



## Safety Data Sheet

Butane-Butylene

### SECTION 1 IDENTIFICATION

**Product Name:** Butane-Butylene

**Synonyms:** BB's, Alky Deprop Bottoms, Olefins, Non-Odorized LPG, Alky Feed

**SDS #:**F4.2

**Product Use:** Refinery Feedstock

**Restrictions on Use:** None known

**Manufacturer:**

Sinclair Oil Company  
P.O. Box 30825  
Salt Lake City, Utah 84130

**Telephone:**   **General Information:** (801) 524-2777   **Fax:** (801) 524-2740

**Contact person:** Jeremiah Webster

**Emergency Telephone:** 800-424-9300 (CHEMTREC) or (703) 527-3887

**SDS Date of Preparation:** December 8, 2014

### SECTION 2: HAZARDS IDENTIFICATION

**Classification:** NA

Physical	Health
Flammable Gas Category 1 Gases Under Pressure Liquefied Gas Category 1	Simple Asphyxiant

**Label Elements:**

Danger!



**Health Phrases:**

Extremely flammable gas

Contains gas under pressure; may explode if heated.

May displace oxygen and cause rapid suffocation.

**Precautionary Phrases:**

Keep away from heat, sparks, open flames and hot surfaces. No smoking.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Eliminate all ignition sources if safe to do so.

Protect from sunlight. Store in a well-ventilated place.

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Gases, (petroleum), extractive, C3-5, butene-isobutylene-rich	68477-42-9	99-100%

### SECTION 4 EMERGENCY and FIRST AID PROCEDURES

**Eye Contact:** If contact with liquefied gas occurs, immediately flush eyes with lukewarm water for several minutes. Get immediate medical attention.

**Skin Contact:** Contact with liquefied gas may cause frostbite. Flush with copious amounts of lukewarm water. Get immediate medical attention.

**Inhalation:** If respiratory symptoms occur, remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get medical attention.

**Ingestion:** This product is a gas under normal atmospheric conditions and ingestion is unlikely.

**Most important symptoms/effects, acute and delayed:** Contact with liquefied gas may cause frostbite to eye and skin. High concentrations of gas may displace oxygen and cause asphyxiation. If respiratory symptoms occur, immediately remove to fresh air and get medical attention.

**Indication of immediate medical attention and special treatment, if necessary:** If contact with liquefied gas occurs, get immediate medical attention. If respiratory symptoms occur, immediately remove to fresh air and get medical attention.

#### SECTION 5 FIRE and EXPLOSION HAZARD DATA

**Suitable extinguishing media:** Water fog, foam, carbon dioxide, dry chemical. Water spray may be used to keep fire exposed containers cool, protect personnel attempting to stop leaks and to disperse vapors.

**Specific hazards arising from the chemical:** Gas is extremely flammable and may readily be ignited by static charge, sparks and flames. Gas may travel a considerable distance to a source of ignition and flash back. Gases may form explosive mixtures with air. Cylinders can burst violently when heated, due to excess pressure build-up.

**Special protective equipment and precautions for fire-fighters:** Firefighters should wear full emergency equipment and a NIOSH approved positive pressure self-contained breathing apparatus. Use approved gas detectors in confined spaces.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective equipment. Evacuate the area. Stop the leak if able to do so. Eliminate ignition sources. Ventilate the area with explosion proof equipment. Check oxygen and flammability content in confined areas before entering the spill area.

**Environmental hazards:** Report spill as required by local and federal regulations.

**Methods and materials for containment and cleaning up:** Stop the leak if it can be done safely. Use water spray to minimize and disperse vapors. Use explosion proof equipment to ventilate the area and ensure full dispersal of vapors.

#### SECTION 7 HANDLING and STORAGE

**Precautions for safe handling:** Eliminate all sources of ignition. Do not breathe gas. The gas is heavier than air and may accumulate in lowered spaces. Use non-sparking tools and explosion-proof electrical equipment. Ground container and transfer equipment to eliminate static electric sparks. Before entering storage tanks and confined areas check the atmosphere for oxygen content and flammability.

