



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
GB/T 16483-2008, GB/T 17519-2013

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

1. Identification

Product identifier

Product Name HHD 5510
Pure substance/mixture Mixture

Details of the supplier of the safety data sheet

Responsible Party

Bostik (Shanghai) Management Co., Ltd
Building 1, No.968 Guanghai Road, Minhang District
Shanghai, China
Tel: 021-60763101
Fax: 021-60763133

See section 16 for more information.

E-mail address SDS.AP@Bostik.com

Emergency telephone number

Emergency Telephone Chemtrec: 1-800-424-9300 (US) , 1-703-527-3887 (Outside U.S.)
Chemtrec : China 4001-204937
CHEMTREC (Chemical Transportation Emergency Center)

Emergency Telephone National contact
0532-8388 9090 (China only)

Recommended use of the chemical and restrictions on use

Recommended use No information available
Restrictions on use No information available

2. Hazard(s) identification

Emergency Overview

Irritating to skin
May cause allergic respiratory reaction
May cause allergic skin reaction
Contains a known or suspected carcinogen

Appearance Solid **Physical state** Solid **Odor** Odorless

Classification of the substance or mixture

Skin corrosion/irritation	Category 3
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2

Label elements

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022



Signal word Danger

Hazard statements

H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351 - Suspected of causing cancer

Precautionary statements

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P284 - In case of inadequate ventilation wear respiratory protection
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Heat resistant gloves are recommended when handling molten materials

Response

P308 + P313 - IF exposed or concerned: Get medical advice/attention
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards

Not applicable.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%
4,4'-Methylenediphenyl diisocyanate	101-68-8	1 - <5

*** Any remaining ingredients are not hazardous

4. First-aid measures

Description of necessary first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

medical advice/attention.

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.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	May produce an allergic reaction. 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.

Most important symptoms/effects, acute and delayed

Symptoms

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/or wheezing. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

For emergency responders

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

Note to physicians

May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact.

Hazardous combustion products

Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide. Isocyanates.

Special protective actions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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.

Other information Refer to protective measures listed in Sections 7 and 8.

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so.
Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. 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. Take off contaminated clothing and wash before reuse.

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.

See Section 8 for information on appropriate personal protective equipment

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Keep at temperatures between 50 and 95 °F / 10 and 35 °C.

8. Exposure controls/personal protection

Occupational exposure limits

Chemical name	China	ACGIH TLV
4,4'-Methylenediphenyl diisocyanate - 101-68-8	TWA: 0.05 mg/m ³ STEL: 0.1 mg/m ³ Sensitizer+	TWA: 0.005 ppm

Note See section 16 for terms and abbreviations

Biological occupational exposure limits

No data available

Monitoring and observation processes

No applicable information was found.

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.

Hand protection Heat resistant gloves are recommended when handling molten materials. Gloves must conform to standard EN 407. Unsuitable protective clothing. Wet gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection In case of inadequate ventilation wear respiratory protection. During spraying wear suitable respiratory equipment.

Recommended filter type: Wear a respirator conforming to EN 140 with Type A/P2 filter or better. Organic gases

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

and vapors filter conforming to EN 14387.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid
Color	White Light yellow
Physical state	Solid
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	
pH (as aqueous solution)	No data available	
Melting point / freezing point	No data available	
Initial boiling point and boiling range	No data available	
Flash point	No data available	
Evaporation rate	No data available	
Flammability	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	
Relative vapor density	No data available	
Relative density	No data available	
Water solubility	No data available	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	3000 5000 mPa s	@ 110 °C
<u>Additional information</u>		
Oxidizing properties	No information available	
Solid content (%)	No information available	
Density	1.0-1.1 g/cm ³	

10. Stability and reactivity

<u>Stability</u>	Stable under normal conditions.
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
<u>Possibility of hazardous reactions</u>	None under normal processing.
<u>Conditions to avoid</u>	None known based on information supplied.
<u>Incompatible materials</u>	None known based on information supplied.
<u>Hazardous decomposition products</u>	None known based on information supplied.

11. Toxicological information

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components).

Eye contact Based on available data, the classification criteria are not met.

Skin contact Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact. Causes mild skin irritation.

Ingestion Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation".

Symptoms Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (inhalation-dust/mist) 50.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
4,4'-Methylenediphenyl diisocyanate	=31600 mg/kg (Rattus) = 9200 mg/kg (Rattus)	LD 50 > 9400 mg/kg (Oryctolagus cuniculus) OECD 402	=1.5 mg/L (Rattus) 4 h

Skin corrosion/irritation Classification based on data available for ingredients.

