

CFS-F FX / CP 660

Safety information for 2-Component-products

Issue date: 22/11/2024

Revision date: 22/11/2024

Supersedes: 17/10/2022

Version: 6.2

SECTION 1: Kit identification

1.1 Product identifier

Trade name

CFS-F FX / CP 660



Product code

BU Fire Protection

1.2 Details of the supplier of the Safety information for 2-Component-products

Hilti (Aust.) Pty. Ltd.
Level 5, 1G Homebush Bay Drive
P.O. Box 3217
2138 Rhodes NSW - Australia
T +61 131 292 - F +61 1300 135 042
serviceaustralia@hilti.com

SECTION 2: General information

A SDS for each of these components is included. Please do not separate any component SDS from this cover page

SECTION 3:

Classification of the Product

Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Acute toxicity (inhal.), Category 4	H332
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2A	H319
Respiratory sensitisation, Category 1	H334
Skin sensitisation, Category 1	H317
Carcinogenicity, Category 2	H351
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity – Repeated exposure, Category 2	H373

Label elements

Hazard pictograms (GHS AU)



GHS07

GHS08

Signal word (GHS AU)

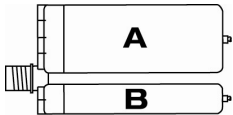
Danger

CFS-F FX / CP 660

Safety information for 2-Component-products

Contains	4,4'-diphenylmethanediisocyanate, isomeres and homologues; Ethylenediamine, ethoxylated and propoxylated
Hazard statements (GHS AU)	H315 - Causes skin irritation H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H332 - Harmful if inhaled H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled H335 - May cause respiratory irritation H351 - Suspected of causing cancer H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS AU)	P260 - Do not breathe vapours. P280 - Wear eye protection, protective clothing, protective gloves. P284 - In case of inadequate ventilation wear respiratory protection. P302+P352 - IF ON SKIN: Wash with plenty of 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. P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Additional information



Name	General description	Quantity	Unit	Classification according to the model Work Health and Safety Regulations (WHS Regulations)
CFS-F FX, A / CP 660, A		1	pcs (pieces)	Skin Sens. 1, H317
CFS-F FX, B / CP 660, B		1	pcs (pieces)	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373

SECTION 4: General advice

General advice For professional users only

SECTION 5: Safe handling advice

Environmental precautions	Avoid release to the environment
Storage conditions	Store in a well-ventilated place. Keep cool.
Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Wear personal protective equipment Do not breathe vapours. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes In case of inadequate ventilation wear respiratory protection.
Methods for cleaning up	Take up liquid spill into absorbent material Notify authorities if product enters sewers or public waters

SECTION 6: First aid measures

CFS-F FX / CP 660

Safety information for 2-Component-products

First-aid measures after eye contact	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.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell
First-aid measures after skin contact	Wash with plenty of water/... If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing.
First-aid measures general	If you feel unwell, seek medical advice (show the label where possible)
Symptoms/effects after eye contact	Eye irritation
Symptoms/effects after inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	Irritation May cause an allergic skin reaction.
Other medical advice or treatment	Treat symptomatically

SECTION 7: Fire fighting measures

Protection during firefighting	Self-contained breathing apparatus Complete protective clothing
Hazardous decomposition products in case of fire	Toxic fumes may be released Carbon dioxide Carbon monoxide

SECTION 8: Other information

CFS-F FX, A / CP 660, A

Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

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Supersedes: 17/10/2022

Version: 6.2

SECTION 1: Product identifier

1.1. GHS Product identifier

Product form Mixture
Trade name CFS-F FX, A / CP 660, A
Product code BU Fire Protection

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Details of manufacturer or importer

Supplier

Hilti (Aust.) Pty. Ltd.
Level 5, 1G Homebush Bay Drive
P.O. Box 3217
Rhodes NSW 2138
Australia
T +61 131 292 - F +61 1300 135 042
serviceaustralia@hilti.com

Department issuing data specification sheet:

Hilti AG
Feldkircherstraße 100
Schaan 9494
Liechtenstein
T +423 234 2111
product.compliance-fire.protection@hilti.com

1.5. Emergency phone number

Emergency number Emergency CONTACT (24-Hour-Number):
GBK GmbH Global Regulatory Compliance +49 (0)6132-84463

Country	Organisation/Company	Address	Emergency number	Comment
Australia	NSW Poisons Information Centre The Children's Hospital at Westmead	Locked Bag 4001 NSW 2145	13 11 26	

SECTION 2: Hazard identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Skin sensitisation, Category 1

H317

2.2. GHS Label elements, including precautionary statements

Hazard pictograms (GHS AU)



Exclamation
mark

Signal word (GHS AU)

Contains

Hazard statements (GHS AU)

Precautionary statements (GHS AU)

Warning

Ethylenediamine, ethoxylated and propoxylated (2,5 - <5 %)

H317 - May cause an allergic skin reaction

P280 - Wear eye protection, protective clothing, protective gloves.