**Conditions for safe storage, including any incompatibilities:** Store in a cool, well-ventilated place. Keep container tightly closed. Secure cylinders in an upright position at all times and keep all valves closed when not in use. Protect from physical damage. Secure cylinders from falling or being knocked over. Separate propane cylinders from oxygen, chlorine and other oxidizers. Storage area must meet national electric codes for Class 1 hazardous areas. Store only where temperatures will not exceed 125°F (52°C).

Empty containers retain product residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Outdoor or detached storage is preferred. Follow all SDS precautions in handling empty containers.

**SECTION 8 EXPOSURE CONTROLS and PERSONAL PROTECTION**

**Exposure Guidelines:**

<b>INGREDIENTS</b>	<b>EXPOSURE LIMITS</b>	<b>NIOSH IDLH</b>
Gases, (petroleum), extractive, C3-5, butene-isobutylene-rich (as LPG)	1000 ppm TWA OSHA PEL	None Established

**Appropriate engineering controls:** If the recommended exposure limit is exceeded increased mechanical ventilation such as local exhaust may be required. Explosion proof equipment should be used.

**Respiratory protection:** If exposure limits are exceeded or if oxygen levels are unknown or deficient, use a NIOSH approved supplied air respirator. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

**Skin protection:** Insulated work gloves are recommended for cylinder handling and prevent exposure to liquid.

**Eye protection:** Wear chemical safety glasses when handling cylinders.

**Other:** Wear protective clothing if needed to avoid prolonged skin contact. Suitable washing facilities should be available in the work area.

**SECTION 9 PHYSICAL and CHEMICAL PROPERTIES**

**Appearance (physical state, color, etc.):** Clear, colorless gas

**Odor:** Odorless. Rotten egg odor if odorant is added.

<b>Odor threshold:</b> None	<b>pH:</b> Not applicable
<b>Melting point/Pourpoint:</b> Not available	<b>Boiling Point:</b> Not available
<b>Flash point:</b> >100°F / >37.8°C	<b>Evaporation rate:</b> Not applicable
<b>Flammability (solid, gas):</b> Extremely flammable gas	
<b>Flammable limits: LEL:</b> 1.7%	<b>UEL:</b> 12.0%
<b>Vapor pressure:</b> <50 psia @100°F	<b>Vapor density (air = 1):</b> >1
<b>Relative density:</b> Not available	<b>Solubility:</b> Not available
<b>Partition coefficient: n-ctanol/water:</b> Not available	<b>Auto-ignition temperature:</b> Not available
<b>Decomposition temperature:</b> Not available	<b>Viscosity:</b> Not available

**SECTION 10 STABILITY and REACTIVITY**

**Reactivity:** This product is not expected to be reactive.

**Chemical stability:** The product is stable.

**Possibility of hazardous reactions:** Heat will increase the pressure in cylinders and may cause an explosion.

**Conditions to avoid:** Avoid heat, spark, open flames and all sources of ignition.

**Incompatible materials:** Avoid oxidizing agents, alkalis and nickel carbonyl.

**Hazardous decomposition products:** Thermal decomposition may yield carbon monoxide and carbon dioxide.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Health Hazards:**

**Inhalation:** Inhalation of gas may cause irritation of the nose, throat and upper respiratory tract. Simple asphyxiant. High concentrations may cause narcotic effects causing headache, dizziness, fatigue, confusion, decreased coordination and other central nervous system effects. Continued exposure can cause hypoxia, rapid breathing, cyanosis and numbness of extremities. Gas may displace the oxygen in the air causing unconsciousness and death.

