

# Material Safety Data Sheet

CS: 1.4.22

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Infosafe No™ ACR8U Issue Date :May 2008 ISSUED by HILTI CS: 1.4.22

Product Name : **HILTI CF 116 POLYURETHANE FOAM**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name** HILTI CF 116 POLYURETHANE FOAM  
**Company Name** HILTI (AUST.) PTY LTD  
**Address** 1G Homebush Bay Drive, Rhodes 2138  
**Telephone/Fax Number** Tel: (02) 8748-1000  
 Fax: (02) 8748-1190  
**Recommended Use** Construction chemicals.

## 2. HAZARDS IDENTIFICATION

**Hazard Classification** HAZARDOUS SUBSTANCE.  
 DANGEROUS GOODS.  
 Hazard classification according to the criteria of NOHSC.  
 Dangerous goods classification according to the Australia Dangerous Goods Code.

**Risk Phrase(s)** R12 Extremely Flammable.  
 R36/37/38 Irritating to eyes, respiratory system and skin.  
 R42/43 May cause sensitisation by inhalation and skin contact

**Safety Phrase(s)** S16 Keep away from sources of ignition - No smoking.  
 S23 Do not breathe gas/fumes/vapour/spray  
 S24/25 Avoid contact with skin and eyes.  
 S36 Wear suitable protective clothing.  
 S37/39 Wear suitable gloves and eye/face protection.  
 S51 Use only in well ventilated areas.  
 S9 Keep container in a well ventilated place.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Tris(1-chloro-2-propyl)phosphate	13674-84-5	10-<30 %
	Butane, pure	106-97-8	2.5-10 %
	Dimethyl Ether	115-10-6	2.5-10 %
	Diphenylmethane-4, 4'-diisocyanate	101-68-8	2.5-10 %
	Other ingredients determined not to be hazardous		Balance
<b>Preparation Description</b>	Urethane prepolymer with propellant liquified under pressure, containing no CFC.		

## 4. FIRST AID MEASURES

**Inhalation** Remove the source of contamination or move the affected person to fresh air. Apply artificial respiration if not breathing. Seek medical attention.

**Ingestion** Do NOT induce vomiting. Wash out mouth with water. Seek medical attention.

**Skin** Wash affected area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse. If symptoms develop seek medical attention.

**Eye** If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed off completely. Seek medical attention.

**First Aid Facilities** Eye wash and normal washroom facilities.

**Advice to Doctor** Treat symptomatically.

**Other Information** For advice, contact the Poisons Information Centre, Australia on 131 126.

## 5. FIRE FIGHTING MEASURES

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**Suitable** Use dry chemical powder, carbon dioxide or foam.

**Extinguishing Media** Do NOT use water jets. Cool fire exposed containers with water spray.

**Hazards from Combustion Products** Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide, hydrogen chloride, hydrogen fluoride and hydrogen cyanide.

**Specific Hazards** Extremely flammable liquid. Vapour/air mixtures may ignite explosively. Precautions should be taken to eliminate the build up of explosive mixtures. Vapours are heavier than air and may travel long distances to an ignition source and flash back. Contents under pressure - cans can explode in a fire. 100°C

**Decomposition Temp.**

**Precautions in connection with Fire** Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

## 6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures** Extinguish or remove all sources of ignition and stop leak if safe to do so. Wear appropriate personal protective equipment and clothing to prevent exposure. Evacuate all unprotected personnel. Water spray or fog may be used to disperse/absorb vapour if any. Place inert, non-combustible absorbent material onto spillage. If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated. Undamaged cans should be gathered and stowed safely. Collect residues and seal in labelled drums for disposal. If contamination of sewers or waterways occurs inform the local water authorities and EPA in accordance with local regulations. Dispose of waste according to applicable local and national regulations.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling** Prevent concentration in hollows and sumps. This product contains an asphyxiant. Do not enter areas where product vapours or mists may exist without respiratory protection or until the atmosphere has been checked. Build up of mists or vapours in the atmosphere must be prevented. Vapours may spread along floors and form explosive mixtures with air. Avoid inhalation of vapour and mists. Do not use near welding or other ignition sources and avoid sparks. Do not smoke. Do not puncture cans. Do not incinerate empty cans. When dealing with large quantities, repeated or prolonged exposure without protection should be prevented in order to lessen the possibility of disorders. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities.

**Conditions for Safe Storage** Store in a cool (5°C to 25°C), well ventilated area away from sources of ignition. Protect from heat and direct sunlight. This product should be stored away from foodstuffs, oxidising agents and flammable substances. Keep containers securely closed and dry. Protect from physical damage and check periodically for leaks. Observe official regulations on storing packagings with pressurized containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards** No value assigned for this specific material by the Australian National Occupational Health and Safety Commission (NOHSC) however the available exposure limits on the ingredients are as follows:

Australian National Occupational Health And Safety Commission (NOHSC) Exposure Standards:

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Butane, pure	800	1900	-	-
Dimethyl ether	400	760	500	950
Diphenylmethane-4 4'-diisocyanate (Isocyanates, all as -NCO)	-	0.02	-	0.07

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	<p>TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.</p> <p>STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.</p> <p>No biological limit allocated.</p>
<b>Biological Limit Values</b>	
<b>Engineering Controls</b>	<p>Provide sufficient ventilation to keep airborne levels below exposure limits. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required. Refer to AS 2430 - Explosive gas atmospheres for further information concerning ventilation requirements.</p>
<b>Respiratory Protection</b>	<p>If engineering controls are not effective in controlling airborne exposure then a supplied air respirator should be used. For short-term exposure an organic vapour respirator may be acceptable. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.</p>
<b>Eye Protection</b>	<p>Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.</p>
<b>Hand Protection</b>	<p>Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.</p>
<b>Body Protection</b>	<p>Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.</p>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Light yellow liquid in an aerosol pressure pack.
<b>Decomposition Temperature</b>	100°C
<b>Melting Point</b>	Not available
<b>Boiling Point</b>	Not available
<b>Solubility in Water</b>	Insoluble
<b>Vapour Pressure</b>	5.5-6.0 bar at 20°C
<b>Vapour Density (Air=1)</b>	Not available
<b>Density</b>	0.9-1.0 g/cm <sup>3</sup> at 20°C
<b>Flash Point</b>	Butane: -60°C (Closed cup)
<b>Flammability</b>	This product is extremely flammable.
<b>Auto-Ignition Temperature</b>	230°C
<b>Flammable Limits - Lower</b>	1.5% Vol
<b>Flammable Limits - Upper</b>	18.6% Vol

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Product Name : **HILTI CF 116 POLYURETHANE FOAM**

**Explosion Properties** In use, may form flammable/explosive vapour-air mixture.

**Other Information** Self-inflammability: Product is not self-igniting.

## 10. STABILITY AND REACTIVITY

**Stability and Reactivity** Stable under normal conditions of storage and handling.

**Conditions to Avoid** Heat, direct sunlight, open flames or other sources of ignition.

**Incompatible Materials** For the concentrate: Oxidising agents, strong acids and moisture.

**Hazardous Decomposition Products** Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide, hydrogen chloride and hydrogen cyanide.

**Hazardous Polymerization** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Toxicology Information** No toxicity data is available for this product. However, the toxicity data for individual ingredients are listed:  
 Diphenylmethane-4,4'-diisocyanate:  
 LD50 (Oral, Rat) : 9,200 mg/kg  
 LC50 (Inhalation, Rat) : 178 mg/m<sup>3</sup>

Tris(1-chloro-2-propyl)phosphate:  
 LD50 (Oral, Rat) : 1,500 mg/kg

Butane, pure:  
 LC50 (Inhalation, Rat) : 658,000 mg/m<sup>3</sup>/4H

Dimethyl ether:  
 LC50 (Inhalation, Rat) : 308,000 mg/m<sup>3</sup>

**Inhalation** Inhalation may cause sensitisation in some individuals. Inhalation can irritate the respiratory system. May cause CNS depression with symptoms including drowsiness, dizziness, fatigue, confusion, headache and possible unconsciousness.

**Ingestion** Not a likely source of exposure due to aerosol. Ingestion of liquid content may however cause irritation to the gastrointestinal system. Symptoms may include abdominal pain, nausea, vomiting, diarrhoea or depression of the central nervous system including nausea, headaches, dizziness, fatigue, loss of coordination, unconsciousness and possibly narcosis.

**Skin** Irritating to eyes, may cause redness and itching. Skin contact may cause sensitisation in some individuals.

**Eye** Irritating to eyes. On eye contact this product will cause tearing, stinging, blurred vision, and redness.

**Chronic Effects** Prolonged or repeated skin contact may cause defatting leading to dermatitis. Prolonged inhalation may cause central nervous system depression with symptoms including dizziness, drowsiness, nausea and headaches.

**Other Information** Sensitisation: Hypersensitive persons may react at very low concentrations of isocyanate.

## 12. ECOLOGICAL INFORMATION

**Ecological Information** This product reacts with water releasing CO<sub>2</sub> to form a solid, insoluble polycarbamide with a high melting point which, according to present knowledge, is inert and not degradable.

**Ecotoxicity** Not available

**Persistence / Degradability** Not available

**Mobility** Not available

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Product Name : **HILTI CF 116 POLYURETHANE FOAM**

**Bioaccumulative Potential** Not available  
**Environ. Protection** Prevent this material entering waterways, drains and sewers.

### 13. DISPOSAL CONSIDERATIONS

**Disposal Considerations** The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

### 14. TRANSPORT INFORMATION

**Transport Information** This material is classified as a Class 2.1 Dangerous Good according to the Australian Code for the Transport of Dangerous Goods. Class 2.1 Flammable Gases shall not be loaded or packed in the same vehicle or freight as:  
 - Class 1, Explosives  
 - Class 3, Flammable Liquids (If both the Class 2.1 and Class 3 dangerous goods are in bulk),  
 - Class 4.1, Flammable Solids  
 - Class 4.2, Spontaneously Combustible Substances  
 - Class 4.3, Dangerous When Wet Substances  
 - Class 5.1, Oxidising Agents  
 - Class 5.2, Organic Peroxides  
 - Class 7, Radioactive Substances.

**U.N. Number** 1950

**Proper Shipping Name** AEROSOLS

**DG Class** 2.1

**Packaging Method**

**Packing Group**

**EPG Number** 2D1

**IERG Number** 49

### 15. REGULATORY INFORMATION

**Regulatory Information** Classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.  
 Classified as a Scheduled Poison S6 according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

**Poisons Schedule** S6

**Hazard Category** Harmful, Irritant, Extremely Flammable

### 16. OTHER INFORMATION

**Date of preparation or last revision of MSDS** MSDS Review: May 2008  
 Supersedes: October 2004

**Contact Person/Point** For further information call Hilti (Aust) Pty. Ltd. on: (02) 8748 1000 (Business Hours).  
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