P302+P352 - IF ON SKIN: Wash with plenty of water.

2.3. Other hazards which do not result in classification

No additional information available

CFS-F FX, A / CP 660, A

Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

SECTION 3: Composition and information on ingredients

Name	CAS-No.	%	Classification according to the model Work Health and Safety Regulations (WHS Regulations)
Ethylenediamine, propoxylated	25214-63-5	2,5 - <5	Eye Irrit. 2A, H319
Ethylenediamine, ethoxylated and propoxylated	26316-40-5	2,5 - <5	Eye Irrit. 2A, H319 Skin Sens. 1, H317

SECTION 4: First aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell.

4.2. Symptoms caused by exposure

Symptoms/effects after skin contact	May cause an allergic skin reaction.
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4.3. Medical attention and special treatment

Other medical advice or treatment	Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
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5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Toxic fumes may be released. Carbon monoxide. Carbon dioxide.
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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. Avoid contact with skin and eyes.
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6.1.2. For emergency responders

Protective equipment	For further information refer to section 8: "Exposure controls/personal protection". Use personal protective equipment as required.
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up	Take up liquid spill into absorbent material.
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Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Store in a well-ventilated place. Keep cool.
Storage temperature	5 – 25 °C

SECTION 8: Exposure controls and personal protection

8.1. Control parameters - exposure standards

No additional information available

8.2. Biological Monitoring

No additional information available

8.3. Engineering controls

Appropriate engineering controls	Ensure good ventilation of the work station.
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8.4. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment	Protective clothing. Safety glasses. Gloves. Avoid all unnecessary exposure.
Hand protection	Wear suitable gloves tested to EN374. Suitable for short-term work or as a splash guard: Nitrile rubber gloves (> 0.1 mm). In case of permanent product contact:

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	>0,35mm		
Disposable gloves	Butyl rubber	6 (> 480 minutes)	>0,35mm		

Eye protection	Chemical goggles or safety glasses
Skin and body protection	Wear suitable protective clothing
Respiratory protection	Not necessary with sufficient ventilation. Ensure good ventilation of the work station. Open windows during application to ensure natural ventilation. If the occupational exposure limit is exceeded: Wear appropriate mask. (e.g. gas filter type A1-P2 according to EN 14387)

Personal protective equipment symbol(s)



Environmental exposure controls	Avoid release to the environment.
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SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	No data available
Colour	red
Odour	Odour threshold is subjective and inadequate to warn for overexposure. Mixture contains one or more component(s) which have the following odour: Odourless Mild odour Characteristic odour odourless Almost odourless
Odour threshold	No data available
pH	Not determined
pH solution	No data available
Relative evaporation rate (butylacetate=1)	No data available

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Melting point / Freezing point	Melting point: Not applicable
Boiling point	No data available
Flash point	Not applicable.
Auto-ignition temperature	No data available
Flammability	No data available
Vapour pressure	No data available
Relative density	No data available
Density	Density: $\approx 1.17 \text{ g/cm}^3$
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Explosive properties	No data available
Explosive limits	No data available
Minimum ignition energy	No data available
Fat solubility	No data available

SECTION 10: Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use.
Conditions to avoid	None under recommended storage and handling conditions (see section 7).
Incompatible materials	No additional information available
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

Ethylenediamine, ethoxylated and propoxylated (26316-40-5)

LD50 oral rat	> 5000 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg bodyweight
Skin corrosion/irritation	Not classified pH: Not determined
Serious eye damage/irritation	Not classified pH: Not determined
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

According to the National Code of Practice for the Preparation of Material Safety Data Sheets, Environmental classification information is not mandatory. Information relevant for GHS classification is available on request

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified

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Hazardous to the aquatic environment, long-term (chronic) : Not classified

