

**I. PRODUCT AND COMPANY IDENTIFICATION**

Company: Simpson Strong-Tie Company, Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588

Product Name: **GFC34 AND GFC34-RC2**

Product Description: Gas Concrete Nailer Fuel Cell

Emergency Contact No.: 1-800-535-5053 USA
1-352-323-3500 **International**

Date Prepared or Revised: February 2009
For most current MSDS, please visit our web site at www.simpsonanchors.com.

II. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Names | CAS Numbers | Weight % |
|----------------|-------------|----------|
| Propylene | 115-07-1 | 50-80 |
| N-Butane | 106-97-8 | 20-50 |

III. HAZARD IDENTIFICATION**EMERGENCY OVERVIEW**

Colorless, highly flammable gas with a light petroleum smell. Dangerous fire and explosion hazard. Avoid heat, sparks, and flames. Direct contact may cause frostbite ("cold" burn). Simple Asphyxiant – product may displace oxygen content in the air causing asphyxiation if released in a confined area. High concentrations may have an anesthetic effect. May react with oxidizers. Contents under pressure.

POTENTIAL HEALTH EFFECTS**ACUTE**

Eye Contact: May cause momentary freezing followed by swelling and eye damage.
Skin Contact: May cause frostbite ("cold" burn). This material is a gas under normal atmospheric conditions. No harmful effects from skin absorption are expected.
Ingestion: This material is a gas under normal atmospheric conditions. Ingestion is unlikely.
Inhalation: Asphyxiant. High concentrations in confined spaces may limit oxygen available for breathing.

ENVIRONMENTAL HAZARDS

Unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and under photochemical degradation

IV. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of lukewarm water for at least 15 minutes while holding the eyes open. **CONSULT A PHYSICIAN.**

Skin Contact: Treat burned or frostbitten skin by washing or immersing the affected area(s) in lukewarm water. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. **CONSULT A PHYSICIAN.**

Ingestion: This material is a gas under normal atmospheric conditions. Ingestion is unlikely.

Inhalation: Remove patient to fresh air. If patient continues to experience difficulty breathing, **CONSULT A PHYSICIAN.**

V. FIRE-FIGHTING MEASURES

General Fire Hazards: This material is flammable and can be ignited by heat, spark, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source



Suitable Extinguishing Media: of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Closed containers exposed to extreme heat can rupture due to pressure buildup.
Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire And Explosion Hazard: Carbon monoxide and carbon dioxide.

Fire Fighting Equipment and Procedures: Wear full protective clothing and self-contained breathing apparatus for fire fighting. Isolate fuel supply from fire. Clear fire area of all non-emergency personnel. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Stay away from ends of container. Stop spill/release if it can be done with minimal risk. If this cannot be done, allow fire to burn. Cool equipment exposed to fire with water, if it can be done with minimal risk. Water spray maybe useful in minimizing or dispersing vapors and to protect personnel.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use cautious judgment when cleaning up spill. Shut off leaks, if possible without personal risk. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

Containment Procedures: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended.

Clean-up Methods: Stay upwind and away from spill/release. Notify person down wind of the spill/release. Isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Water spray may be useful in minimizing or dispersing vapors.

Additional Information: Notify authorities if any exposures to the general public or environment occur or are likely to occur. Dispose in accordance with federal, state, and local regulations.

VII. STORAGE AND HANDLING

Storage: Pressurized container: must not be exposed to temperatures above 50°C (120°F). Ground all equipment containing material.

Handling (Personnel): To prevent skin and eyes contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Avoid breathing vapor or spray mists. Handle in a well-ventilated work area. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits.

Handling and Storage Precautions: In addition to limitations on storage temperature, fuel cells should be handled and stored so as to avoid puncture. Even when the fuel cell is empty, the can still contains flammable gas. Do not puncture fuel cell or expose fuel cell to high temperature. Do not attempt to refill the fuel cell. The use of explosion-proof electrical equipment is recommended and may be required.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Measure: Wear appropriate personal protective equipment.

Eye Protection: Avoid contact with eyes. Wear chemical splash goggles or safety glasses with side shield.

Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.

Skin and Body Protection: Wear chemical-resistant gloves and other clothing as required to minimize contact.

Respirator Protection: In case of brief exposure or low concentration, use respiratory filter device. In case of intensive or longer exposure, use self-contained respiratory protective device.

