

CFS-F SOL; CP 620

Safety information for 2-Component-products

Date of issue: 19/12/2017

Revision date: 19/12/2017

Supersedes: 03/10/2016

Version: 7.0

SECTION 1: Kit identification

1.1 Product identifier

Trade name

CFS-F SOL; CP 620



Product code

BU Fire Protection

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

Hilti, Inc.

Legacy Tower, Suite 1000

7250 Dallas Parkway

75024 Plano - USA

T +1 9724035800

1-800-879-8000 toll free - F +1 918 254 0522

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: Kit contents

Classification of the Product

GHS-US classification

| | |
|---------------------------|---|
| Acute Tox. 4 (Inhalation) | H332 - Harmful if inhaled. |
| Skin Irrit. 2 | H315 - Causes skin irritation. |
| Eye Irrit. 2A | H319 - Causes serious eye irritation. |
| Resp. Sens. 1 | H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin Sens. 1 | H317 - May cause an allergic skin reaction. |
| Carc. 2 | H351 - Suspected of causing cancer. |
| Repr. 2 | H361 - Suspected of damaging fertility or the unborn child. |
| STOT SE 3 | H335 - May cause respiratory irritation. |
| STOT RE 2 | H373 - May cause damage to organs through prolonged or repeated exposure. |
| Aquatic Chronic 3 | H412 - Harmful to aquatic life with long lasting effects. |

Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



GHS07

GHS08

Signal word (GHS-US)

Danger

Hazardous ingredients

4,4'-diphenylmethanediisocyanate, isomeres and homologues; zinc borate

Hazard statements (GHS-US)

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.

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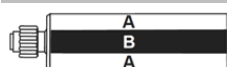
Safety information for 2-Component-products

Precautionary statements (GHS-US)

H335 - May cause respiratory irritation.
 H351 - Suspected of causing cancer.
 H361 - Suspected of damaging fertility or the unborn child.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H412 - Harmful to aquatic life with long lasting effects.

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 doctor, a POISON CENTER.

Additional information



| Name | General description | Quantity | Unit | GHS-US classification |
|-----------------------------|---------------------|----------|--------------|--|
| CFS-F SOL / CP 620, B | | 1 | pcs (pieces) | Acute Tox. 4 (Inhalation), 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 |
| CFS-F SOL / CP 620, A (RoW) | | 1 | pcs (pieces) | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 |

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

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.

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| | |
|-------------------------------------|---|
| First-aid measures general | Take off contaminated clothing. |
| Symptoms/effects after eye contact | If you feel unwell, seek medical advice (show the label where possible) |
| Symptoms/effects after inhalation | Eye irritation 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

No data available

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Supersedes: 10/03/2016

Version: 7.0

SECTION 1: Identification

1.1. Identification

| | |
|--------------|-----------------------|
| Product form | Mixture |
| Trade name | CFS-F SOL / CP 620, A |
| Product code | BU Fire Protection |

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

No additional information available

1.3. Details of the supplier of the safety data sheet

| Supplier | Department issuing data specification sheet |
|--|---|
| Hilti, Inc. Legacy Tower, Suite 1000 7250 Dallas Parkway 75024 Plano - USA T +1 9724035800 1-800-879-8000 toll free - F +1 918 254 0522 | Hilti AG Feldkircherstraße 100 9494 Schaan - Liechtenstein T +423 234 2111 chemicals.hse@hilti.com |

1.4. Emergency telephone number

| | |
|------------------|---|
| Emergency number | Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries) +1 918 8723000 1-800-879-8000 toll free |
|------------------|---|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315 - Causes skin irritation.
Eye Irrit. 2A H319 - Causes serious eye irritation.
Repr. 2 H361 - Suspected of damaging fertility or the unborn child.