Ethylenediamine, propoxylated (25214-63-5)	
LC50 - Fish [1]	4500 mg/l <i>Leuciscus idus</i> (golden orfe)
NOEC chronic crustacea	> 1 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified
 Other adverse effects : No additional information available

CFS-F FX, A / CP 660, A	
Fluorinated greenhouse gases	False
Ethylenediamine, propoxylated (25214-63-5)	
Fluorinated greenhouse gases	False
Ethylenediamine, ethoxylated and propoxylated (26316-40-5)	
Fluorinated greenhouse gases	False

SECTION 13: Disposal considerations

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.
Additional information	packaging containing residues of or contaminated by dangerous substances. Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable

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Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

ADR	IMDG	IATA	RID
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Rail transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations

No additional information available

15.2. International agreements

No additional information available

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
			general update

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Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

Abbreviations and acronyms

CAS-No. - Chemical Abstract Service number
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE - Acute Toxicity Estimate
 BCF - Bioconcentration factor
 BLV - Biological limit value
 BOD - Biochemical oxygen demand (BOD)
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 DMEL - Derived Minimal Effect level
 DNEL - Derived-No Effect Level
 EC-No. - European Community number
 EC50 - Median effective concentration
 ED - Endocrine disrupting properties
 EN - European Standard
 IARC - International Agency for Research on Cancer
 IATA - International Air Transport Association
 IMDG - International Maritime Dangerous Goods
 IOELV - Indicative Occupational Exposure Limit Value
 LC50 - Median lethal concentration
 LD50 - Median lethal dose
 LOAEL - Lowest Observed Adverse Effect Level
 N.O.S. - Not Otherwise Specified
 NOAEC - No-Observed Adverse Effect Concentration
 NOAEL - No-Observed Adverse Effect Level
 NOEC - No-Observed Effect Concentration
 vPvB - Very Persistent and Very Bioaccumulative
 WGK - Water Hazard Class
 VOC - Volatile Organic Compounds
 SDS - Safety Data Sheet
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
 PNEC - Predicted No-Effect Concentration
 PBT - Persistent Bioaccumulative Toxic
 OEL - Occupational Exposure Limit
 OECD - Organisation for Economic Co-operation and Development
 COD - Chemical oxygen demand (COD)
 ThOD - Theoretical oxygen demand (ThOD)
 TRGS - Technical Rules for Hazardous Substances
 TLM - Median Tolerance Limit
 STP - Sewage treatment plant
 22/11/2024

Revision date

Classification	
Skin Sens. 1	H317

Full text of H-statements	
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Skin Sens. 1	Skin sensitisation, Category 1
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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according to the Work Health and Safety (WHS) Regulations

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SECTION 1: Product identifier

1.1. GHS Product identifier

Product form Mixture
Trade name CFS-F FX, B / CP 660, B
Product code BU Fire Protection

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Details of manufacturer or importer

Supplier

Hilti (Aust.) Pty. Ltd.
Level 5, 1G Homebush Bay Drive
P.O. Box 3217
Rhodes NSW 2138
Australia
T +61 131 292 - F +61 1300 135 042
serviceaustralia@hilti.com

Department issuing data specification sheet:

Hilti AG
Feldkircherstraße 100
Schaan 9494
Liechtenstein
T +423 234 2111
product.compliance-fire.protection@hilti.com

1.5. Emergency phone number

Emergency number Emergency CONTACT (24-Hour-Number):
GBK GmbH Global Regulatory Compliance +49 (0)6132-84463

Country	Organisation/Company	Address	Emergency number	Comment
Australia	NSW Poisons Information Centre The Children's Hospital at Westmead	Locked Bag 4001 NSW 2145	13 11 26	

SECTION 2: Hazard identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Acute toxicity (inhalation:dust,mist) Category 4 H332
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2A H319
Respiratory sensitisation, Category 1 H334
Skin sensitisation, Category 1 H317
Carcinogenicity, Category 2 H351
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation H335
Specific target organ toxicity – Repeated exposure, Category 2 H373

2.2. GHS Label elements, including precautionary statements

Hazard pictograms (GHS AU)



Exclamation mark
Health hazard

Signal word (GHS AU)

