Gas Concrete Nailer Fuel Cell
SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: **GFC34 and GCF34-RC2**
Recommended Use: Gas Concrete Nailer Fuel Cell
Use Restrictions: None Known.
Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588, USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. HAZARD IDENTIFICATION

Physical Hazards: Flammables Gases — Category 1
Gases Under Pressure — Liquefied Gas
Health Hazards: Not Classified.
Environmental Hazards: Not Classified.

Signal Word: **DANGER!**
Hazard Statements: Extremely flammable gas. Contains gas under pressure; may explode if heated.
Precautionary Statements:
Prevention: Keep away from heat/sparks/open flame/hot surfaces. No smoking. Do not breathe fumes/vapors.
Response: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
Storage: Store locked up. Store in a well-ventilated place. Protect from sunlight.
Disposal: Dispose of contents/container in accordance with local/regional/national regulations.

Hazards not otherwise Classified (HNOC): 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.
Direct contact may cause frostbite ("cold" burn).

3. COMPOSITION INFORMATION

Chemical Name	CAS Number	Weight %
Propane	74-98-6	0-99
Isobutane	75-28-5	1-60
Propylene	115-07-1	0-60
n-Butane	106-97-8	1-43

Composition Note: This product is a mixture. Hazardous ingredients are listed above. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

4. FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of lukewarm water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**
Skin Contact: Treat burned or frostbitten skin by washing or immersing the affected area in lukewarm water. If rash or irritation persists **consult a physician.**
Ingestion: This material is a gas under normal atmospheric conditions. Ingestion is unlikely.

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms: Irritant effects.

General Information: Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen.

Additional Information: Use caution when applying carbon dioxide in a confined space.

Hazards during Fire-Fighting: This material is extremely 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 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.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Isolate fuel supply from fire. 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 may be useful in minimizing or dispersing vapors and to protect personnel. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-up Methods: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Notify person downwind of the spill/release. Isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors.

Environmental Precautions: Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE

Handling: 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. Keep away from open flames, hot surfaces and sources of ignition. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Observe good industrial hygiene practices.

Storage: Store locked up. Pressurized container: must not be exposed to temperatures above 50°C (120°F). Ground all equipment containing material. Store in a cool, dry place out of

direct sunlight. Keep away from heat and sources of ignition. Store in a well-ventilated place. Protect against physical damage. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear goggles or safety glasses.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection: The use of a respirator is not required during normal use of this product in properly ventilated areas. An approved respirator should be worn whenever workplace conditions warrant respirator use.
General Hygiene: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Engineering Controls: When using indoor good general ventilation should be used. Provide eyewash station and emergency shower.

Exposure Limits:

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Propylene (CAS 115-07-1)	N/E	500 ppm	N/E
n-Butane (CAS 106-97-8)	N/E	1000 ppm	800 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Gas
Form: Compressed Gas
Color: Colorless
Odor: Odorless
Odor Threshold: N/E
pH: N/A
Upper Flam: 8.4/11%
Vapor Pressure: 6.9bar at 21.2°C
17.8bar at 50°C
Solubility: Negligable
Freezing/Melting Point: -300.1 °F (-184.5°C)
Boiling Point: -43.6-32 °F (-42-0°C)
Flash Point: 184 °F (84.4 °C) Open Cup
Evaporation Rate: N/E
Specific Gravity: 0.54 kgs/Lt in liquid
VOC: Not Applicable.
Lower Flam: 1.9/2%
Vapor Density: approx. 1.5 (Air=1)
Kow: N/A
Viscosity: N/A

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable gas.
Condition to Avoid: Avoid all possible sources if ignition.
Substances to Avoid: Nitrogen dioxide, nitrogen tetraoxide, lithium nitrate, sodium dioxide, trifluormethyl hypofluorite and other strong oxidizing agents.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

11. TOXILOGICAL INFORMATION

Information on likely routes of exposure:
Ingestion: Ingestion is unlikely.
Inhalation: This material is a simple asphyxiant. Inhalation may have an anesthetic effect.
Skin contact: May cause frostbite.
Eye contact: May cause eye irritation.

Information on toxicological effect:

Acute toxicity: Not expected to be acutely toxic.

