Safety data sheet
according to 1907/2006/EC, Article 31 / ISO 11014

Printing date 19.03.2013 **Version number 2** **Revision: 19.03.2013**

1 Identification of the substance/mixture and of the company/undertaking

· **Product identifier**

· **Trade name:** **CF-AS CJP; CF ISO 765; CF ISO 500+; CF-I ECO +; CS-FJS; CF 812 CC; CF-F ECO; CF-I 50 ECO GV;CF 125-50; CF 125-5W50; CF 126-N; CF 126; CF ISO 750; CF-I 750 B2 (-SV);CF 116-45; CF F 600; CF 116; CF-JI; CF 812; CF 812 WD**

· **Relevant identified uses of the substance or mixture and uses advised against**

· **Sector of Use** Building and construction work

· **Application of the substance / the preparation**
Assembly foam
Construction chemicals

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**
Hilti (Schweiz) AG
Soodstrasse 61
CH-8134 Adliswil
Telefon: 0844 84 84 85
Fax: 0844 84 84 86
E-Mail: info@hilti.ch

· **Informing department:** see section 16

· **Emergency telephone number:**
Schweizerisches Toxikologisches Informationszentrum - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)
.
Hilti (Schweiz) AG
Tel. 0041 / 844 84 84 85
Fax. 0041 / 844 84 84 86

2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**


GHS02 flame

Flam. Aerosol 1 H222 Extremely flammable aerosol.


GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.


GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**


Xn; Harmful

R20-40-48/20: Harmful by inhalation. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation.


Xn; Sensitising

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


Xi; Irritant

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


F+; Extremely flammable

R12: Extremely flammable.

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· **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
Warning! Pressurized container.

· **Label elements**

· **Labelling according to EU guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· **Code letter and hazard designation of product:**

Xn Harmful
F+ Extremely flammable

· **Hazard-determining components of labelling:**
diphenylmethanediisocyanate,isomeres and homologues

· **Risk phrases:**
12 Extremely flammable.
20 Harmful by inhalation.
36/37/38 Irritating to eyes, respiratory system and skin.
40 Limited evidence of a carcinogenic effect.
42/43 May cause sensitisation by inhalation and skin contact.
48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

· **Safety phrases:**
2 Keep out of the reach of children.
23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
51 Use only in well-ventilated areas.
63 In case of accident by inhalation: remove casualty to fresh air and keep at rest.

· **Special labelling of certain preparations:**
Identification as aerosol under § 6(3) Ordinance on Hazardous Materials (GefStoffV): Pressurised container. Protect from sun-light and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Do not spray onto a naked flame or any incandescent object
Contains isocyanates. See information supplied by the manufacturer
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material.
Buildup of explosive mixtures possible without sufficient ventilation.
· **Classification in accordance with Directive 75/324/EEC:** Extremely flammable
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:**

Mixture consisting of the following components.

· **Dangerous components:**		
CAS: 9016-87-9	diphenylmethanediisocyanate,isomeres and homologues Xn R20-40-48/20; Xn R42/43; Xi R36/37/38 Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	>25%
CAS: 13674-84-5 EINECS: 237-158-7	Tris(1-chloro-2-propyl)phosphate Xn R22 R52/53 Acute Tox. 4, H302; Aquatic Chronic 3, H412	<25%
CAS: 75-28-5 EINECS: 200-857-2	isobutane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	<15%
CAS: 106-97-8 EINECS: 203-448-7	butane, pure F+ R12 Flam. Gas 1, H220; Press. Gas, H280	<15%
CAS: 115-10-6 EINECS: 204-065-8	dimethyl ether F+ R12 Flam. Gas 1, H220; Press. Gas, H280	<10%

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CAS: 74-98-6 EINECS: 200-827-9	propane liquefied F+ R12 Flam. Gas 1, H220; Press. Gas, H280	<15%

