

1. Identification of Substance & Company



Company Details:

Hilti (New Zealand) Ltd
 Unit 1/B, 525 Great South Rd
 1050 Penrose
 Auckland, 1061
 PO Box 112- 030, Penrose
 Ph 09 526 7783 (between 7-30 AM and 6-30 PM)
 EMERGENCY TELEPHONE NUMBER
 0800 623 000 (National Poisons Centre)

Product

Product name	Hilti GC 21
Other names	NA
Product code	GC11
HSNO approval	HSR002515
Approval description	Aerosols (Flammable) Group Standard 2006
UN number	1950
Proper Shipping Name	AEROSOL
Packaging group	NA
Hazchem code	1T (recommended)
Uses	Propellant gas for GX100 Direct fastening tool

2. Hazard Identification

Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002515, Aerosols (Flammable) Group Standard 2006), and is classified as follows:

Classes

2.1.2A
 6.4A

Hazard Statements

Extremely flammable aerosol.
 Causes eye irritation.

SYMBOLS

DANGER



Other Classifications

There are no other Classifications that are known to apply.

Precautionary Statements

Keep out of reach of children.
 Read label before use.
 Keep away from ignition sources. No smoking.
 Do not spray on an open flame or other ignition source.
 Pressurized container: Do not pierce or burn, even after use.
 Protect from sunlight and do not expose to temperatures exceeding 50°C.
 Wash hands thoroughly after handling.
 Wear eye/face protection.

Further precautionary statements can be found in Section 4 – First Aid.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Class for ingredient(s)	Conc (%)
isobutane	75-28-5	2.1.1.A	25-90%
propene	115-07-1	2.1.1A	10-25%
propane	74-98-6	2.1.1A	5-15%
butane, pure	106-97-8	2.1.1A	2-5%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

Gas can with 2 chambers:

1. Propane/butane (pressure gas) – remains in the can after use.
2. Isobutane, dimethylether, ethanol, propene, mineral oil (active agent), buta-1,3-diene content <0.1%

4. First Aid

General Information

You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). If medical advice is needed, have product container or label at hand. IF exposed or concerned: Get medical advice.

Recommended first aid facilities Ready access to running water is required. Accessible eyewash is required.

Exposure

Swallowed

Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. If eye irritation persists: Get medical advice.

Skin contact

This product is non-irritating to skin. No further measures should be required.

Inhaled

IF INHALED: If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards:

This product is a flammable aerosol. This product has the potential to cause fire or to create an additional hazard during fire. Buildup of explosive mixtures possible without sufficient ventilation.

Container may rupture/explode in a fire.

Remove undamaged cans if safe to do so.

Leaking or burning cans should be extinguished only when absolutely necessary.

Spontaneous or explosive reignition may occur. Extinguish fire in surrounding area.

Carbon dioxide, extinguishing powder, foam, fog sprays, water spray.

Suitable extinguishing substances:

Unsuitable extinguishing substances:

Water with full water jet.

Products of combustion:

Carbon dioxide, and if combustion is incomplete, carbon monoxide, oxides of sulphur and oxides of nitrogen and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.

Protective equipment:

Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.

Hazchem code:

1T (recommended)

6. Accidental Release Measures

Containment	If greater than 3000L is stored, secondary containment and emergency plans to manage any potential spills must be in place. Prevent spillage from spreading or entering soil, waterways or drains.
Emergency procedures	The container size will generally prevent a major spill. In the event of a large spillage (>100kg) alert the fire brigade to location and give brief description of hazard. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).
Clean-up method	Note: flammable vapours are possible. Collect undamaged cans and recycle. Collect damaged cans and seal in properly labelled containers or drums for disposal.
Disposal	Collect recoverable material into labelled containers for recycling or salvage. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
Precautions	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Be aware of fire risk – avoid sources of ignition.

7. Storage & Handling

Storage	Protect from sunlight. Do not expose to temperatures exceeding 50 °C. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Containers should be kept closed in order to minimise contamination and to avoid water/humidity creating pressure in the container (risk of rupture) and/or causing corrosion to the container. Keep from extreme heat and open flames. Do not puncture containers. Avoid contact with incompatible substances as listed in Section 10. Location test certificates must be available if storing greater than 3000 L of flammable aerosols with 2.1.2A classification.
Handling	Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Do not puncture containers. Do not pierce or burn, even after use. Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by the NZ Department of Labour for this product. There is a general limit of 10mg/m³ for dusts and mists when limits have not otherwise been established.

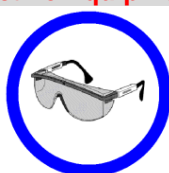
NZ Workplace Exposure Stds (OSH – DoL 2011)	Ingredient	WES-TWA	WES-STEL
	isobutane	800ppm 1900mg/m ³	NA
	dimethyl ether	400ppm, 766mg/m ³	500ppm, 958mg/m ³
	ethanol	1000ppm, 1880mg/m ³	no data
	propane	no data	no data
	butane	800ppm 1900mg/m ³	no data
	propene	simple asphyxiant	no data

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety in Employment Act 1992 (HSE). Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

Eyes Avoid contact with eyes. Do not spray near eyes. Use safety goggles or safety goggles with side shields.



Skin Protective gloves and clothing are not normally necessary. However, it is prudent to wear

Respiratory



gloves when handling chemicals in bulk or for an extended period of time. A respirator when airborne concentrations approach the WES (section 8). Use an organic vapour cartridge. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	aerosol - colourless
Odour	characteristic
pH	NA
Vapour pressure	11.5bar at 50°C
Viscosity	no data
Boiling point	NA (aerosol)
Volatile materials	NA (aerosol)
Freezing / melting point	no data
Solubility	insoluble
Specific gravity / density	0.8g/cm ³
Flash point	flammable aerosol
Danger of explosion	formation of explosive air/steam mixture is possible
Auto-ignition temperature	<300°C
Upper & lower flammable limits	LEL 1%, UEL32%
Corrosiveness	non corrosive

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Flammable substance. Keep away from sources of ignition at all times. Containers should be kept closed in order to avoid contamination.
Incompatible groups	Oxidising agents
Substance Specific Incompatibility	none known
Hazardous decomposition products	Carbon dioxide, carbon monoxide.
Hazardous reactions	Danger of bursting. Can form explosive gas mixture in air.

11. Toxicological Information

Summary

IF SWALLOWED: unlikely route of exposure. Symptoms of exposure will be similar to if inhaled. (see below)

IF IN EYES: may cause transient irritation (redness, tearing)

IF ON SKIN: repeated or prolonged exposure may cause dryness of the skin.

IF INHALED: This mixture contains gases that are regarded as asphyxiants. Inhalation of large amounts vapours, aerosol or spray may lead to narcotic effect, which can, over extended time present a health hazard.

Supporting Data

Acute	Oral	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: ethanol >5000mg/kg, propane >5000mg/kg.
	Dermal Inhaled	No evidence of dermal toxicity. This mixture contains gasses that are regarded as asphyxiants. Inhalation of large amounts vapours, aerosol or spray may lead to narcotic effect, which can, over extended time present a health hazard.
Chronic	Eye	The mixture is considered to be an eye irritant, isobutane and dimethyl ether are eye irritants in higher concentrations.
	Skin	The mixture is not classed as a skin irritant, however contact may result in slight irritation.
	Sensitisation	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	Reproductive / Developmental Systemic	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation. No ingredient present at concentrations > 1% is considered a target organ toxicant. See inhalation toxicity above.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

This mixture is not considered ecotoxic in the environment.

Supporting Data

Aquatic	The mixture is in the form of an aerosol. None of the ingredients are considered harmful in the aquatic environment.
Bioaccumulation	No data
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	The mixture is not considered to be harmful to terrestrial vertebrates.
Terrestrial invertebrate	No evidence of toxicity towards terrestrial invertebrates.
Biocidal	no data
Environmental effect levels	No EELs are available for this mixture or ingredients

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	Disposal of this product must comply with the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
Contaminated packaging	Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Considered a hazardous substance for transport.

UN number:	1950	Proper shipping name:	AEROSOL
Class(es)	2	Packing group:	NA
Precautions:	Flammable Aerosol	Hazchem code:	1T (recommended)

IMDG

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN number:	1950	Proper shipping name:	AEROSOL
Class(es)	2.1	Packing group:	NA
Precautions:	Flammable Aerosol	EmS	F-D, S-U

IATA

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN number:	1950	Proper shipping name:	AEROSOL
Class(es)	2.1	Packing group:	NA
Precautions:	Flammable Aerosol		

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002515, Aerosols (Flammable) Group Standard 2006.

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing > any quantity.
Labelling	No removal of labels and/or decanting of product into other containers can occur.
Emergency plan	Required if > 3000L is stored.
Approved handler	Required if > 3000L is handled or stored.
Tracking	Not required.
Bunding & secondary containment	Required if > 3000L is stored.
Signage	Required if > 3000L is stored in any one location.
Location test certificate	Required if > 3000L is stored in any one location.
Flammable zone	Must be established if > 3000L is stored.
Fire extinguisher	If > 3000L present.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health, Safety in Employment Act and Regulations, local Council Rules and Regional Council Plans.

16. Other Information**Abbreviations**

Approval Code	Approval HSR002515, Aerosols (Flammable) Group Standard 2006 Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
Ceiling	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
Controls Matrix	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
EC₅₀	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
ERMA	Environmental Risk Management Authority (now EPA)
EPA	Environmental Protection Agency (previously known as ERMA)
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UEL	Upper Explosive Limit
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID) http://www.epa.govt.nz/hs/compliance/chemicals.html , for specific chemicals.
EPA Transfer Gazettes	Classifications and controls assigned for specific ingredients (consolidated gazette, 2004)
Controls Matrix	Part of the EPA New Zealand User Guide to the HSNO Control Regulations
WES 2013	The NZ Workplace Exposure Standards Effective from 2013, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz .
Other References:	Suppliers SDS

Review

Date	Reason for review
June 2012	Not applicable – new SDS - draft
August 2012	Finalised, adjustment to section 6
November 2014	Update, review of classes for ingredients. Review of toxicological data, formatting. DoL to WorkSafe, including IATA and IMDG information.

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications, are based on our experience, EPA Guidelines and international classifications. This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: (09) 940 30 80.