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



GHS07

GHS08

Signal word (GHS-US)

Warning

Hazard statements (GHS-US)

H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (GHS-US)

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

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2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | GHS-US classification |
|---|----------------------|---------|---|
| Ethylenediamine, propoxylated | (CAS-No.) 25214-63-5 | 25 - 40 | Eye Irrit. 2A, H319 |
| tris(2-chloro-1-methylethyl) phosphate | (CAS-No.) 13674-84-5 | 2.5 - 5 | Acute Tox. 4 (Oral), H302 |
| hexaboron dizinc undecaoxide | (CAS-No.) 12767-90-7 | 2.5 - 5 | Repr. 2, H361 Aquatic Chronic 2, H411 |
| 2-(2-(2-Dimethylaminoethoxy)-ethyl-methyl-amino)ethanol | (CAS-No.) 83016-70-0 | 1 - 2.5 | Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Chronic 3, H412 |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | IF exposed or concerned: Get medical advice/attention. |
| 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 occurs: Get medical advice/attention. |
| 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. |

4.2. Most important symptoms and effects (acute and delayed)

| | |
|-------------------------------------|-----------------|
| Symptoms/effects after skin contact | Irritation. |
| Symptoms/effects after eye contact | Eye irritation. |

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protection during firefighting Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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8.2. Exposure controls

Appropriate engineering controls
Personal protective equipment

Ensure good ventilation of the work station.
Safety glasses. Protective clothing. Gloves.



Hand protection
Skin and body protection
Respiratory protection
Environmental exposure controls

Protective gloves.
Wear suitable protective clothing.
[In case of inadequate ventilation] wear respiratory protection.
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--|
| Physical state | Liquid |
| Colour | red |
| Odour | There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): No data available on odour Mild odour Characteristic odour Amine-like odour Almost odourless Alcohol odour Odourless |
| Odour threshold | No data available |
| pH | Not determined |
| Melting point | Not applicable |
| Freezing point | No data available |
| Boiling point | No data available |
| Flash point | Not applicable. |
| Relative evaporation rate (butylacetate=1) | No data available |
| Flammability (solid, gas) | No data available |
| Explosive limits | No data available |
| Explosive properties | No data available |
| Oxidising properties | No data available |
| Vapour pressure | No data available |
| Relative density | No data available |
| Relative vapour density at 20 °C | No data available |
| Density | ≈ 1.17 g/cm ³ |
| Solubility | No data available |
| Log Pow | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | No data available |
| Viscosity, kinematic | No data available |
| Viscosity, dynamic | No data available |

9.2. Other information

VOC content 15 mg/l EPA method 24 (CP 620, Comp. A + B)

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity Not classified

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|---|--|
| LD50 oral rat | 1150 - 1750 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Experimental value; 1011-1824 mg/kg bodyweight; Rat; Experimental value) |
| LD50 dermal rat | > 2000 mg/kg (Rat; Experimental value) |
| LD50 dermal rabbit | > 2000 mg/kg bodyweight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity) |
| ATE US (oral) | 1150 mg/kg bodyweight |
| 2-(2-(2-Dimethylaminoethoxy)-ethyl-methyl-amino)ethanol (83016-70-0) | |
| ATE US (oral) | 1364 mg/kg bodyweight |

| | |
|--|--|
| Skin corrosion/irritation | Causes skin irritation. pH: Not determined |
| Serious eye damage/irritation | Causes serious eye irritation. pH: Not determined |
| Respiratory or skin sensitisation | Not classified |
| Germ cell mutagenicity | Not classified |
| Carcinogenicity | Not classified |
| Reproductive toxicity | Suspected of damaging fertility or the unborn child. |
| Specific target organ toxicity (single exposure) | Not classified |
| Specific target organ toxicity (repeated exposure) | Not classified |
| Aspiration hazard | Not classified |
| Symptoms/effects after skin contact | Irritation. |
| Symptoms/effects after eye contact | Eye irritation. |

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general Harmful to aquatic life with long lasting effects.

