

Safety Data Sheet

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

Version: 1.4/EN
Product name: HARTDUR C528

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 C528
Chemical family: Isocyanate
Chemical name: Polyisocyanate of TDI
Product description: The product is considered as a preparation under REACH.

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

1.4 Emergency telephone number

In China: +86-536-5319217
In Taiwan: +886-4-23502588

Section 2: Hazards identification

2.1 Classification of the substance or mixture

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

Flammable Liquids, Category 2; H225

Serious eye damage/eye irritation, Category 2; H319

Specific target organ toxicity - single, Category 3; H336

Classification according to Directive 1999/45/EEC [DPD]

F; R11 - Xi; R36 - R66 - R67

Additional information

Full text of R-phrase(s) and H-statement(s): see section 16.

2.2 Label elements

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

Hazardous Ingredient: Ethyl acetate

Hazard pictogram(s):



Signal word: Danger

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Hazard statements: H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

Precautionary statements:

Prevention: P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/bond container and receiving equipment.

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

Response: P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Supplemental Hazard information (EUH):

EUH066: Repeated exposure may cause skin dryness or cracking.

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 Mixture information

Product description: The product is considered as a preparation under REACH.

REACH Reg. No.: Not available.

Ingredient information:

Ingredient name	CAS No.	EC No.	Classification under DSD	Classification under CLP	% (w/w)
Ethyl acetate	141-78-6	205-500-4	F; R11 Xi; R36 R66 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	75
Benzene, 1,3-diisocyanatomethyl-, homopolymer	9017-01-0	Not listed.	Not classified.	Not classified.	25

Full text of R-phrase(s) and H-statement(s): see section 16.

Section 4: First aid measures

4.1 Description of first aid measures

General notes: In all cases of doubt, or when symptoms persist, seek medical attention.

Following inhalation:

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Remove to fresh air. Keep warm and at rest. Get medical attention.

Following skin contact:

Remove contaminated clothing. 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:

Wash out mouth with water. Do not induce vomiting. Keep patient warm and at rest. Get medical attention.

Notes for the doctor:

Treat symptomatically and supportively.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: Cough. Dizziness. Drowsiness. Headache. Nausea. Sore throat. Unconsciousness. Weakness.

Skin/Eye contact: Redness. Pain. Dry skin.

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: Alcohol-resistant foam, dry chemical powder, carbon dioxide.

Unsuitable extinguishing media: No information available.

5.2 Special hazards arising from the substance or mixture

Highly flammable liquid. Vapours may form explosive mixtures with air. Vapour may cause flash fires. Fire may produce irritating, corrosive and/or toxic gases.

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. Follow fire-fighting measures. Evacuate personnel to safe areas.

6.2 Environmental precautions

Eliminate sources of ignition. Keep away from drains, water and soil.

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6.3 Methods and material for containment and cleaning up

Evacuate danger area! Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Personal protection: complete protective clothing including self-contained breathing apparatus.

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

Eliminate sources of ignition. Only use in well ventilated areas. Keep container tightly closed when not in use. Provide emergency eye washing and shower facilities. Take precautions against static discharge by earth and bonding all containers and equipment before transferring material. Use explosion proof electrical (ventilating, lighting and material handling) equipment. Refer to Section 8 for personal protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Storage area should be cool, dry and away from sources of ignition. Keep away from direct sunlight. Keep in a well-ventilated place.

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

8.1 Control parameters

Occupational exposure limit values: EU agreed limit: 200ppm (8h - 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:

Use local exhaust ventilation if concentrations in air could exceed occupational exposure standard.

Personal protective equipment:

Eye and face protection: Protective goggles with side-shields.

Skin protection: Gloves made from butyl rubber (breakthrough times > 480 minutes), nitrile rubber (breakthrough times > 480 minutes). Rubber boots.

Respiratory protection: Use positive pressure breathing mask if concentrations in air could exceed

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occupational exposure standard.

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:	Liquid
Colour:	Colourless
Odour:	Not determined
pH:	No data available.
Melting point:	-83°C
Boiling point:	179°F (82°C) at 760 mmHg
Specific gravity:	1.0 g/cm ³ at 68°F (20°C)
Vapour pressure:	0.00003mmHg Tris (4-Isocyanatophenyl) Thiophosphate
Partition coefficient (n-octanol/water):	No data available.
Solubility(ies):	Insoluble in water. Reacts slowly with water to liberate CO ₂ .
Flash point:	50.0°F (7.2°C)
Flammability:	Highly flammable.
Auto-ignition temperature:	860°F (460°C)
Explosive properties:	1.1% - 2.2% Ethyl Acetate
Oxidising properties:	No oxidising properties.
Viscosity:	Approx. 10 sec flow time at 68°F (20°C)

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 under normal conditions. On storage, it is slowly decomposed by water.

10.3 Possibility of hazardous reactions

Hazardous polymerization may occur if in contact with moisture or other materials which react with isocyanates.

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10.4 Conditions to avoid

Incompatible products. Excess heat. Direct sunlight. Sources of ignition.

