SAFETY DATA SHEET

BUTADIENE

Section 1. Identification

Product name : BUTADIENE

Product description : Olefin, Gas or Liquefied Gas

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 (Huizhou) Chemical Co., Ltd
No. 1, Aotou Tianhou South Road
Daya Bay District, Huizhou City, Guangdong Province
516200

24 Hour Emergency Telephone : (+86)0532-83889090 (NRCC)

Supplier General Contact : (+86) 752-5518888

E-Mail : sds-CN.SM@exxonmobil.com

SDS Internet Address : www.sds.exxonmobil.com

Section 2. Hazards identification

Classification of the substance or mixture is in accordance with national standard GB30000 series of Specification/Rules for classification and labeling of chemicals

Emergency overview

Physical state : Gas. [Compressed or Liquified]

Colour : Colourless

Odour : Mild Aromatic Odour

Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May cause genetic defects.
May cause cancer.

Acts as a simple asphyxiant. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

IF exposed or concerned, get medical advice.

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

GHS label elements

Hazard pictograms :

Section 2. Hazards identification

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.

Precautionary statements

Prevention : P203 - Obtain, read and follow all safety instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.

Response : P318 - IF exposed or concerned, get medical advice.
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.

Physical and chemical hazards : Extremely flammable gas. Contains gas under pressure; may explode if heated.

Health hazards : May cause genetic defects. May cause cancer. Acts as a simple asphyxiant. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
frostbite

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
frostbite

Ingestion : Adverse symptoms may include the following:
frostbite

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Environmental hazards : No known significant effects or critical hazards.

Contains : buta-1,3-diene

Other hazards which do not result in classification : Acts as a simple asphyxiant. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

Section 2. Hazards identification

Nota : 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 : buta-1,3-diene

Ingredient name	% (v/v)	Identifiers
1,3-butadiene	100	CAS: 106-99-0

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

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

Section 4. First-aid measures

First aid

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. 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. Get medical attention.

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.

Ingestion : Get medical attention. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. 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. As this product rapidly becomes a gas when released, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

Eye contact : Liquid can cause burns similar to frostbite.

Ingestion : Ingestion of liquid can cause burns similar to frostbite.

Over-exposure signs/symptoms

Inhalation : No specific data.

Section 4. First-aid measures

Skin contact : Adverse symptoms may include the following: frostbite

Eye contact : Adverse symptoms may include the following: frostbite

Ingestion : Adverse symptoms may include the following: frostbite

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

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.

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : Use water fog, dry chemical or carbon dioxide (CO2) 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. The vapour/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion.

Hazardous combustion products : Incomplete combustion products, Oxides of carbon, Smoke, Fume

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 run-off 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.

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. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

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.

Personal precautions, protective equipment and emergency procedures

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. Do not touch or walk through spilt material. 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 specialised 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material 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.

Precautionary measures to prevent the occurrence of secondary disasters : Accidental releases pose a serious fire or explosion hazard. Shut off all ignition sources. No flares, smoking or flames in hazard area. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas.

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

Precautions for operating : 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.

Section 7. Handling and storage

Loading/Unloading Temperature : Ambient

Transport Temperature : Ambient

Transport Pressure : Ambient

Conditions for safe storage : 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

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

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

Unsuitable Materials and Coatings : Natural Rubber, Plastics, aluminium, copper, brass

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
1,3-butadiene	**GBZ 2.1 (China, 7/2024)** PC-TWA 8 hours: 5 mg/m³. **ACGIH TLV (United States, 1/2024)** TWA 8 hours: 2 ppm. TWA 8 hours: 4.4 mg/m³.

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

Biological exposure indices

Ingredient name	Exposure indices
1,3-butadiene	**GBZ 2.1 (China, 11/2022)** BEI: 2.9 mg/g Cr, 1,2-bis-hydroxy-4-(N-acetylcysteine) butane (DHBMA) [in urine]. Sampling time: end of work shift.

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, vapour 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.