Component Information					
4,4'-Methylenediphenyl diisocyanate (101-68-8)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal			Irritant

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Component Information					
4,4'-Methylenediphenyl diisocyanate (101-68-8)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	0.1 mL	24 hours	Mild eye irritation

Respiratory or skin sensitization May cause an allergic skin reaction.

Component Information			
4,4'-Methylenediphenyl diisocyanate (101-68-8)			
Method	Species	Exposure route	Results
OECD GD 39	Rat	Inhalation	Sensitizing

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

OECD Test No. 406: Skin Sensitization	Guinea pig	Dermal	Sensitizing
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Germ cell mutagenicity Based on available data, the classification criteria are not met.

Component Information		
4,4'-Methylenediphenyl diisocyanate (101-68-8)		
Method	Species	Results
Regulation (EC) No. 440/2008, Annex, B.13/14 (Ames test)	in vitro	Not mutagenic
OECD Test No. 474: Mammalian Erythrocyte Micronucleus Test	Rat, in vivo	Not mutagenic

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	China	IARC
4,4'-Methylenediphenyl diisocyanate	-	Group 3

Legend

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Component Information		
4,4'-Methylenediphenyl diisocyanate (101-68-8)		
Method	Species	Results
OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies	Rat	Limited evidence of a carcinogenic effect

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

Component Information		
4,4'-Methylenediphenyl diisocyanate (101-68-8)		
Method	Species	Results
OECD Test No. 414: Prenatal Development Toxicity Study	Rat	LOAEL 9 mg/m ³

Specific target organ toxicity (single exposure) Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) Based on available data, the classification criteria are not met.

Component Information					
4,4'-Methylenediphenyl diisocyanate (101-68-8)					
Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rat, female	Inhalation, Dust/Mist	0,0.2,0.7, 2.1 mg/m ³	2 Years	Category 2

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

12. Ecological information

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Crustacea
4,4'-Methylenediphenyl diisocyanate	ErC50 (72h) >1640 mg/L Algae (scenedesmus subspicatus) (OECD 201)	>1000 mg/l (Danio rerio)	EC50 (24H) >1000 mg/L Daphnia magna

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Component Information

Chemical name	Partition coefficient
4,4'-Methylenediphenyl diisocyanate	4.51

Chemical name	PBT and vPvB assessment
4,4'-Methylenediphenyl diisocyanate 101-68-8	The substance is not PBT / vPvB

Mobility in soil No information available.

13. Disposal considerations

Waste chemicals

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

14. Transport information

IMDG Not regulated

IATA Not regulated

China Not regulated

ADR Not regulated

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

15. Regulatory information

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

National regulations

SDS and Label prepared in compliance with the following regulations:

Decree No. 591 of the State Council of the People's Republic of China

General Rule for classification and hazard communication of chemicals, GB 13690

Series standards of Safety rules for classification, precautionary labeling and precautionary statements of chemicals, GB 30000.2-GB 30000.29

General rules for preparation of precautionary label for chemicals, GB 15258

Safety data sheet for chemical products—Content and order of sections, GB/T 16483 GB/T17519

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

Regulations on the Control over Safety of Hazardous Chemicals

China - Catalog of Hazardous Chemicals - Hazardous Chemicals

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

Chemical name	China - Catalog of Hazardous Chemicals - Hazardous Chemicals	Weight-%
4,4'-Methylenediphenyl diisocyanate 101-68-8	Listed	1 - <5

List of hazardous chemicals under priority management

Not applicable

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods

Not applicable

GB33372-2020

We certify that goods delivered comply with the limit of volatile organic compounds content in adhesive regulated in GB33372-2020, in agreement with our Asia Technical Center and regulatory team

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

Not applicable

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Europe

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

SVHC: Substances of Very High Concern for Authorization:

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

2015/863/EU - RoHS

This product does not contain Lead, Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) above the regulated limit mentioned in this regulation

16. Other information

Local Contacts

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

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Revision date 06-Jul-2022
Revision Note ***Indicates updated data since last publication.

Abbreviations and acronyms

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value
*	Skin designation
SVHC	Substance(s) of Very High Concern
PBT	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB	Very Persistent and very Bioaccumulative (vPvB) Chemicals
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 RTECS (Registry of Toxic Effects of Chemical Substances)

SAFETY DATA SHEET

HHD 5510
Revision Number 1

Revision date 06-Jul-2022
Supersedes Date: 06-Jul-2022

World Health Organization

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet