Gas Concrete Nailer Fuel Cell
SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier: **GFC34 and GFC34-RC2**
Recommended Use: GFC34/GFC34-RC2 is a Gas Concrete Nailer Fuel Cell for use to fuel the GCN-MEPMAG and GCNMEP concrete-nailer tools, as well as other major brands'.
Use Restrictions: Do not tamper with fuel cell. To ensure proper installation use according to package directions, complete application instructions can be found in Simpson Strong-Tie catalogs or online at strongtie.com.

Company Identification

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

General Information

GFC34/GFC34-RC2 Gas Concrete Nailer Fuel Cell is a gas-based, fuel cell for use with the GCN-MEPMAG and GCNMEP concrete nailer tools. Each fuel cell can power 1200 shots and has an operating temperature range of 20-120°F (-6 - 49°C). The product has been assessed according to the Globally Harmonized System (GHS). This Safety Data Sheet covers hazards and responses for the safe use and handling of GFC34/GFC34-RC2.

GHS Classification

Classification according to HazCom2012 (GHS)

Physical Hazards:	Flammable Gases	Category 1	H220: Extremely flammable gas
	Gases Under Pressure	Liquefied Gas	H280: Contains gas under pressure; may explode if heated
Health Hazards:	Not Classified.		
Environmental Hazards:	Not Classified.		

Main Symptoms: Direct contact with contents can cause cold burns (frostbite) on skin. Symptoms include burns, red/white/blue/gray-yellow skin, blisters, and numbness. High concentrations released into the air may cause dizziness, difficulty breathing, or have an anesthetic effect.

GHS Label Elements

Flammable | Compressed Gas

Contains: Propane, Isobutane, Propylene, n-Butane
Signal Word: **DANGER!**
Hazard Statements:
H220: Extremely flammable gas.
H280: Contains gas under pressure; may explode if heated.

Precautionary Statements:
Prevention:
P102: Keep out of reach of children.
P103: Read label before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P235: Keep cool.
P251: Do not pierce or burn, even after use.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.

	P282:	Wear cold insulating gloves and either face shield or eye protection.
Response:	P302+P336:	IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area.
	P315:	Get immediate medical advice/attention.
	P332+P313:	If skin irritation occurs: Get medical advice/attention.
	P363:	Wash contaminated clothing before reuse.
	P377:	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
	P381:	In case of leakage, eliminate all ignition sources.
Storage:	P403+P235:	Store in a well-ventilated place. Keep cool.
	P405:	Store locked up.
	P410:	Protect from sunlight.
Disposal:	P501:	Dispose of contents/container in accordance with local/regional regulations.

Supplemental Label Information: None known.

Hazards Not Otherwise Classified (HNOC)

GFC34/GFC34-RC2 is a simple asphyxiant. The product may displace oxygen content in the air, causing asphyxiation if released in a confined area. High concentrations may cause dizziness, difficulty breathing, or have an anesthetic effect. Direct contact with contents may cause cold burns (frostbite). Ensure that good work practices, and the necessary precautionary measures, are taken to maintain safe use of the product.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

List of abbreviations and symbols:
Classification: Globally Harmonized System Classifications
The full text for H-phrases is displayed in section 16. All concentrations are in percent by weight unless otherwise noted.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	Weight %	CAS Number	EC Number
Propane **Classifications:** Flam. Gas 1: H220, Liq. Gas: H280	0-99	74-98-6	200-827-9
Isobutane **Classifications:** Flam. Gas 1: H220, Liq. Gas: H280	1-60	75-28-5	200-857-2
Propylene **Classifications:** Flam. Gas 1: H220, Liq. Gas: H280	0-60	115-07-1	204-062-1
n-Butane **Classifications:** Flam. Gas 1: H220, Liq. Gas: H280	1-43	106-97-8	203-448-7

4. First-Aid Measures

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.

Routes of Exposure

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 you experience redness, burning, blurred vision, or swelling, **consult a physician.**

Skin Contact: Treat burned or frostbitten skin by washing or immersing the affected area in lukewarm water. If rash or irritation occurs **consult a physician.**

Ingestion: This material is a gas under normal atmospheric conditions. Ingestion is unlikely. If ingestion occurs, rinse mouth immediately. Do not induce vomiting. **Consult a physician immediately.**

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

Direct contact with contents can cause cold burns. Symptoms include burns, red/white/blue/gray-yellow skin, blisters, and numbness. Inhalation when high concentrations are release into air may cause dizziness, difficulty breathing, or have an anesthetic effect.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).

Additional Information: The use of carbon dioxide can displace oxygen. Use with caution when applying in a confined space.

Hazards during Fire-Fighting: This product 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, and calculators which have not been certified as intrinsically safe). Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Possible creation of vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If the 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. During a fire, gases hazardous to health may be formed.

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 containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. 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

Non-emergency personnel: 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.

Emergency personnel: Keep unnecessary personnel away. Wear appropriate personal protective equipment.