Section 8. Exposure controls/personal protection

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 contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. 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. > 8 hours (breakthrough time): Viton, minimum 0.71 mm thickness or comparable protective barrier material
< 1 hour (breakthrough time): Viton, minimum 0.71 mm thickness or comparable protective barrier material

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. 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. Recommended: organic vapour filter (Type AX)

Section 9. Physical and chemical properties

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 and physical state

Physical state : Gas. [Compressed or Liquified]

Colour : Colourless

Odour : Mild Aromatic Odour

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : -109°C (-164.2°F) [Technical literature]

Boiling point or initial boiling point and boiling range : -4°C (24.8°F) [Technical literature]

Flash point : Closed cup: <-20°C (<-4°F) [ASTM D-56]

Evaporation rate : Not available.

Flammability : Flammable gases - Category 1

Lower and upper explosion limit/flammability limit : Lower: 2% [Technical literature]
Upper: 12%

Vapour pressure : 3150.26 mm Hg [38 °C]

Relative vapour density : 1.9 [Air = 1] [In-house method ,]

Section 9. Physical and chemical properties

Relative density : 0.63 [In-house method ,]

Solubility in water : Negligible

Partition coefficient: n-octanol/water : 1.99 [Technical literature]

Auto-ignition temperature : 420°C (788°F) [Technical literature]

Decomposition temperature : Not available.

Viscosity : 0.36 cSt [-18 °C] [In-house method ,]

Molecular weight : 54

Particle characteristics

Median particle size : Not applicable.

Coefficient of Thermal Expansion : 0.00198 per Deg C

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Forms peroxide unless inhibited.

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Must be inhibited to prevent polymerization.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas.

Incompatible materials : Strong oxidisers

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	Result
buta-1,3-diene	**Rat - Inhalation - LC50 Gas.** 285 mg/l [4 hours]

Conclusion/Summary

Inhalation : Minimally Toxic. Data available. Based on test data for the material. 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. No end point data for material.

Eyes : May cause mild, short-lasting discomfort to eyes. Data available.

Respiratory : Negligible hazard at ambient/normal handling temperatures. No end point data for material.

Section 11. Toxicological information

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.

Germ Cell Mutagenicity

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

Carcinogenicity

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

Classification

Product/ingredient name	IARC
1,3-butadiene	1

Reproductive toxicity

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

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
buta-1,3-diene	Not applicable.	-

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

Aspiration hazard

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

Other information

Product : 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. Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. 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.

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 : 0.24 day(s) data for the material

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

Bioaccumulation/Accumulation

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 minimised 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

Section 14. Transport information

	JT/T617	IMDG	IATA
UN number	UN1010	UN1010	UN1010
UN proper shipping name	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	Butadienes and hydrocarbon mixture, stabilized
Transport hazard class(es)	2	2.1	2.1
Label(s) / Mark(s)			
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

China - JT/T617 : **Hazard identification number** 239
Limited quantity 0
Special provisions 618, 662
Tunnel code (B/D)

IMDG : **Emergency schedules** F-D, S-U
Special provisions 386, 402

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, A229

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.

Extinguishing media

Suitable extinguishing media : Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable extinguishing media : Do not use water jet.

Incompatible materials : Strong oxidisers

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

The hazard classification for this material is in accordance with national standard GB30000 series of Specification/Rules for classification and labeling of chemicals

Refer to below China regulations (if applicable):

The General Rules for preparation of precautionary label for Chemicals (GB 15258-2009)

Regulations on the Safe Management of Hazardous Chemicals

Measures for the Environmental Management Registration of New Chemical Substances

Inventory list

Section 15. Regulatory information

Australia inventory (AIIC)	:	All components are listed or exempted.
Canada inventory (DSL-NDSL)	:	All components are listed or exempted.
China inventory (IECSC)	:	All components are listed or exempted.
Japan inventory (CSCL)	:	All components are listed or exempted.
Japan inventory (Industrial Safety and Health Act)	:	All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	:	All components are listed or exempted.
Philippines inventory (PICCS)	:	All components are listed or exempted.
Korea inventory (KECI)	:	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	:	All components are listed or exempted.
United States inventory (TSCA 8b)	:	All components are active or exempted.

Section 16. Other information

History

Date of issue/Date of revision	:	11 August 2025
Date of previous issue	:	11 August 2025
Version	:	4.02
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	:	1147795_13410612

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