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|--|--|
| LC50 fish 1 | 98 mg/l (96 h; Pimephales promelas; GLP) |
| EC50 Daphnia 1 | 65 - 335 mg/l (48 h; Daphnia magna; GLP) |
| LC50 fish 2 | 56.2 mg/l (96 h; Brachydanio rerio) |
| Threshold limit algae 1 | 73 mg/l (96 h; Selenastrum capricornutum; Growth rate) |

| hexaboron dizinc undecaoxide (12767-90-7) | |
|--|-----------------------|
| LC50 fish 1 | 2.4 mg/l (LC50; 96 h) |
| EC50 Daphnia 1 | 76 mg/l (LC50; 48 h) |

12.2. Persistence and degradability

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|--|---|
| Persistence and degradability | Not readily biodegradable in water. No (test)data on mobility of the substance available. |

| hexaboron dizinc undecaoxide (12767-90-7) | |
|--|--|
| Persistence and degradability | Biodegradability: not applicable. Adsorbs into the soil. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

12.3. Bioaccumulative potential

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|--|---|
| BCF fish 1 | 0.8 - 4.6 (Cyprinus carpio; Test duration: 6 weeks) |
| Log Pow | 2.59 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

| ADR | IMDG | IATA | RID |
|-----------------------------|------|------|-----|
| 14.1. UN number | | | |
| Not regulated for transport | | | |

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| ADR | IMDG | IATA | RID |
|---|--|---------------------------------------|---------------------------------------|
| 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 |
| Not applicable | Not applicable | Not applicable | Not applicable |
| 14.4. Packing group | | | |
| Not applicable | Not applicable | Not applicable | Not applicable |
| 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

- Transport by sea

No data available

- Air transport

No data available

- Rail transport

Carriage prohibited (RID) No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

| Ethylenediamine, propoxylated (25214-63-5) | |
|---|---|
| EPA TSCA Regulatory Flag | XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)). |

| 2-(2-(2-Dimethylaminoethoxy)-ethyl-methyl-amino)ethanol (83016-70-0) | |
|---|--|
| EPA TSCA Regulatory Flag | P - P - indicates a commenced PMN substance. |

15.2. International regulations

CANADA

| Ethylenediamine, propoxylated (25214-63-5) | |
|--|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

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2-(2-(2-Dimethylaminoethoxy)-ethyl-methyl-amino)ethanol (83016-70-0)

Listed on the Canadian DSL (Domestic Substances List)

hexaboron dizinc undecaoxide (12767-90-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

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

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Repr. 2 H361

Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date 12/19/2017

Full text of H-statements:

| | |
|------|--|
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

Indication of changes:

| Section | Changed item | Change | Comments |
|---------|-----------------------------------|----------|----------|
| 2.2 | Precautionary statements (GHS-US) | Modified | |

SDS_US_Hilti

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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Date of issue: 12/19/2017

Revision date: 12/19/2017

Supersedes: 10/03/2016

Version: 7.0

SECTION 1: Identification

1.1. Identification

| | |
|--------------|-----------------------|
| Product form | Mixture |
| Trade name | CFS-F SOL / CP 620, B |
| Product code | BU Fire Protection |

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

No additional information available

1.3. Details of the supplier of the safety data sheet

Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Supplier

Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

| | |
|------------------|---|
| Emergency number | Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries) +1 918 8723000 1-800-879-8000 toll free |
|------------------|---|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

| | |
|---------------------------|---|
| Acute Tox. 4 (Inhalation) | H332 - Harmful if inhaled. |
| Skin Irrit. 2 | H315 - Causes skin irritation. |
| Eye Irrit. 2 | H319 - Causes serious eye irritation. |
| Resp. Sens. 1 | H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin Sens. 1 | H317 - May cause an allergic skin reaction. |
| Carc. 2 | H351 - Suspected of causing cancer. |
| STOT SE 3 | H335 - May cause respiratory irritation. |
| STOT RE 2 | H373 - May cause damage to organs through prolonged or repeated exposure. |