· **SVHC** None
· **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**
· **General information**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation**
Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Move to fresh air in case of accidental inhalation of vapours. Consult a doctor after significant exposure.
· **After skin contact**
Treat affected skin portions with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.
· **After eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
· **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Information for doctor**
· **Most important symptoms and effects, both acute and delayed** Allergic reactions
· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Firefighting measures

· **Extinguishing media**
· **Suitable extinguishing agents** Water spray, carbon dioxide (CO2), carbon dioxide blanket, foam, or dry powder.
· **For safety reasons unsuitable extinguishing agents** Water with full jet.
· **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Burning produces irritant fumes
In case of fire, remove undamaged cans from the danger area immediately if possible.
Otherwise, cool with water. Danger of bursting!
Leaking, burning cans should be extinguished only when absolutely necessary. Spontaneous or explosive reignition may occur. Extinguish fire in surrounding area.
· **Advice for firefighters**
· **Protective equipment:**
In the event of fire, wear self contained breathing apparatus
Put on breathing apparatus.
· **Additional information** Cool endangered containers with water spray jet.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
Keep away from ignition sources
· **Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
· **Methods and material for containment and cleaning up:**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean with detergents. Avoid solvents.
Dispose of contaminated material as waste according to item 13.
Do not flush with water or aqueous cleansing agents
· **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

· **Handling**
· **Precautions for safe handling**
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Keep away from heat and direct sunlight.
Provide sufficient air exchange and/or exhaust in work rooms. When using, do not eat, drink or smoke. Ingestion, exposure to skin and eyes and inhalation of any general vapours should be avoided.
Open and handle container with care.
· **Information about protection against explosions and fires:**
Do not spray on flames or red-hot objects.
Keep ignition sources away - Do not smoke.

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Protect against electrostatic charges.
Beware: Container is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:**
Do not freeze. Store in original container
Keep out of reach of children. Keep containers dry and tightly closed to avoid moisture absorption and contamination.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store container in a well ventilated position.
Store in a cool place. Heat will increase pressure and may lead to the container exploding.
Do not transport in the passenger compartment or cabin of a motor vehicle.

· **Storage class** 2 B
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
9016-87-9 diphenylmethanediisocyanate,isomeres and homologues	
MAK (Switzerland)	Short-term value: 0,02 mg/m³, 0,005 ppm Long-term value: 0,02 mg/m³, 0,005 ppm als Gesamt-NCO gemessen
75-28-5 isobutane	
MAK (Switzerland)	1900 mg/m³, 800 ppm
106-97-8 butane, pure	
MAK (Switzerland)	1900 mg/m³, 800 ppm
115-10-6 dimethyl ether	
MAK (Switzerland)	1910 mg/m³, 1000 ppm
IOELV (European Union)	1920 mg/m³, 1000 ppm
74-98-6 propane liquefied	
MAK (Switzerland)	Short-term value: 7200 mg/m³, 4000 ppm Long-term value: 1800 mg/m³, 1000 ppm

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
Do not eat, drink or smoke while working.
Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Take off immediately all contaminated clothing
Do not inhale gases / fumes / aerosols.
· **Breathing equipment:**
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
Use breathing protection in case of insufficient ventilation.
· **Recommended filter device for short term use:** Filter AX
· **Protection of hands:**
Protective gloves
EN 374 + EN 388
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
PVC gloves
Rubber gloves
· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**
PVC gloves
· **As protection from splashes gloves made of the following materials are suitable:** PVC gloves
· **Not suitable are gloves made of the following materials:** Strong gloves

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· **Eye protection:**
Tightly sealed safety glasses.
EN 166 + EN 170
· **Body protection:** Protective work clothing.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Aerosol
Colour:	Different according to colour
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	<35 °C
· **Flash point:**	<0 °C (DIN 53213)
· **Inflammability (solid, gaseous)**	Not applicable.
· **Ignition temperature:**	235 °C
· **Decomposition temperature:**	Not determined.
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
· **Critical values for explosion:**	
Lower:	1,5 Vol %
Upper:	11 Vol %
· **Vapour pressure:**	Not determined
· **Density**	Not determined
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
dynamic:	Not determined.
kinematic:	Not determined.
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions**
Reacts with alcohols, amines, aqueous acids and alkalis
Danger of bursting
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** none, if stored and handled correctly.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
9016-87-9 diphenylmethanediisocyanate,isomeres and homologues		
Oral	LD50	>5000 mg/kg (rango)
Inhalative	LC50/4h	0,49 mg/l (rango)
13674-84-5 Tris(1-chloro-2-propyl)phosphate		
Oral	LD50	1150 - 1750 mg/kg (rango)

