

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (REACH), Annex II

Version: 2.0/EN  
Product name: HARTDUR 115

Revision date: 05/01/2022  
Printing date: 05/01/2022

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

### 1.1 Product identifier

Product name: HARTDUR 115 (NDI)  
Chemical family: Isocyanate  
Substance name: 1,5-naphthylene diisocyanate  
REACH Reg. No.: No registration number is given yet for this phase-in substance since the transition period for its registration according to Article 23 of REACH has not yet expired.  
Index No.: 615-007-00-X  
CAS No.: 3173-72-6  
EC No.: 221-641-4

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

Identified uses: Hardener for adhesive.  
Uses advised against: No information available.

### 1.3 Details of the supplier of the SDS

Manufacturer: Johnson Fine Chemical Co., Ltd.  
Address: No. 14, 33 Rd., Taichung Industrial Park, Taichung, Taiwan (Zip code: 407021)  
E-mail: jfchem@johnson-fine.com  
Telephone: +886-4-23502588  
Fax: +886-4-23598551

Importer:  
Address:  
E-mail:  
Telephone:

### 1.4 Emergency telephone number

In China: +86-536-5319217  
In Taiwan: +886-4-2350258

## Section 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Acute inhalation toxicity, Category 2; H330  
Skin corrosion/irritation, Category 2; H315  
Serious eye damage/eye irritation, Category 2; H319  
Skin sensitisation, Category 1; H317  
Respiratory sensitisation, Category 1; H334  
Specific target organ toxicity - single, Category 3; H335

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Hazardous to the aquatic environment, Chronic Category 3; H412

**Classification according to Directive 67/548/EEC [DSD]**

T; R23 - Xi; R36/37/38 - R42/43 - R52/53

**Additional information**

Full text of R-phrases and H-statements: see section 16.

## 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 [CLP]**

**Substance name:** 1,5-naphthylene diisocyanate

**Hazard pictogram(s):**



**Signal word:** Danger

**Hazard statements:**

H330: Fatal if inhaled.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H317: May cause an allergic skin reaction.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335: May cause respiratory irritation.

H412: Harmful to aquatic life with long lasting effects.

**Precautionary statements:**

**Prevention:** P260: Do not breathe dust/fume/gas/mist/vapours/spray.

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

P273: Avoid release to the environment.

**Response:** P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

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

P304 + P340 + P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**Supplemental Hazard information (EUH):**

No information available.

**Special rules for supplemental label elements for certain mixtures:**

No information available.

## 2.3 Other hazards

No information available.

## Section 3: Composition/information on ingredients

### 3.1 Substance information

**Substance name:** 1,5-naphthylene diisocyanate;

**REACH registration No.:** Not available.

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Index No.:	615-007-00-X
CAS No.:	3173-72-6
EC No.:	221-641-4
Purity:	100%
Molecular formula:	C <sub>12</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>

## Section 4: First aid measures

### 4.1 Description of first aid measures

#### General notes:

Soiled, soaked clothing and shoes must be immediately removed, decontaminated and disposed of.

#### Following inhalation:

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice if symptoms persist.

#### Following skin contact:

Wash skin with soap and water. Seek medical advice if symptoms persist.

#### Following eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice if symptoms persist.

#### Following ingestion:

Do not induce the patient to vomit. Medical advice is required. Obtain medical attention in all cases.

#### Notes for the doctor:

The product irritates the respiratory tract and may also induce sensitization of the respiratory tract. The treatment of acute irritation or bronchial constriction is principally symptomatic. Depending on the extent of the exposure and the symptoms, prolonged medical treatment may be necessary.

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

Inhalation: Cough. Laboured breathing. Sore throat.

Skin/Eye contact: Redness. Pain.

Ingestion: Abdominal pain. Sore throat.

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

No information available.

## Section 5: Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media: Foam, powder, carbon dioxide.

Unsuitable extinguishing media: High volume water jet.

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

In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapor, and traces of hydrogen

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cyanide is possible.

## 5.3 Advice for fire-fighters

Wear appropriate protective clothing with self-contained breathing apparatus. Evacuate personnel located downwind. Do not let enter contaminated extinguishing water into the soil, groundwater or surface waters.

## Section 6: Accidental release measures

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

Refer to Section 8 for personal protective equipment. Prevention of skin and eye contact. Do not breathe dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

### 6.2 Environmental precautions

Prevent from entering sewer system, surface water or soil.

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

Avoid formation and deposition of dust. Transfer to waste container and do not seal (evolution of CO<sub>2</sub>!). Evacuate and ventilate spill area, dike spill to prevent entry into water systems, wear full protective equipment (including respiratory) during clean-up. Dispose of materials according to the applicable federal, state or local regulations.

### 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 information on disposal.

## Section 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing. Avoid dust formation and ignition sources. Handle and open container with care. Ensure adequate ventilation or exhaust ventilation in the working area. Do not eat, drink or smoke in the workplace. Refer to Section 8 for personal protective equipment.

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

Store in tightly sealed containers in cool dry, well-ventilated conditions.

Store away from heat and ignition sources and incompatible materials.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## Section 8 : Exposure controls/personal protection

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## 8.1 Control parameters

**Occupational exposure limit values:** Germany: OEL = 0.05 mg/m<sup>3</sup> (TWA);

**DNEL (Derived No Effect Level) for workers and the general population:** No DNEL values available.

**PNEC (Predicted No Effect Concentration) values:** No PNEC values available.

## 8.2 Exposure controls

### Appropriate engineering controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s).

### Personal protective equipment:

Eye and face protection: Wear chemical safety goggles with side protection

Skin protection: Suitable materials for safety gloves; EN 374-3:

Polychloroprene - CR: thickness ≥ 0.5mm; breakthrough time ≥ 480min.

Nitrile rubber - NBR: thickness ≥ 0.35mm; breakthrough time ≥ 480min.

Butyl rubber - IIR: thickness ≥ 0.5mm; breakthrough time ≥ 480min.

Fluorinated rubber - FKM: thickness ≥ 0.4mm; breakthrough time ≥ 480min.

Recommendation: contaminated gloves should be disposed of.

Respiratory protection: Particle filter P2 or P3, colour code white

### Environmental exposure controls:

Do not discharge into waterway or sewer systems unless permission has been obtained by the local authority and suitable dilution has been established. Contaminated empty containers must be disposed of as chemical waste. Observe all Federal, State and local laws concerning health and pollution.

### Industrial hygiene:

Before eating, drinking or smoking, wash hands and face thoroughly with soap and water.

## Section 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance:	Solid
Colour:	White or yellowish
Odour:	Aromatic odor
pH:	No data available.
Melting point:	127°C
Boiling point:	167°C at 7 hPa
Relative density:	1.4
Vapour pressure:	0.000008 hPa at 25°C
Partition coefficient (n-octanol/water):	Log Kow = 4.37
Solubility(ies):	Insoluble in water.
Flash point:	192 °C - closed cup
Flammability:	Non flammable.
Ignition temperature:	660°C

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**Explosive properties:**

Not explosive.

**Oxidising properties:**

No oxidising properties.

## 9.2 Other information

No data available.

## Section 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage and handling conditions (see section 7, handling and storage).

### 10.2 Chemical stability

Stable at ambient temperatures.

### 10.3 Possibility of hazardous reactions

Exothermic reaction with amines and alcohols; reacts with water forming CO<sub>2</sub>; in closed containers, risk of bursting owing to increase of pressure.

### 10.4 Conditions to avoid

Incompatible products. Excess heat. Direct sunlight.

### 10.5 Incompatible materials

Strong bases, strong acids, strong oxidizing agents and water.

### 10.6 Hazardous decomposition products

In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapor, and traces of hydrogen cyanide is possible.

## Section 11: Toxicological information

### 11.1 Toxicokinetics, metabolism and distribution

No information available.

### 11.2 Information on toxicological effects

**Acute toxicity:**

Acute oral toxicity: LD<sub>50</sub> ≥ 5000 mg/kg (rat);

Acute inhalation toxicity: LC50 = 0.27 mg/l/4h (dust) (rat);

Acute dermal toxicity: No data available.

**Skin corrosion/irritation:**

Causes skin irritation.

**Serious eye damage/irritation:**

Eyes contact may cause irritation.

**Respiratory or skin sensitization:**

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May cause sensitization by inhalation and skin contact.

## **CMR effects (Carcinogenicity, Mutagenicity and Toxicity for Reproduction):**

No information available.

## **STOT-single exposure and repeated exposure:**

May cause respiratory irritation.

## **Aspiration hazard:**

No information available.

## Section 12: Ecological information

### **12.1 Toxicity**

Acute toxicity to fish: No data available.

Acute toxicity to daphnia: No data available.

Acute toxicity to algae: No data available.

### **12.2 Persistence and degradability**

The substance is not readily degradable.