Danger

CFS-F FX, B / CP 660, B

Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

Contains	4,4'-diphenylmethanediisocyanate, isomeres and homologues (50 – 100 %); 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (20 – 40 %)
Hazard statements (GHS AU)	<p>H315 - Causes skin irritation</p> <p>H317 - May cause an allergic skin reaction</p> <p>H319 - Causes serious eye irritation</p> <p>H332 - Harmful if inhaled</p> <p>H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled</p> <p>H335 - May cause respiratory irritation</p> <p>H351 - Suspected of causing cancer</p> <p>H373 - May cause damage to organs through prolonged or repeated exposure</p>
Precautionary statements (GHS AU)	<p>P260 - Do not breathe vapours.</p> <p>P280 - Wear eye protection, protective clothing, protective gloves.</p> <p>P284 - In case of inadequate ventilation wear respiratory protection.</p> <p>P302+P352 - IF ON SKIN: Wash with plenty of water.</p> <p>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.</p>

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition and information on ingredients

Name	CAS-No.	%	Classification according to the model Work Health and Safety Regulations (WHS Regulations)
4,4'-diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	50 – 100	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	101-68-8	20 – 40	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373

SECTION 4: First aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
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Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

First-aid measures after skin contact	Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. Wash with plenty of water/... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). If skin irritation or rash occurs:
First-aid measures after eye contact	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 eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Symptoms caused by exposure

Symptoms/effects after inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. May cause an allergic skin reaction.
Symptoms/effects after skin contact	Irritation. May cause an allergic skin reaction. Causes skin irritation.
Symptoms/effects after eye contact	Eye irritation. Causes serious eye irritation.

4.3. Medical attention and special treatment

Other medical advice or treatment	Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Toxic fumes may be released. Carbon dioxide. Carbon monoxide.
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Self-contained breathing apparatus. Complete protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. Do not breathe vapours. Avoid contact with skin and eyes. Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection". Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up	Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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CFS-F FX, B / CP 660, B

Safety Data Sheet

according to the Work Health and Safety (WHS) Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Obtain special instructions before use.

Hygiene measures

Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store in a well-ventilated place. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.

Incompatible products

Strong bases. Strong acids.

Incompatible materials

Sources of ignition. Direct sunlight.

Storage temperature

5 – 25 °C

SECTION 8: Exposure controls and personal protection

8.1. Control parameters - exposure standards

4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)

Australia - Occupational Exposure Limits

Local name	Methylene bisphenyl isocyanate (MDI; Diphenylmethane diisocyanate)
OES TWA	0.02 mg/m ³
OES STEL	0.07 mg/m ³
Remark (AU)	Carcinogenicity Category 2 – Suspected human carcinogen. The classification of a chemical into this category is on the basis of evidence from human and animal studies, where the evidence is not sufficiently convincing to place the chemical into Category 1 or from limited evidence of carcinogenicity in human or animal studies; Sen - Respiratory and/or Skin Sensitiser.
Regulatory reference	Workplace exposure standards for airborne contaminants (2022)

8.2. Biological Monitoring

No additional information available

8.3. Engineering controls

Appropriate engineering controls

Ensure good ventilation of the work station.

8.4. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment

Gloves. Protective clothing. Safety glasses. Avoid all unnecessary exposure.

Hand protection

Wear suitable gloves tested to EN374. Suitable for short-term work or as a splash guard: Nitrile rubber gloves (> 0.1 mm). In case of permanent product contact:

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	>0,35mm		
Disposable gloves	Butyl rubber	6 (> 480 minutes)	>0,35mm		

Eye protection

Chemical goggles or safety glasses. ISO 16321-1. EN 170

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Type	Field of application	Characteristics	Standard
Safety glasses	Droplet		EN 166, EN 170

Skin and body protection

Wear suitable protective clothing

Respiratory protection

Not necessary with sufficient ventilation. Ensure good ventilation of the work station. Open windows during application to ensure natural ventilation. If the occupational exposure limit is exceeded: Wear appropriate mask. (e.g. gas filter type A1-P2 according to EN 14387)

Personal protective equipment symbol(s)



Environmental exposure controls

Avoid release to the environment.