Full text of H statements : see section 16

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2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



GHS07

GHS08

Signal word (GHS-US)

Danger

Hazard statements (GHS-US)

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-US)

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 doctor, a POISON CENTER

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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| Name | Product identifier | % | GHS-US classification |
|--|----------------------|---------|---|
| 4,4'-diphenylmethanediisocyanate, isomeres and homologues | (CAS-No.) 9016-87-9 | 54 - 90 | 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 | (CAS-No.) 101-68-8 | 27 - 54 | 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 |
| tris(2-chloro-1-methylethyl) phosphate | (CAS-No.) 13674-84-5 | 5 - 10 | Acute Tox. 4 (Oral), H302 |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | IF exposed or concerned: Get medical advice/attention. 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 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 | 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. |

4.2. Most important symptoms and effects (acute and delayed)

| | |
|-------------------------------------|--|
| 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. |
| Symptoms/effects after eye contact | Eye irritation. |

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protection during firefighting Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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Personal protective equipment

Gloves. Protective clothing. Safety glasses.



Skin and body protection

Wear suitable protective clothing.

Respiratory protection

[In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | Liquid |
| Colour | amber |
| Odour | There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): Stuffy odour Mild odour Characteristic odour |
| Odour threshold | No data available |
| pH | No data available |
| Melting point | Not applicable |
| Freezing point | No data available |
| Boiling point | No data available |
| Flash point | No data available |
| Relative evaporation rate (butylacetate=1) | No data available |
| Flammability (solid, gas) | No data available |
| Explosive limits | No data available |
| Explosive properties | No data available |
| Oxidising properties | No data available |
| Vapour pressure | No data available |
| Relative density | No data available |
| Relative vapour density at 20 °C | No data available |
| Density | ≈ g/cm ³ |
| Solubility | No data available |
| Log Pow | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | No data available |
| Viscosity, kinematic | No data available |
| Viscosity, dynamic | No data available |

9.2. Other information

VOC content 15 g/l EPA method 24 (CP 620, Comp. A + B)

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Inhalation: Harmful if inhaled.

| CFS-F SOL / CP 620, B | |
|-----------------------|--------------|
| ATE US (gases) | 4500 ppmv/4h |
| ATE US (vapours) | 11 mg/l/4h |
| ATE US (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) |
| LD50 dermal rabbit | > 5000 mg/kg (Rabbit; Literature study) |
| ATE US (gases) | 4500 ppmv/4h |
| ATE US (vapours) | 11 mg/l/4h |
| ATE US (dust,mist) | 1.5 mg/l/4h |

| 4,4'-methylenediphenyl diisocyanate, diphenylmethane-4,4'-diisocyanate (101-68-8) | |
|---|--------------|
| LD50 oral rat | > 2000 mg/kg |
| ATE US (gases) | 4500 ppmv/4h |
| ATE US (vapours) | 11 mg/l/4h |
| ATE US (dust,mist) | 1.5 mg/l/4h |

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|---|--|
| LD50 oral rat | 1150 - 1750 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Experimental value; 1011-1824 mg/kg bodyweight; Rat; Experimental value) |
| LD50 dermal rat | > 2000 mg/kg (Rat; Experimental value) |
| LD50 dermal rabbit | > 2000 mg/kg bodyweight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity) |
| ATE US (oral) | 1150 mg/kg bodyweight |

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.

| 4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9) | |
|---|----------------------|
| IARC group | 3 - Not classifiable |

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| 4,4'-methylenediphenyl diisocyanate, diphenylmethane-4,4'-diisocyanate (101-68-8) | |
|--|--|
| IARC group | 3 - Not classifiable |
| Reproductive toxicity | Not classified |
| Specific target organ toxicity (single exposure) | May cause respiratory irritation. |
| Specific target organ toxicity (repeated exposure) | May cause damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | Not classified |
| 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. |
| Symptoms/effects after eye contact | Eye irritation. |

