

SAFETY DATA SHEET

ExxonMobil

CRUDE BUTADIENE

Section 1. Identification

Product name : CRUDE BUTADIENE

Product description : Olefin

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Chemical feedstock

Uses advised against : This product is not recommended for any industrial, professional or consumer use other than the identified uses above.

Supplier : ExxonMobil Product Solutions Company (a division of Exxon Mobil Corporation)
SDS – LOC. 106
22777 Springwoods Village Parkway
Spring, TX 77389-1425 USA

24-Hour emergency telephone number : 1-800-424-9300 / +1 703-741-5970 / +1-703-527-3887 (CHEMTREC)

Supplier General Contact : (832) 624-8500

SDS Internet Address : www.sds.exxonmobil.com

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas
SIMPLE ASPHYXIANTS
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1A

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H340 - May cause genetic defects.
H350 - May cause cancer.
May displace oxygen and cause rapid suffocation.

Precautionary statements

Prevention : P201 - Obtain special instructions 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.
P280 - Wear protective gloves, protective clothing and eye or face protection.

Response : P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.

Storage : P405 - Store locked up.
P410 + P403 - Protect from sunlight. Store in a well-ventilated place.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Supplemental label elements	: Keep container tightly closed. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.
Contains	: gases, petroleum, light steam-cracked, butadiene conc.
Hazards not otherwise classified	: None known.
Note	: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Section 3. Composition/information on ingredients

Substance/mixture	: Substance
Chemical name	: gases, petroleum, light steam-cracked, butadiene conc.

Ingredient name	% by weight	Identifiers
gases, petroleum, light steam-cracked, butadiene conc.	100	CAS: 68955-28-2
1,3-butadiene	30 - 80	CAS: 106-99-0
butylene	10 - 45	CAS: 25167-67-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. Wash clothing before reuse. Clean shoes thoroughly before reuse. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 10 minutes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Get medical attention.
Ingestion	: As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use water fog, dry chemical or carbon dioxide (CO ₂) to extinguish flames.
Unsuitable extinguishing media	: Do not use water jet.

Specific hazards arising from the chemical	: Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
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Hazardous combustion products	: Incomplete combustion products, Oxides of carbon, Smoke, Fume
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Special protective actions for fire-fighters	: Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. No action shall be taken involving any personal risk or without suitable training.
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Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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Section 6. Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

Personal precautions, protective equipment and emergency procedures

Section 6. Accidental release measures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Accidental releases pose a serious fire or explosion hazard. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid breathing gas.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Thermal burn hazard - contact with hot material may cause thermal burns. Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Contact with rapidly expanding gas may cause burns or frostbite.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Static Accumulator** : This material is a static accumulator.
- Loading/Unloading Temperature** : Ambient
- Transport Temperature** : Ambient
- Transport Pressure** : Ambient

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.
- Storage Temperature** : Ambient
- Storage Pressure** : Ambient

Section 7. Handling and storage

Suitable Containers/Packing : Pipelines, Barges, Dedicated Railcars, Tank Trucks, Tank Vessel

Suitable Materials and Coatings : steel, zinc, PTFE, Vinyl Coatings

Unsuitable Materials and Coatings : butyl rubber, copper, brass, Natural Rubber, Plastics, aluminum

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
gases, petroleum, light steam-cracked, butadiene conc. 1,3-butadiene	None. CAL OSHA PEL (United States, 5/2018) STEL 15 minutes: 11 mg/m ³ . STEL 15 minutes: 5 ppm. TWA 8 hours: 2.2 mg/m ³ . TWA 8 hours: 1 ppm. OSHA PEL (United States, 5/2018) TWA 8 hours: 1 ppm. STEL 15 minutes: 5 ppm. OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 1 ppm. STEL 15 minutes: 5 ppm. ACGIH TLV (United States, 1/2024) TWA 8 hours: 2 ppm. TWA 8 hours: 4.4 mg/m ³ .
butylene	ACGIH TLV (United States, 1/2024) [Butenes] TWA 8 hours: 250 ppm.
butane	NIOSH REL (United States, 10/2020) TWA 10 hours: 800 ppm. TWA 10 hours: 1900 mg/m ³ . CAL OSHA PEL (United States, 5/2018) TWA 8 hours: 1900 mg/m ³ . TWA 8 hours: 800 ppm. OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 800 ppm. TWA 8 hours: 1900 mg/m ³ . ACGIH TLV (United States, 1/2024) [Butane] Explosive potential. STEL 15 minutes: 1000 ppm.
isobutylene	ACGIH TLV (United States, 1/2024) TWA 8 hours: 250 ppm.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological exposure indices