Exposure Limits:

| Chemical Names | ACGIH (TWA) | OSHA (PEL) | NOISH (TWA) |
|----------------|-------------|------------|--------------------------------|
| Propylene | 500 ppm | NE | NE |
| n-butane | 1000 ppm | NE | 800 ppm; 1900mg/m ³ |

IX. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------|--|
| Form: | Compressed gas |
| Color: | Colorless |
| Odor: | Slight petroleum smell |
| Vapor Pressure: | NE |
| Boiling Point: | -47.7°C / -0.5°C (-54°F / 34°F) |
| Melting Point: | -191.2°C / -138.4°C (-312°F / -217°F) |
| Flash Point: | -60°C / -140°C (-76°F / -220°F) Closed Cup |
| Upper Flammable Limit | 8.4/11% |
| Lower Flammable Limit | 1.9/2% |
| Specific Gravity: | N/E |
| pH: | NA |
| Solubility In Water: | Negligible |

X. REACTIVITY DATA

| | |
|--|---|
| Stability: | Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable gas. |
| Conditions To Avoid: | Avoid all possible sources of ignition. |
| Materials To Avoid: | Avoid contact with nitrogen dioxide, nitrogen tetroxide, nitrous oxide, lithium nitrate, sodium dioxide, and trifluoromethyl hypofluorite and other strong oxidizing agents |
| Hazardous Decomposition Products: | Combustion may produce carbon monoxide, carbon dioxide. |
| Hazardous Polymerization: | Polymerization will not occur. |

XI. TOXICOLOGICAL PROPERTIES

| | |
|---|---------------|
| Acute Oral (LD₅₀, Rat): | N/E |
| Acute Dermal (LD₅₀, Rabbit): | N/E |
| * N-butane (106-97-8) | |
| Acute Inhalation (LC₅₀, Rat): | 658000 mg/L4H |

*** Propylene (115-07-1)**

Chronic exposure to anesthetic concentrations resulted in mild to moderate fatty degeneration of the liver in mice. Hepatotoxicity in rats only occurs when the animals are pretreated with polychlorinated biphenyls, suggesting that activation of the cytochrome P-450 mixed function oxidase system is necessary for propylene-induced liver injury to occur; however, none of these effects have been described in exposed humans.

| | |
|-------------------------------|---|
| Sensitization: | No data available for this product. |
| Mutagenicity: | No data available for this product. |
| Teratogenicity: | No data available for this product. |
| Carcinogenicity: | |
| * Propylene (115-07-1) | IARC Group 3 (not classifiable*) Monograph 60 91994, Supplement 7 (1987) |

*There is inadequate evidence in humans for the carcinogenicity of propylene. There is inadequate or limited evidence in experimental animals for the carcinogenicity of propylene.



XII. ECOLOGICAL INFORMATION

Component Analysis – Ecotoxicity – Aquatic Toxicity

There is no information available on the ecotoxicological effects of petroleum gases. Because of their high volatility, they are unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and undergo photochemical degradation.

Environmental Fate: No information available for the product.
Other adverse effects: No information available for the product.

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions: Do not crush, puncture, or incinerate spent containers. Large numbers of aerosol containers may require handling as a hazardous waste. Dispose of container and unused contents in accordance with federal, state, and local requirements.
* Even when used up the fuel cell still contains flammable gas. Do not puncture the can or incinerate.

XIV. TRANSPORTATION

US DOT (CFR): ORM-D
IATA: UN1950, Aerosols, flammable, 2.1.
IMO: UN1950, Aerosols, flammable, 2.1.

XV. REGULATORY INFORMATION

International Regulatory Information

| Component | TSCA | DSL | EINECS |
|-----------|------|-----|--------|
| Propylene | Yes | Yes | Yes |
| n-butane | Yes | Yes | Yes |

US Federal Regulations

EPA SARA Title III Section 312 (40 CFR 370) Hazardous Classification:

Flammable/Acute/Chronic Health Hazard/Sudden Release

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above ‘de minimus’ level:

None.

State Regulations

| Component | CA | FL | MA | MN | NJ | PA |
|-----------|-----|-----|-----|-----|-----|-----|
| Propylene | Yes | Yes | Yes | Yes | Yes | Yes |
| n-butane | No | No | Yes | Yes | Yes | Yes |

XVI. OTHER INFORMATION

HMIS RATING

| Health | Flammability | Physical Hazard |
|--------|--------------|-----------------|
| 1 | 4 | 1 |

NFPA RATING

| Health | Flammability | Instability |
|--------|--------------|-------------|
| 1 | 4 | 1 |

N/E – Not Established;

N/A – Not available or Not Applicable

This Material Safety Data Sheet (MSDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this MSDS. This MSDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.