SECTION 12: Ecological information

12.1. Toxicity

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

| 4,4'-diphenylmethanediisocyanate, isomers and homologues (9016-87-9) | |
|---|--------------------|
| LC50 other aquatic organisms 1 | > 1000 mg/l (96 h) |
| Threshold limit other aquatic organisms 1 | > 1000 mg/l (96 h) |

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|--|--|
| LC50 fish 1 | 98 mg/l (96 h; Pimephales promelas; GLP) |
| EC50 Daphnia 1 | 65 - 335 mg/l (48 h; Daphnia magna; GLP) |
| LC50 fish 2 | 56.2 mg/l (96 h; Brachydanio rerio) |
| Threshold limit algae 1 | 73 mg/l (96 h; Selenastrum capricornutum; Growth rate) |

12.2. Persistence and degradability

| 4,4'-diphenylmethanediisocyanate, isomers and homologues (9016-87-9) | |
|---|--|
| Persistence and degradability | Not readily biodegradable in water. Hydrolysis in water. No (test)data on mobility of the substance available. |

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|--|---|
| Persistence and degradability | Not readily biodegradable in water. No (test)data on mobility of the substance available. |

12.3. Bioaccumulative potential

| 4,4'-diphenylmethanediisocyanate, isomers and homologues (9016-87-9) | |
|---|----------------------|
| BCF fish 1 | 1 (Pisces) |
| Bioaccumulative potential | Not bioaccumulative. |

| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
|--|---|
| BCF fish 1 | 0.8 - 4.6 (Cyprinus carpio; Test duration: 6 weeks) |
| Log Pow | 2.59 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming No known effects from this product.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

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.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

| ADR | IMDG | IATA | RID |
|---|--|---------------------------------------|---------------------------------------|
| 14.1. UN number | | | |
| Not regulated for transport | | | |
| 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 |
| Not applicable | Not applicable | Not applicable | Not applicable |
| 14.4. Packing group | | | |
| Not applicable | Not applicable | Not applicable | Not applicable |
| 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

- Transport by sea

No data available

- Air transport

No data available

- Rail transport

Carriage prohibited (RID)

No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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| | |
|--|---|
| 4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9) | |
| Subject to reporting requirements of United States SARA Section 313 | |
| EPA TSCA Regulatory Flag | XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)). |
| SARA Section 313 - Emission Reporting | 1 % |
| 4,4'-methylenediphenyl diisocyanate, diphenylmethane-4,4'-diisocyanate (101-68-8) | |
| Subject to reporting requirements of United States SARA Section 313 | |
| CERCLA RQ | 5000 lb |
| SARA Section 313 - Emission Reporting | 1 % |

15.2. International regulations

CANADA

| | |
|--|--|
| 4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| 4,4'-methylenediphenyl diisocyanate, diphenylmethane-4,4'-diisocyanate (101-68-8) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| tris(2-chloro-1-methylethyl) phosphate (13674-84-5) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

EU-Regulations

No additional information available

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

Acute Tox. 4 (Inhalation) 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

Full text of hazard classes and H-statements : see section 16

National regulations

| | |
|--|--|
| 4,4'-methylenediphenyl diisocyanate, diphenylmethane-4,4'-diisocyanate (101-68-8) | |
| Listed on EPA Hazardous Air Pollutant (HAPS) | |

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date

12/19/2017

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Full text of H-statements:

| | |
|------|--|
| H302 | Harmful if swallowed. |
| 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. |

NFPA health hazard

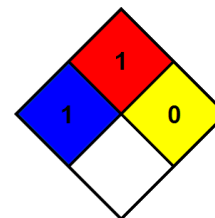
1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

0 - Material that in themselves are normally stable, even under fire conditions.



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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