Ingredient name	Exposure indices
1,3-butadiene	ACGIH BEI (United States, 1/2024) BEI: 2.5 mg/l [Semi-quantitative: The determinant is an indicator of exposure to the chemical, but the quantitative interpretation of the measurement is ambiguous. These determinants should be used as a screening test if a quantitative test is not practical or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.], 1,2 dihydroxy-4-(N-acetylcysteinyl)-butane [in urine]. Sampling time: end of shift. BEI: 2.5 pmol/g hemoglobin [Semi-quantitative: The determinant is an indicator of exposure to the chemical, but the quantitative interpretation of the measurement is ambiguous. These determinants should be used as a screening test if a quantitative test is not practical or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.], mixture of N-1- and N-2-

Section 8. Exposure controls/personal protection

(hydroxybutenyl)valine hemoglobin (Hb) adducts [in blood]. Sampling time: not critical.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Face shield.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties and safety characteristics

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Gas. [Compressed or Liquefied]
- Color** : Colorless

Section 9. Physical and chemical properties and safety characteristics

Odor	: Aromatic
Odor threshold	: Not available.
pH	: Not applicable.
Melting point/freezing point	: Not applicable.
Boiling point or initial boiling point and boiling range	: -6 to -4°C (21.2 to 24.8°F)
Flash point	: Closed cup: -30.01 to -18°C (-22 to -0.4°F) [ASTM D-56]
Evaporation rate	: Not available.
Flammability	: Flammable gases - Category 1
Lower and upper explosion limit/flammability limit	: Lower: 1.7% [In-house method] Upper: 9.6%
Vapor pressure	: 1810.02 mm Hg [20 °C]
Relative vapor density	: Not available.
Relative density	: 0.61
Solubility in water	: Negligible
Partition coefficient: n-octanol/water	: 2.09 to 2.31 [In-house method] Calculated value
Auto-ignition temperature	: 364 to 413°C (687.2 to 775.4°F) [In-house method]
Decomposition temperature	: Not available.
Viscosity	: 0.23 to 0.3 cSt
<u>Particle characteristics</u>	
Median particle size	: Not applicable.
Pour point	: -185 to -106°C [In-house method]

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. See Footnote
Incompatible materials	: See Footnote
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Duration
gases, petroleum, light steam-cracked, butadiene conc.	LC50 Inhalation Gas.	Rat	>5800 mg/m ³	4 hours

Conclusion/Summary

Section 11. Toxicological information

- Inhalation** : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test (s) equivalent or similar to OECD Guideline 403
- Dermal** : Minimally Toxic. No end point data for material.
- Oral** : Minimally Toxic. No end point data for material.

Irritation/Corrosion

Conclusion/Summary

- Skin** : Negligible irritation to skin at ambient temperatures. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
- Eyes** : May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
- Respiratory** : Negligible hazard at ambient/normal handling temperatures. No end point data for material.

Respiratory or skin sensitization

Conclusion/Summary

- Skin** : Not expected to be a skin sensitizer. No end point data for material.
- Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

- Conclusion/Summary** : May cause genetic defects. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476 478 482

Carcinogenicity

- Conclusion/Summary** : May cause cancer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453

Classification

Product/ingredient name	OSHA	IARC	NTP
1,3-butadiene	+	1	Known to be a human carcinogen.

Reproductive toxicity

- Conclusion/Summary** : Not expected to be a reproductive toxicant. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421 422

Specific target organ toxicity (single exposure)

- Conclusion/Summary** : Not expected to cause organ damage from a single exposure. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
gases, petroleum, light steam-cracked, butadiene conc.	Not applicable.	-

- Conclusion/Summary** : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 407 422 453

Aspiration hazard

- Conclusion/Summary** : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

Other information

- Contains** : 1,3- Butadiene. 1,3-Butadiene is a multi-site carcinogen in rodents. Epidemiology studies indicate an association between exposure to 1,3-butadiene and leukemia in humans. Mutations have been observed in in-vitro and in-vivo rodent assays. Although several older studies had conflicting results, a newer screening study in rats showed no adverse reproductive or developmental effects.