Component	Species	Test Result
Propane (CAS 74-98-6)		
Acute, *Inhalation*, LC50	Rat	>1442 mg/l, 15 minutes
Propylene (CAS 74-98-6)		
Acute, *Inhalation*, LC50	Rat	658 mg/l, 4 Hours
n-Butane (CAS 106-97-8)		
Acute, *Inhalation*, LC50	Rat	658 mg/l, 4 Hours

Skin corrosion/irritation: May cause frostbite with potential for tissue damage.
Eye damage/eye irritation: May cause eye irritation.
Respiratory sensitization: Not classified.
Skin sensitization: Not classified.
Germ cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
IARC Monographs. Overall Evaluation of Carcinogenicity
Propylene (CAS 115-07-1) 3 Not Classifiable as to carcinogenicity in humans.
Reproductive toxicity: Not classified.
Aspiration hazard: Not Applicable.
Specific target organ toxicity:
Single exposure Not classified.
Repeated exposure Not classified.

Further information: Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. ECOLOGICAL INFORMATION

Ecotoxicity: 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.
Persistence and degradability: The product is readily biodegradable.
Bioaccumulative potential: Not expected to bioaccumulate.
Mobility in soil: May evaporate quickly.
Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal of Substance: 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.**

14. TRANSPORTATION INFORMATION

United States Department of Transportation (USDOT): Consumer Commodity, ORM-D / Limited Quantity

International Air Transportation Association (IATA):
UN number: UN1950
UN proper shipping name: Aerosols, Flammable
Transport hazard class(es): 2.1

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
This substance/mixture is not intended to be transported in bulk.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. REGULATORY INFORMATION

US Federal Regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)

Propane (CAS 74-97-8)	LISTED
Propylene (CAS 115-07-1)	LISTED
n-Butane (CAS 106-97-8)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard	Yes
	Delayed Hazard	Yes
	Fire Hazard	Yes
	Pressure Hazard	Yes
	Reactivity Hazard	Yes

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical Yes
SARA 313 (TRI reporting)

Component	CAS	% In Blend (approx.)
Propylene	115-07-1	0-60

Other Federal Regulations
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Propane (CAS 74-97-8)	LISTED
Propylene (CAS 115-07-1)	LISTED
n-Butane (CAS 106-97-8)	LISTED

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Butane (CAS 106-97-8)	Listed	Listed	Listed	Listed
Propane (CAS 74-98-6)	Listed	Listed	Listed	Listed
Propylene (CAS 115-07-1)	Listed	Listed	Listed	Listed

This product does not contain known levels of any chemicals known to the State of California to cause cancer or reproductive harm as per **California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986).**

International Inventories

Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

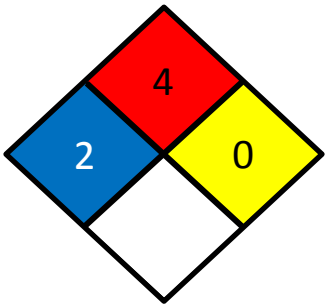
This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

	
Class B-1: Flammable Gas	**Class A:** Gas Under Pressure

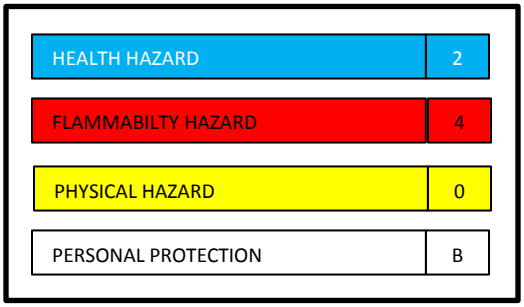
16. OTHER INFORMATION

Date Prepared or Revised: June 2014
Supersedes: August 2012

NFPA Ratings



HMIS Rating



Legend

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR: Controlled Product Regulations (Canada)
DOT: Department of Transportation (U.S.)
EPA: Environmental Protection Agency (U.S.)
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
HEPA: High-Efficiency Particulate Air
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer

IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
LPP:	Limité Permisible Ponderado (Chile)
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
OSHA:	Occupational Safety and Health Administration (U.S.)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
SDS:	Safety Data Sheet
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
U.S.:	United States
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Safety Data Sheet (SDS) 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 SDS. This SDS 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.

FOR INTERNAL USE ONLY

A Component 764:
XCGAS