Clean-Up Methods

Small spills: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended. Stop spill/release if it can be done with minimal risk. Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: 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. Isolate danger area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. 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. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

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. Wear appropriate personal protective equipment. 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. Store in a closed container away from incompatible materials (See Section 10 of the SDS). Protect against physical damage. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear goggles, safety glasses with side shields, or a full-face shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl. Cold insulating gloves recommended if direct contact with contents may occur.
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 NIOSH-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

Mechanical ventilation or local exhaust ventilation is recommended. Ventilation rates should be matched to maintain airborne levels below recommended exposure limits. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Propane (CAS 74-98-6)	1000 ppm	2500 ppm	1000 ppm
Isobutane (CAS 75-28-5)	N/E	N/E	800 ppm
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
U. Flammability: 8.4/11%
Vapor Pressure: 6.9bar at 21.2°C/17.8bar at 50°C
Solubility: Negligable
Decomposition: N/A
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: N/A
L. Flammability: 1.9/2%
Vapor Density: Approx. 1.5 (Air = 1)
Kow: N/A
Viscosity: N/A

10. Stability and Reactivity

Reactivity: Stable under normal, ambient conditions of use and storage. Flammable gas.
Chemical Stability: Stable under normal, ambient conditions of use and storage. Flammable gas.
Condition to Avoid: Avoid all possible sources of ignition.
Substances to Avoid: Strong oxidizers (i.e. Nitrogen dioxide, Nitrogen tetraoxide, Lithium nitrate, Sodium dioxide, Trifluormethyl hypofluorite, etc.).
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Ingestion is unlikely.
Inhalation: Inhalation may have an anesthetic effect (simple asphyxiant).
Skin contact: Contact with contents can cause cold burns (frostbite).
Eye contact: Direct eye contact can cause serious irritation.

Symptoms: In direct contact of contents with skin, symptoms include burns, red/white/blue/gray-yellow skin, blisters, and numbness. High concentrations released into the air can cause dizziness, difficulty breathing, or cause an anesthetic effect.

Information on Toxicological Effects

Acute Effects

Toxicity: Not expected to be acutely toxic. Occupational exposure to the substance or mixture may cause adverse effects.

Component	Species	Estimate
GFC34/GFC34-RC2 Toxicity Estimate		
Acute, *Inhalation,* LC50	Rat	1000 mg/l

Skin corrosion/irritation: Direct contact with skin can result in cold burns, with potential for tissue damage.
Eye damage/eye irritation: Direct contact with eyes can result in serious eye irritation.
Respiratory sensitization: No data available.
Skin sensitization: No data available.
Aspiration hazard: No data available.
Specific target organ toxicity
Single exposure: No data available.

Chronic Effects

Germ cell mutagenicity: No data available.
Carcinogenicity: This product and its components are not considered to be carcinogens by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity: No data available.
Specific target organ toxicity
Repeated exposure: No data available.

Carcinogen / Reproductive Toxin / Mutagen Information

Component	% In Blend (approx.)	IARC Monographs	NTP	ACGIH	Other
Propylene (CAS 115-07-1)	0-60	3	---	---	---

IARC: 1- Carcinogenic 2- Possibly carcinogenic 3 – Not classifiable as to carcinogenicity 4 – Probably not carcinogenic
NTP: Known to be human carcinogen or Reasonably anticipated to be a human carcinogen
ACGIH – A1 – Confirmed carcinogen A2 – Suspected carcinogen A3 – Animal carcinogen A4 – Not classified A5 – Not suspected
CA65 – California Prop 65

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

General Information

Information given is based on data on the components and the ecotoxicology of similar products. This material is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment

Supporting Data

Persistence and degradability: Not readily biodegradable.
Bioaccumulative potential: Not expected to bioaccumulate.
Mobility in soil: No data available.

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 allow material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Container Disposal: Do not crush, puncture, or incinerate spent containers. Large numbers of aerosol containers may require handling as a hazardous waste. Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

DOT: Consumer Commodity, Limited Quantity

UN number: UN1950
UN proper shipping name: Aerosols, Flammable, 2.1
Transportation Class: 2.1
Environment Hazard: No
Required Labels: 2.1
EmS (IMDG): F-D, S-U

Additional Information

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: Not applicable.

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

United States

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): Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	Yes	Yes	Yes

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

Chemical Name	CAS Number	% by Weight
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 74-98-6)	LISTED
Isobutane (CAS 75-28-5)	LISTED
Propylene (CAS 115-07-1)	LISTED
n-Butane (CAS 106-97-8)	LISTED

California Proposition 65:
WARNING: This product can expose you to chemicals which are known to the State of California to cause cancer, reproductive harm, or other birth defects. For more information, go to www.P65Warnings.ca.gov.

Canada

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

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

Australia	All components of this product are listed on the Australian Inventory of Chemical Substances (AICS).
Canada	All components of this product are included on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).
China	All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC)
Europe	All components of this product are included on the European Inventory of Existing Commercial Chemical Substances (EINECS) or are exempt from listing.
Japan	All components in this product are listed on the Inventory of Existing and New Chemical Substances (ENCS).
Korea	All components of this product are included on the Existing Chemicals List (ECL)
New Zealand	All components of this product are included on the New Zealand Inventory.
Philippines	All components in this product are listed in the Philippine Inventory of Chemicals and Chemical Substances (PICCS).
United States & Puerto Rico	All components of this product are listed on the Toxic Substances Control Act (TSCA) Inventory or are not required to be listed.

16. Other Information

Date Prepared or Revised: March 2022
Supersedes: December 2020
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Abbreviations

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)
HPR: Hazardous Product Regulations (Canada)
DOT: Department of Transportation (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
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)
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)
VOC: Volatile Organic Compounds
WHMIS: Canadian Workplace Hazardous Materials Information System

Full Text of H-Phrases Under Section 3
H220: Extremely flammable gas.
H280: Contains gas under pressure; may explode if heated.

Disclaimer

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.

Internal

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