



Safety Data Sheet

acc. to ISO 11014

Printing date 08/19/2015

Version number 20

Reviewed on 08/19/2015

1 Identification

- **Product identifier**
- **Trade name:** CFR 1 / CF 100 R1
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Building and construction work
- **Application of the substance / the mixture**
Cleaning agent/ Cleaner
Construction chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000
- **Information department:**
chemicals.hse@hilti.com
see section 16
- **Emergency telephone number:**
Chem-Trec
Tel.: 1 800 424 9300
Tox Info Suisse - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



- **Signal word** Danger
- **Hazard-determining components of labeling:**
acetone
propan-2-ol
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
- **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- **Classification system**
- **NFPA ratings (scale 0-4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: CFR 1 / CF 100 R1

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3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Solvent mixture.

- **Dangerous components:**

67-64-1	acetone	25-50%
67-63-0	propan-2-ol	25-50%
75-28-5	isobutane	10-25%
74-98-6	propane liquefied	2.5-10%

- **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** Immediately remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing**
Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed**
Headache
Dizziness
Nausea
- **Danger** Condition may deteriorate with alcohol consumption.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture** Can form explosive gas-air mixtures.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Ensure adequate ventilation
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep away from ignition sources
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **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 disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Contents under pressure. Do not store in direct sunlight. Do not store above 100°F. Do not open or burn even after use.
Don't spray on a naked flames or any incandescent material
Fumes can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from flammable substances.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

67-64-1 acetone (25-50%)

PEL	2400 mg/m ³ , 1000 ppm
REL	590 mg/m ³ , 250 ppm
TLV	Short-term value: 1782 mg/m ³ , 750 ppm Long-term value: 1188 mg/m ³ , 500 ppm
BEI	

67-63-0 propan-2-ol (25-50%)

PEL	980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: (1230) mg/m ³ , (500) ppm Long-term value: (983) mg/m ³ , (400) ppm NIC-200; 491; 400; 984; A 4

106-97-8 butane, pure (25-50%)

REL	1900 mg/m ³ , 800 ppm
TLV	1900 mg/m ³ , 800 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment**

- **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Do not eat, drink, smoke or sniff while working.

- **Breathing equipment:**

Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.

- **Recommended filter device for short term use:** Filter AX

- **Protection of hands:**



Protective gloves.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
EN 374

- **Material of gloves**

Nitrile rubber, NBR
Fluorocarbon rubber (Viton)

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.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles.

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· Body protection:



Protective work clothing.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Aerosol

Color: Colorless

· Odor: Solvent-like

· Odour threshold: Not determined

· pH-value: Not determined

· Change in condition

Melting point/Melting range: Not applicable

Boiling point/Boiling range: Not applicable, as aerosol

· Flash point: Not applicable, as aerosol

· Ignition temperature: > 230 °C (> 446 °F)

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower: 1.5 Vol %

Upper: 14.3 Vol %

· Vapor pressure at 20 °C (68 °F): 2.5-2.9 bar

· Density at 20 °C (68 °F): 0.75 g/cm³ (6.259 lbs/gal) (DIN 51757)

· Relative density: Not determined

· Vapour density: Not determined

· Evaporation rate: Not determined

· Solubility in / Miscibility with

Water: Partly miscible

· Partition coefficient (n-octanol/water): Not determined

· Viscosity:

dynamic: Not determined

kinematic: Not determined

· Solvent separation test: Not determined

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity: No further relevant information available.

· Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions

Forms explosive gas mixture with air

Danger of bursting

· Conditions to avoid: Protect from heat and direct sunlight.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: Danger of toxic pyrolysis products

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

67-64-1 acetone

Oral LD50 5800 mg/kg (rat)

Dermal LD50 20000 mg/kg (rbt)

Inhalative LC50/4h >20 mg/l (rat)

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67-63-0 propan-2-ol

Oral	LD50	4570 - 5840 mg/kg (rat)
Dermal	LD50	12800 - 13400 mg/kg (rabbit)
Inhalative	LC50/4h	30 - 46.5 mg/l (rat)

· Primary irritant effect:

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

· IARC (International Agency for Research on Cancer)

67-63-0 propan-2-ol

3

· NTP (National Toxicology Program)

None of the ingredients is listed

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

· Aquatic toxicity:

67-64-1 acetone

EC50/48h	7500 mg/l (Algae)
	12600 mg/l (magna daphnia)
EC50/96h	6500 mg/l (fish)

67-63-0 propan-2-ol

EC50/48h	9870 mg/l (fish)
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· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** Does not accumulate in organisms

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:** Not determined

· Additional ecological information:

· **General notes:** Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· 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

Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue:

14 06 03*	other solvents and solvent mixtures
16 05 04*	gases in pressure containers (including halons) containing dangerous substances

· Uncleaned packagings:

· Recommendation:

Disposal must be made according to official regulations.

Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· UN-Number

· DOT, ADR, IMDG, IATA

UN1950

· UN proper shipping name

· IMDG

· IATA

AEROSOLS

AEROSOLS, flammable

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· Transport hazard class(es)

· DOT



· Class

2.1

· Label

2.1

· ADR



· Class

2 5F Gases

· Label

2.1

· IMDG, IATA



· Class

2.1

· Label

2.1

· Packing group

Void

· DOT, ADR, IMDG, IATA

Void

· Environmental hazards:

· Marine pollutant:

No

· Special precautions for user

Warning: Gases

· Danger code (Kemler):

Void

· 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:

· 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

· Sara

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

67-63-0 |propan-2-ol

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65:

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

67-64-1 |acetone

I

· TLV (Threshold Limit Value established by ACGIH)

67-64-1 |acetone

A4

67-63-0 |propan-2-ol

A4

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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· Chemical safety assessment: not required.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**

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Business Unit Chemicals
Quality/Safety/Environment
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FAX.: +423 234 3462

· **Date of preparation / last revision 08/19/2015 / 19**

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Aerosol 1: Flammable aerosols, Hazard Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· *** Data compared to the previous version altered.**

US