10.5 Incompatible materials

Strong oxidizing agents, acids, alkalis.

10.6 Hazardous decomposition products

Oxides of carbon on combustion.

Section 11: Toxicological information

11.1 Toxicokinetics, metabolism and distribution

No information available.

11.2 Information on toxicological effects

Acute toxicity:

Ethyl acetate:	Acute oral toxicity:	LD ₅₀ = 4934 mg/kg (rat);
	Acute inhalation toxicity:	LC ₅₀ = 200 mg/l/h (rat);
	Acute dermal toxicity:	LD ₅₀ > 20 mL/kg (rabbit);

Skin corrosion/irritation:

Ethyl acetate: Skin irritation / corrosion: not irritating.

Serious eye damage/irritation:

Ethyl acetate: Eye irritation: Causes serious eye irritation.

Respiratory or skin sensitization:

Ethyl acetate: Guinea pig maximization test: negative.

There is no data available on respiratory sensitising properties.

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

No information available.

STOT-single exposure and repeated exposure:

No information available.

Aspiration hazard:

No information available.

Section 12: Ecological information

12.1 Toxicity

Ethyl acetate:	Acute toxicity to fish:	LC ₅₀ = 230 mg/L/96h (<i>P. Promelas</i>);
	Acute toxicity to daphnia:	EC ₅₀ = 165 mg/L/48h (<i>Daphnia Cucullata</i>);
	Acute toxicity to algae:	EC ₅₀ = 5600 mg/L/48h (<i>S. subspicatus</i>);

12.2 Persistence and degradability

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Ethyl acetate is considered as readily biodegradable in a freshwater medium.

12.3 Bioaccumulative potential

Ethyl acetate has a low potential for bioaccumulation.

12.4 Mobility in soil

Ethyl acetate is expected to have high mobility in soil.

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

No information available.

Section 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal: Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration.

Dispose of in accordance with all local regulations.

Container disposal: Drain container thoroughly. Empty containers may contain highly flammable residues.

Do not cut, grind, drill, weld or dispose of containers unless adequate precautions have been taken against this hazard. Do not remove container labels until they are cleaned.

Section 14: Transport information

14.1 Land transport (ADR/RID)

Proper Shipping Name:	ETHYL ACETATE SOLUTION
Class:	3
UN-No.:	1173
Packing group:	II
Hazard label:	3

14.2 Sea transport (IMDG-Code)

Proper Shipping Name:	ETHYL ACETATE SOLUTION
Class:	3
UN-No.:	1173
Packing group:	II
Marine pollutant:	No

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

Proper Shipping Name:	ETHYL ACETATE SOLUTION
Class:	3

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UN-No.: 1173
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 (141-78-6) is listed in the EINECS inventory.
The substance (9017-01-0) is not specified on any inventory.
DSD (67/548/EEC): The substance (141-78-6) is listed in the inventory.
The substance (9017-01-0) is not listed in the inventory.

Other chemical regulation:

USA - TSCA: The substances (141-78-6 & 9017-01-0) are listed in the inventory.
Canada - DSL: The substances (141-78-6 & 9017-01-0) are listed in the inventory.
Australia - AICS: The substances (141-78-6 & 9017-01-0) are listed in the inventory.
Japan - ENCS: The substance (141-78-6) is listed in the inventory.
The substance (9017-01-0) is not listed in the inventory.
Korea - ECL: The substances (141-78-6 & 9017-01-0) are listed in the inventory.
China - IECSC: The substances (141-78-6 & 9017-01-0) are listed in the inventory.

15.2 Chemical Safety Assessment

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

Section 16: Other information

16.1 Revision Information:

Date of the previous revision: Not applicable. Date of this revision: 01/08/2012.
Revision summary:
Version 1.0: According to the requirements for a Safety Data Sheet of REACH and CLP, a brand new EU Version 1.0 has been created since 05/05/2011.
Version 1.1: Modify classification and pictograms in Sec. 2, Sec. 3, and Sec. 16.4. (01/08/2012)

16.2 Abbreviations and acronyms

CLP: EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.

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CAS:	Chemical Abstracts Service (division of the American Chemical Society).
EINECS:	European Inventory of Existing Commercial Chemical Substances.
RID:	European Rail Transport.
IMDG:	International Maritime Code for Dangerous Goods.
IATA:	International Air Transport Association.
OSHA:	The United States Occupational Safety and Health Administration.
TSCA:	Toxic Substances Control Act, The American chemical inventory.
DSD:	Dangerous Substance Directive (67/548/EEC).
IECSC:	Inventory of existing chemical substances in China.
DSL:	Domestic Substances List, The Canadian chemical inventory.
ECL:	Existing Chemicals List, the Korean chemical inventory.
AICS:	The Australian Inventory of Chemical Substances.
ENCS:	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.

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):

R11: Highly flammable.

R36: Irritating to eyes.

R67: Vapours may cause drowsiness and dizziness.

R66: Repeated exposure may cause skin dryness or cracking.

H-statements (code and full text):

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

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)

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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 -----