respiratory sensitization manifests itself as severe breathing difficulty similar to asthma. This reaction may occur 6-24 hours after exposure and at exposure levels below the established permissible limits. Skin exposure to the liquid may cause moderate irritation and allergic skin reactions. It is also an eye irritant. The oral LD50 in the rats is >15.8 g/kg. The dermal LD50 in rabbits is >7.9 g/kg. The 2-hour inhalation LC50 of a dust of monomeric MDI is >400 mg/m<sup>3</sup> (0.20 mg/L/4hr). This material was mutagenic in the Ames test. However, it was negative in a mouse micronucleus assay.

Acute overexposure to 2,4'-Diphenylmethane Diisocyanate (MDI) vapor may cause severe respiratory irritation. Repeated overexposure to low levels may cause respiratory sensitization and allergic reactions. Respiratory sensitization manifests itself as severe breathing difficulty similar to asthma. This reaction may occur 6-24 hours after exposure and at exposure levels below the established permissible limits. Skin exposure to the liquid may cause moderate irritation and allergic skin reactions. It is also an eye irritant. The oral LD50 in the rats is >15.8 g/kg. The dermal LD50 in rabbits is >7.9 g/kg. The 2-hour inhalation LC50 of a dust of monomeric MDI is >400 mg/m<sup>3</sup> (0.20 mg/L/4hr). This material was mutagenic in the Ames test. However, it was negative in a mouse micronucleus assay.

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## 12. ECOLOGICAL INFORMATION

This material is not classified as dangerous for the environment. The ecological assessment for this material is based on an evaluation of its components.

### ECOTOXICITY

Not available

### BIOACCUMULATIVE POTENTIAL

Not available

### PERSISTENCE AND DEGRADABILITY

Not available

### MOBILITY IN SOIL

Not available

### OTHER ADVERSE EFFECTS

### HAZARD TO THE OZONE LAYER

Not available

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## HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Oligomer of MDI (NLP) (9016-87-9)	Not available
Methylenediphenyl diisocyanate (MDI) (101-68-8)	Not available
2,4'-Diphenylmethane Diisocyanate (MDI) - 2,4'-Diisocyanatodiphenylmethane (5873-54-1)	Not available

Component / CAS No.	Toxicity to Water Flea
Oligomer of MDI (NLP) (9016-87-9)	Not available
Methylenediphenyl diisocyanate (MDI) (101-68-8)	Not available
2,4'-Diphenylmethane Diisocyanate (MDI) - 2,4'-Diisocyanatodiphenylmethane (5873-54-1)	Not available

Component / CAS No.	Toxicity to Algae
Oligomer of MDI (NLP) (9016-87-9)	Not available



Methylenediphenyl diisocyanate (MDI) (101-68-8)	Not available
2,4'-Diphenylmethane Diisocyanate (MDI) - 2,4'-Diisocyanatodiphenylmethane (5873-54-1)	Not available

Component / CAS No.	Partition coefficient
Oligomer of MDI (NLP) (9016-87-9)	Not available
Methylenediphenyl diisocyanate (MDI) (101-68-8)	4.51
2,4'-Diphenylmethane Diisocyanate (MDI) - 2,4'-Diisocyanatodiphenylmethane (5873-54-1)	Not available

### 13. DISPOSAL CONSIDERATIONS

#### Waste Treatment Methods

The company encourages the recycle and reuse of products and packaging, where possible and permitted.

#### Product disposal

When recycle or reuse is not possible, the company recommends that our products, especially when classified as hazardous, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

#### Packaging disposal

Handle contaminated packages in the same way as the product itself. Disposal of emptied and cleaned packaging must be made in accordance with applicable local and national regulations.

#### Disposal-relevant information

Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

### 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

#### Road transport

Dangerous Goods? Not applicable/Not regulated  
HAZCHEM Code: Not applicable

#### IMO

Dangerous Goods? Not applicable/Not regulated

#### ICAO / IATA

Dangerous Goods? Not applicable/Not regulated

### 15. REGULATORY INFORMATION

**Safety, health and environmental regulations specific for the product in question**

**Ozone Depleting Substances (Regulation (EC) No 1005/2009):** Not applicable

**Persistent Organic Pollutants (Regulation (EC) No 850/2004):** Not applicable

**EPA New Zealand HSNO approval code or group standard:** HSR002512

Group Standard: Additives, Process Chemicals and Raw Materials (Carcinogenic) Group Standard 2020

## Health and Safety at Work Hazardous Substances Regulations 2017

### Tracking:

This product does not require tracking

### Certified Handler:

This product does not require a certified handler.

**Controlled Substance:** This product does not require a Controlled Substance Licence

## Inventory Information

**New Zealand:** This product is approved or exempt under the Hazardous Substances and New Organisms (HSNO) Act.

**Australia:** All components of this product are included in the Australian Inventory of Industrial Chemicals (AIIC) or are not required to be listed on AIIC.

**United States (USA):** All components of this product are designated as "Active" on the TSCA Inventory or are not required to be listed.

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

**Japan:** One or more components of this product are NOT included on the Japanese (ENCS and/or ISHL) inventories.

**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory. When purchased from Allnex Korea or Chemart distributor this product is compliant with the ARECs (the Act on the Registration and Evaluation, etc. of Chemical Substances). All its components are either excluded, exempt, pre-notified and/or registered. When purchased from another allnex entity, please contact PSRA-KREACH@allnex.com to check the possibility to be covered by our Only Representative.

**Philippines:** All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

**Taiwan:** All components of this product are included in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).

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## 16. OTHER INFORMATION

**Reasons for Issue:** Date update

**Date Prepared:** 23-May-2023

**Date of last significant revision:** 06-Mar-2022

**Emergency phone numbers for other regions**

**Asia Pacific**

Australia: +61 1800 022 037 (Allnex Australia)

China (PRC): +86(0)532 8388 9090 (NRCC)

India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)

Indonesia: 007 803 011 0293 (Carechem 24)

Japan: 0120 015 230 (toll free) (Carechem24)

Korea: +82 2 3479 8401 (Carechem 24)

Malaysia: +60 3 6207 4347 (Carechem 24)

Philippines: +63 2 231 2149 (Carechem 24)

Taiwan: +886 2 8793 3212 (Carechem 24)

Vietnam: +84 8 4458 2388 (Carechem 24)

All Others: +65 3158 1074 (Carechem 24)

**Europe**

+44 (0) 1235 239 670 (Carechem 24)

**Middle East, Africa**

+44 (0) 1235 239 671 (Carechem 24)

**Latin America**

Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)

Chile: +56 2 2582 9336 (Carechem 24)

Mexico and all others: +52-555-004-8763 (Carechem 24)

**Canada and USA**

+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

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Prepared By: Product Sustainability & Regulatory Affairs Department, <http://www.allnex.com/contact>  
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