**Skin Contact:** Skin contact with gas may cause mild irritation. Skin contact with liquid may cause frostbite.

**Eye Contact:** Gas may cause mild irritation with redness and tearing. Contact with liquid may cause frostbite.

**Ingestion:** This product is a gas and ingestion is unlikely due to physical form.

**Chronic Effects of Overexposure:** None known.

**Mutagenicity:** None of the components have been shown to cause mutagenic activity.

**Reproductive Toxicity:** None of the components have been shown to cause reproductive or developmental effects.

**Carcinogenicity:** None of the components are listed as a carcinogen by IARC, NTP or OSHA.

**Acute Toxicity Values:**

Propane: Inhalation rat LC50 5.8 mg/L/4 hr.

<b>SECTION 12: ECOLOGICAL INFORMATION</b>
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**Ecotoxicity:**

Propane: 96 hr LC50 fish 19 mg/L, 48 hr EC50 daphnia sp. 11 mg/L, 96 hr EC50 green algae 11 mg/L (estimate)

Petroleum gases are expected to readily evaporate and not cause adverse effects on the aquatic environment.

**Persistence and degradability:** This product is expected to be readily biodegradable.

**Bioaccumulative potential:** Bioaccumulation is expected to be low.

**Mobility in soil:** Not relevant due to product form.

**Other adverse effects:** None known.

<b>SECTION 13: DISPOSAL INFORMATION</b>
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**Waste Disposal Method:** Recycle container. Dispose in accordance with all local, state and federal regulations.

<b>SECTION 14: TRANSPORTATION INFORMATION</b>
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	UN Number	Proper shipping name	Hazard	Packing	Environmental
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			<b>Class</b>	<b>Group</b>	<b>Hazard</b>
<b>DOT</b>	UN1978	Propane	2.1		
<b>TDG</b>	UN1978	Propane	2.1		
<b>IMDG</b>	UN1978	Propane	2.1		
<b>IATA</b>	UN1978	Propane	2.1		

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable

**Special precautions:** None known.

## SECTION 15: REGULATORY INFORMATION

**Safety, health, and environmental regulations specific for the product in question.**

**CERCLA Hazardous Substances (Section 103)/RQ:** This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**EPA SARA 311 Hazard Classification:** Acute Health, Fire Hazard, Pressure Hazard

**SARA 313:** This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

**CALIFORNIA PROPOSITION 65:** This product may contain chemicals known to the State of California to cause cancer or reproductive toxicity.

**WHMIS CLASSIFICATION:** Class A (Compressed Gas), Class B, Division 1 (Flammable Gas)

This product has been classified in accordance with the hazard criteria in the CPR and the SDS contains all the information required by the CPR.

**Australia AICS:** All of the components are listed on the Australian Inventory of Chemical Substances.

**Canada DSL:** All of the components are listed on the Canadian Domestic Substances List.

**European EINECS:** All of the ingredients are listed on the EINECS inventory.

**Korea:** All the components are listed on the Korean Existing Chemical List.

**US EPA Toxic Substances Control Act:** All of the components of this product are listed on the TSCA inventory.

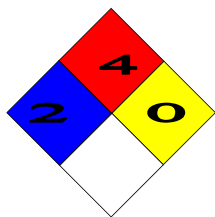
## SECTION 16: OTHER INFORMATION

**SDS Revision History:** Converted to GHS format – all Sections revised

**Date of current revision:** December 8, 2014

**Date of previous revision:** New SDS

**National  
Fire  
Protection  
Association  
(U.S.A)**



**Health: 2  
Flammability : 4  
Instability: 0  
Specific Hazard:**

Disclaimer: This product material safety data sheet provides health and safety information. The product should be used in applications consistent with this product literature. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations.

This material safety data sheet is provided in good faith and meets the requirements of the hazardous communication provisions of SARA TITLE III and 29 CFR 1910.1200(g) of the OSHA regulations. The above information is based on review of available information Sinclair believes is reliable and is supplied for informational purposes only. Sinclair does not guarantee its completeness or accuracy. Since conditions of use are outside the control of Sinclair, Sinclair disclaims all warranties, express or implied, and any liability for damage or injury which results from the use of the above data. Nothing herein is intended to permit infringement of valid patents and licenses.