



Material Safety Data Sheet

1, 2 Butadiene

MSDS No. 000088T

Date of Preparation: 06-03-08

Supersedes: 11-09-06

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: 1, 2 Butadiene

Chemical Formula: C₄H₆

CAS Number: 590-19-2

Other Designations: N/a.

General Use: N/a.

Manufacturer: Organic Technologies, 1245 South 6th Street, Coshocton, Ohio 43812 Telephone number (740)622-0755.

Fax number (740)622-3231. 24 Hour Emergency Telephone number (800)424-9300.

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	%wt or %vol
1, 2 Butadiene	590-19-2	>98%

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
1, 2 Butadiene	None established	None established	None established	None established	None established	None established	None established

Section 3 - Hazards Identification

Emergency Overview

HMIS
H 3
F 4
R 1
PPE†
†Sec. 8

Potential Health Effects

Primary Entry Routes: Eyes, lungs, skin.

Target Organs: Eyes, skin, lungs.

Acute Effects

Inhalation: Excessive inhalation of vapors can cause nausea and narcotic effects, dizziness, weakness, fatigue, and headache due to asphyxiation.

Eye: Can cause slight irritation, redness, tearing, blurring vision.

Skin: May cause irritation. Contact with liquid causes frostbite.

Ingestion: May cause irritation.

Carcinogenicity: IARC, NTP, and OSHA do not list components at concentrations above 0.1% which are considered as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: N/a.

Chronic Effects: To the best of our knowledge the toxicological properties of this material have not been fully investigated.

Section 4 - First Aid Measures

Inhalation: Remove to fresh air. If problems persist, seek appropriate medical attention.

Eye Contact: Flush with copious amounts of water for at least fifteen minutes. Seek appropriate medical attention.

Skin Contact: Flush with copious amounts of water. Take appropriate measures if frostbite occurs. Seek appropriate medical attention.

Ingestion: Seek appropriate medical attention.

Note to Physicians: Upon direct exposure, this material can cause frostbite.

Special Precautions/Procedures: N/a.

Section 5 - Fire-Fighting Measures

Flash Point: -58 °F

Flash Point Method: N/a.

Burning Rate: N/a.

Autoignition Temperature: N/a.

LEL: 1.6% v/v

UEL: 18.3% v/v

Flammability Classification: Flammable Gas.

Extinguishing Media: Dry chemical, Carbon dioxide.

Unusual Fire or Explosion Hazards: Warning - flammable gas. Keep away from open flame. Exposure to heat builds up pressure in closed containers. Cool with water spray.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide.

Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures:

Small Spills: Cover with absorbent, pick up, and place in a suitable container.

Large Spills

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Follow all applicable local, state, and federal regulations during decon.

Regulatory Requirements: Follow all applicable local, state, and federal regulations.

Section 7 - Handling and Storage

Handling Precautions: Wear all appropriate personal protective equipment.

Storage Requirements: Store material in D.O.T. approved containers. Vapors can travel considerable distances reaching a source of ignition and flash back. Keep away from open flame.

Regulatory Requirements: Follow all applicable local, state, and federal regulations.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen.

Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Gas

Appearance and Odor: Colorless gas with a

Water Solubility: Negligible

Other Solubilities: N/a.

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Vapor Pressure: 21.25 psia at 21.1 °C

Vapor Density (Air=1): N/a.

Formula Weight: 54.0

Density: N/a.

Specific Gravity (H₂O=1, at 4 °C): Less than 1

pH: Neutral

Viscosity: N/a.

Refractive Index: N/a.

Surface Tension: N/a.

% Volatile: 100%

Evaporation Rate: N/a.

Section 10 - Stability and Reactivity

Stability: This material is unstable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization can occur.

Chemical Incompatibilities: Strong oxidizing agents, strong acids, and bases.

Conditions to Avoid: Vapors can travel considerable distances reaching a source of ignition and flash back. Keep away from open flame.

Hazardous Decomposition Products: Thermal oxidative decomposition of carbon monoxide, carbon dioxide, various hydrocarbons.

Section 11- Toxicological Information

Toxicity Data:

Eye Effects: None established.

Skin Effects: Contact with liquid can cause frostbite.

Acute Inhalation Effects:

Excessive inhalation of vapors can cause nausea and narcotic effects, dizziness, weakness, fatigue, and headache due to asphyxiation.

Acute Oral Effects:

None established.

Chronic Effects: None established.

Carcinogenicity: None established.

Mutagenicity: None established.

Teratogenicity: None established.

Section 12 - Ecological Information

Ecotoxicity: None established.

Environmental Fate: None established.

Environmental Degradation: None established.

Soil Absorption/Mobility: None established.

Section 13 - Disposal Considerations

Disposal: Follow all applicable all applicable local, state, and federal regulations.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Butadienes,
stabilized

Shipping Symbols: 2.1

Hazard Class: 2.1

ID No.: UN1010

Packing Group:

Label: Flammable gas

Section 15 - Regulatory Information

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SARA 311/312 Codes:

Acute: Yes.

Chronic: No.

Fire: Yes.

Reactivity: No.

Sudden Release: Yes.

SARA Toxic Chemical (40 CFR 372.65): Not listed.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed.

SRA section 313 Supplier Notification: This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372):

CAS Number

Chemical Name

De Minimus Limit

None

None

None

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed.

Section 16 - Other Information

Prepared By: The Safety Department.

Revision Notes: The information of this form is furnished solely for the purpose of compliance with OSHA's Hazard Communication Standard, 29 CFR 1910.1200 and shall not be used for any other purpose.

Disclaimer: The information contained herein is believed to be accurate, but is not warranted to be. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. Organic Technologies shall not be liable for any loss or damage arising out of the use thereof.