### **12.3 Bioaccumulative potential**

Log Kow = 4.37; the potential for bio-concentration in aquatic organisms is high.

### **12.4 Mobility in soil**

No information available.

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment information is not available as chemical safety assessment not conducted.

### **12.6 Other adverse effects**

The substance is harmful to aquatic organisms.

## Section 13: Disposal considerations

### **13.1 Waste treatment methods**

Do not allow to escape into waters, wastewater or soil. Bury in a landfill or incinerate in a furnace in accordance with applicable national and local regulations.

## Section 14: Transport information

### **14.1 Land transport (ADR/RID)**

**Proper Shipping Name:** ISOCYANATES, TOXIC, N.O.S. (1,5-naphthylene diisocyanate)

**Class:** 6.1

**UN-No.:** 2206

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Packing group: II  
Hazard label: 6.1

## 14.2 Sea transport (IMDG-Code)

Proper Shipping Name: ISOCYANATES, TOXIC, N.O.S. (1,5-naphthylene diisocyanate)  
Class: 6.1  
UN-No.: 2206  
Packing group: II  
Marine pollutant: No

## 14.3 Air transport (ICAO-TI/IATA-DGR)

Proper Shipping Name: ISOCYANATES, TOXIC, N.O.S. (1,5-naphthylene diisocyanate)  
Class: 6.1  
UN-No.: 2206  
Packing group: II

## 14.4 Additional information

Mark for transport:



## Section 15: Regulatory information

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

#### EU regulation:

Authorisations: No information available.

Restrictions on use: No information available.

EINECS/ELINCS: The substance (3173-72-6) is listed in the EINECS inventory.

DSD (67/548/EEC): The substance (3173-72-6) is listed in the inventory.

#### Other chemical regulation:

USA - TSCA: The substance (3173-72-6) is listed in the inventory.

Canada - DSL: The substance (3173-72-6) is listed in the inventory.

Australia - AICS: The substance (3173-72-6) is listed in the inventory.

Japan - ENCS: The substance (3173-72-6) is listed in the inventory.

Korea - ECL: The substance (3173-72-6) is listed in the inventory.

China - IECSC: The substance (3173-72-6) is listed in the inventory.

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## Section 16: Other information



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## 16.1 Revision Information:

Date of the previous revision: Not applicable.

Date of this revision: 04/05/2020.

Revision summary: The first new SDS

## 16.2 Abbreviations and acronyms

<b>CLP:</b>	EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.
<b>CAS:</b>	Chemical Abstracts Service (division of the American Chemical Society).
<b>EINECS:</b>	European Inventory of Existing Commercial Chemical Substances.
<b>RID:</b>	European Rail Transport.
<b>IMDG:</b>	International Maritime Code for Dangerous Goods.
<b>IATA:</b>	International Air Transport Association.
<b>OSHA:</b>	The United States Occupational Safety and Health Administration.
<b>TSCA:</b>	Toxic Substances Control Act, The American chemical inventory.
<b>DSD:</b>	Dangerous Substance Directive (67/548/EEC).
<b>IECSC:</b>	Inventory of existing chemical substances in China.
<b>DSL:</b>	Domestic Substances List, The Canadian chemical inventory.
<b>ECL:</b>	Existing Chemicals List, the Korean chemical inventory.
<b>AICS:</b>	The Australian Inventory of Chemical Substances.
<b>ENCS:</b>	Japanese Existing and New Chemical Substances.

## 16.3 Key literature references and sources for data

ESIS Dataset: European chemical Substances Information System.

NLM: U.S. National Library of Medicine.

The Chemical Database: The Department of Chemistry of the University of Akron.

ECHA's public database with information on registered substances.

HSDB: Hazardous Substances Data Bank.

## 16.4 Relevant R-phrases and H-statements

### R-phrases (code and full text):

R23: Toxic by inhalation.

R36/37/38: Irritating to eyes, respiratory system and skin.

R42/43: May cause sensitization by inhalation and skin contact.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### H-statements (code and full text):

H330: Fatal if inhaled.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H317: May cause an allergic skin reaction.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335: May cause respiratory irritation.

H412: Harmful to aquatic life with long lasting effects.

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## 16.5 Training advice

Provide adequate information, instruction and training for operators.

## 16.6 Declare to reader

The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. According to REACH Article 31(5), the SDS shall be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market, unless the recipient Member State(s) concerned provide otherwise. It should also be noted that this SDS is applicable to the countries with English as an official language.

----- End of the SDS -----