Section 11. Toxicological information

- Product** : Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume. Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

Toxicity

Conclusion/Summary

- Acute toxicity** : Not expected to be harmful to aquatic organisms.
Chronic toxicity : Not expected to demonstrate chronic toxicity to aquatic organisms.

Persistence and degradability

- Photolysis** : 4.064 day a component (s)
Hydrolysis : Material -- Transformation due to hydrolysis not expected to be significant.
Photolysis : Material -- Transformation due to photolysis not expected to be significant.
Atmospheric Oxidation : Material -- Expected to degrade rapidly in air

Bioaccumulative potential

Not determined.

Mobility in soil

- Mobility** : Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.





Other ecological information

- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
 Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1010	UN1010	UN1010	UN1010
UN proper shipping name	Butadienes and Hydrocarbon mixture, stabilized	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED,	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	Butadienes and hydrocarbon mixture, stabilized
Transport hazard class(es)	2.1	2.1	2.1	2.1
Label(s) / Marks				
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

Additional information

DOT Classification

- : **Reportable quantity** 12.5 lbs / 5.675 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- Limited quantity** Yes.
- Packaging instruction** Exceptions: 306. Non-bulk: 304. Bulk: 314, 315.
- Quantity limitation** Passenger aircraft/rail: Forbidden. Cargo aircraft: 150 kg.
- Special provisions** 387, T50

TDG Classification

- : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
- Explosive Limit and Limited Quantity Index** 0.125
- ERAP Index** 3000
- Passenger Carrying Road or Rail Index** Forbidden
- Special provisions** 155

IMDG

- : **Emergency schedules** F-D, S-U
- Special provisions** 386
- Flash point -30.01 - -18 °C C.C.

IATA

- : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 150 kg. Packaging instructions: 200. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
- Special provisions** A1, A209

- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

- Transport in bulk according to IMO instruments** : Not applicable.

Section 15. Regulatory information

U.S. Federal regulations

- : **TSCA 8(a) PAIR:** 1,2-butadiene
- TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
- Clean Air Act (CAA) 112 regulated flammable substances:** 1,3-butadiene; butylene; butane; isobutylene

TSCA 12(b) - Chemical export notification

Not applicable.

Section 15. Regulatory information

Clean Air Act Section 112 : Listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas
SIMPLE ASPHYXIANTS
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1A

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	1,3-butadiene	106-99-0	30 - 80
Supplier notification	1,3-butadiene	106-99-0	30 - 80

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: 1,3-BUTADIENE; BUTANE; 2-METHYLPROPENE


New York : The following components are listed: Butadiene

New Jersey : The following components are listed: 1,3-BUTADIENE; BUTYLENE; BUTANE; ISOBUTYLENE

Pennsylvania : The following components are listed: 1,3-BUTADIENE; BUTANE; 1-PROPENE, 2-METHYL-

Illinois : None of the components are listed.

California Prop. 65

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Inventory list

Australia inventory (AICC)	: All components are listed or exempted.
Canada inventory (DSL-NDSL)	: All components are listed or exempted.
China inventory (IECSC)	: Not determined.
Japan inventory (CSCL)	: Not determined.
Japan inventory (Industrial Safety and Health Act)	: Not determined.
New Zealand Inventory of Chemicals (NZIoC)	: Not determined.
Philippines inventory (PICCS)	: Not determined.
Korea inventory (KECI)	: All components are listed or exempted.

Section 15. Regulatory information

Taiwan Chemical Substances Inventory (TCSI) : Not determined.

United States inventory (TSCA 8b) : All components are active or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	1
Flammability		4
Physical hazards		3

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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



Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1	Expert judgment
GASES UNDER PRESSURE - Liquefied gas	Expert judgment
SIMPLE ASPHYXIANTS	Expert judgment
GERM CELL MUTAGENICITY - Category 1B	Expert judgment
CARCINOGENICITY - Category 1A	Expert judgment

History

Date of issue/Date of revision : 5 September 2024

Date of previous issue : 27 February 2024

Version : 1.01

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Product code : 1150466

Notice to reader

Section 16. Other information

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