Other information

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	No data available
Colour	amber
Odour	characteristic
Odour threshold	No data available
pH	No data available
pH solution	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point / Freezing point	Melting point: Not applicable
Boiling point	No data available
Flash point	> 200 °C
Auto-ignition temperature	No data available
Flammability	No data available
Vapour pressure	Vapour pressure: 0.1 mbar
Relative density	No data available
Density	Density: 1.155 kg/l
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Viscosity, kinematic	299.766 mm ² /s
Viscosity, dynamic	346.23 mPa·s
Explosive properties	No data available
Explosive limits	No data available
Minimum ignition energy	No data available
Fat solubility	No data available

SECTION 10: Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal conditions. Not established.
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use. Not established.
Conditions to avoid	None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.
Incompatible materials	Strong acids. Strong bases.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide.

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SECTION 11: Toxicological information

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Inhalation:dust,mist: Harmful if inhaled.
ATE AU (dust,mist)	1.5 mg/l/4h
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Literature study, Dermal)
LD50 dermal	9400 mg/kg
LC50 Inhalation - Rat	0.49 mg/l
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)	
LD50 oral rat	> 2000 mg/kg
LD50 oral	31600 mg/kg
LD50 dermal rabbit	> 9400 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	> 0.368 mg/l/4h
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Suspected of causing cancer.
Reproductive toxicity	Not classified
STOT-single exposure	May cause respiratory irritation.
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
STOT-single exposure	May cause respiratory irritation.
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified
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Viscosity, kinematic	299.766 mm ² /s
Potential adverse human health effects and symptoms	Harmful if inhaled.

SECTION 12: Ecological information

According to the National Code of Practice for the Preparation of Material Safety Data Sheets, Environmental classification information is not mandatory. Information relevant for GHS classification is available on request

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

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Hazardous to the aquatic environment, short-term (acute) : Not classified
 Hazardous to the aquatic environment, long-term (chronic) : Not classified
 Other information : Avoid release to the environment.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h, Literature study)
BCF - Fish [1]	268.1 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

12.2. Persistence and degradability

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Persistence and degradability	Not established.
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)	
Not rapidly degradable	

12.3. Bioaccumulative potential

CFS-F FX, B / CP 660, B	
Bioaccumulative potential	Not established.
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
BCF - Fish [1]	268.1 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Surface tension	No data available in the literature
Ecology - soil	Adsorbs into the soil.
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

12.5. Other adverse effects

Ozone : Not classified
 Other adverse effects : No additional information available

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Fluorinated greenhouse gases	False

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4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Fluorinated greenhouse gases	False
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)	
Fluorinated greenhouse gases	False

SECTION 13: Disposal considerations

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	packaging containing residues of or contaminated by dangerous substances. Dispose in a safe manner in accordance with local/national regulations.
Ecological information	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations

No additional information available

15.2. International agreements

No additional information available

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
			general update

Data sources

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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Abbreviations and acronyms

CAS-No. - Chemical Abstract Service number
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE - Acute Toxicity Estimate
 BCF - Bioconcentration factor
 BLV - Biological limit value
 BOD - Biochemical oxygen demand (BOD)
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 DMEL - Derived Minimal Effect level
 DNEL - Derived-No Effect Level
 EC-No. - European Community number
 EC50 - Median effective concentration
 ED - Endocrine disrupting properties
 EN - European Standard
 IARC - International Agency for Research on Cancer
 IATA - International Air Transport Association
 IMDG - International Maritime Dangerous Goods
 IOELV - Indicative Occupational Exposure Limit Value
 LC50 - Median lethal concentration
 LD50 - Median lethal dose
 LOAEL - Lowest Observed Adverse Effect Level
 N.O.S. - Not Otherwise Specified
 NOAEC - No-Observed Adverse Effect Concentration
 NOAEL - No-Observed Adverse Effect Level
 NOEC - No-Observed Effect Concentration
 vPvB - Very Persistent and Very Bioaccumulative
 WGK - Water Hazard Class
 VOC - Volatile Organic Compounds
 SDS - Safety Data Sheet
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
 PNEC - Predicted No-Effect Concentration
 PBT - Persistent Bioaccumulative Toxic
 OEL - Occupational Exposure Limit
 OECD - Organisation for Economic Co-operation and Development
 COD - Chemical oxygen demand (COD)
 ThOD - Theoretical oxygen demand (ThOD)
 TRGS - Technical Rules for Hazardous Substances
 TLM - Median Tolerance Limit
 STP - Sewage treatment plant
 22/11/2024
 None.

Revision date

Other information

Classification	
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 3	H335

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Classification	
STOT RE 2	H373

Full text of H-statements	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.