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Dermal	LD50	>2000 mg/kg (rango)
Inhalative	LC50/4h	>5 mg/l (rango)
74-98-6 propane liquefied		
Inhalative	LC50/4h	513 mg/l (rango)
115-10-6 dimethyl ether		
Inhalative	LC50/4h	308 mg/l (rango)
75-28-5 isobutane		
Inhalative	LC50/4h	>50 mg/l (rango)
106-97-8 butane, pure		
Inhalative	LC50/4h	658 mg/l (rango)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritant effect.
· **Sensitization:**
Sensitization possible by inhalation.
Sensitization possible by skin contact.
(trouble in breathing, cough, asthma)
Hypersensitve persons may react at very low concentrations of isocyanate.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
13674-84-5 Tris(1-chloro-2-propyl)phosphate	
EC50/48h	65 - 335 mg/l (magna daphnia)
EC50/72h	45 mg/l (Algae)
EC50/96h	56,2 mg/l (fisch)
9016-87-9 diphenylmethanediisocyanate,isomeres and homologues	
EC50/96h	>1000 mg/l (fisch)
115-10-6 dimethyl ether	
EC50/96h	>1000 mg/l (fisch)
74-98-6 propane liquefied	
EC50/96h	>1000 mg/l (fisch)

· **Persistence and degradability** This product is according to previous experiences inert and non-degradable.
· **Behaviour in environmental systems:**
· **Bioaccumulative potential** Does not accumulate in organisms
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
The product reacts with water releasing CO2, to form a solid, insoluble polycarbamide with a high melting point which, according to present knowledge, is inert and not degradeable.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
For disposal, local regulations issued by the authorities must be observed.
Use the entire contents of the can. The pressure gas (propane / butane) remains in the can.
Hand over to disposers of hazardous waste.

· **European waste catalogue**	
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

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20 01 00	separately collected fractions (except 15 01)
20 01 27*	paint, inks, adhesives and resins containing dangerous substances

· **Uncleaned packagings:**
· **Recommendation:**
Dispose of packaging according to regulations on the disposal of packagings.
Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**
· **ADR, IMDG, IATA** UN1950

· **UN proper shipping name**
· **ADR** 1950 AEROSOLS
· **IMDG** AEROSOLS
· **IATA** AEROSOLS, flammable

· **Transport hazard class(es)**

· **ADR**

· **Class** 2 5F Gases.
· **Label** 2.1

· **IMDG, IATA**

· **Class** 2.1
· **Label** 2.1

· **Packing group**
· **ADR, IMDG, IATA** Void

· **Environmental hazards:**
· **Marine pollutant:** No

· **Special precautions for user** Warning: Gases.
· **Kemler Number:** -
· **EMS Number:** F-D,S-U

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**
· **Limited quantities (LQ)** 1L
· **Transport category** 2
· **Tunnel restriction code** D

· **IATA**
· **Remarks:** Packing Instruction No. 203

· **UN "Model Regulation":** UN1950, AEROSOLS, 2.1

15 Regulatory information

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

· **National regulations**

· **VOCV (Switzerland)** 30 %

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
· **Chemical safety assessment:** not required.

CHE

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16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
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.
H412 Harmful to aquatic life with long lasting effects.

R12 Extremely flammable.
R20 Harmful by inhalation.
R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R42/43 May cause sensitisation by inhalation and skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Department issuing data specification sheet:**

Hilti Corporation
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Quality/Safety/Environment
FL-9494 Schaan / Liechtenstein

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FAX.: +423 234 3462

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent