

SAFETY DATA SHEET

Creation Date 09-February-2012

Revision Date 22-August-2022

Revision Number 9

1. Identification

Product Name Isoprene, stabilized

Cat No. : AC122670000; AC122670010; AC122670025; AC122670050;
AC122671000; AC122675000

CAS-No 78-79-5

Synonyms 2-Methyl-1,3-butadiene; 1,3-Butadiene, 2-Methyl-; 2-Methylbutadiene;
3-Methyl-1,3-Butadiene, Methylbivinyll; Beta-Methylbivinyll; Hemiterpene

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Importer/Distributor

Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Manufacturer

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

Flammable liquids	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Physical Hazards Not Otherwise Classified	Category 1
Hazardous polymerization may occur	

Label Elements

Signal Word

Danger

Hazard Statements

Extremely flammable liquid and vapor
 Suspected of causing genetic defects
 May cause cancer
 Hazardous polymerization may occur



Precautionary Statements

Prevention

Keep cool. Protect from sunlight
 Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/equipment
 Use only non-sparking tools
 Take precautionary measures against static discharges
 Wear protective gloves/protective clothing/eye protection/face protection

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
 IF exposed or concerned: Get medical advice/attention
 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Toxic to aquatic life with long lasting effects
 Light sensitive
 Contains a known or suspected endocrine disruptor

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
1,3-Butadiene, 2-methyl-	78-79-5	>95
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	98-29-3	0.01

4. First-aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms/effects	Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	No information available
Flash Point	-48 °C / -54.4 °F
Method -	No information available
Autoignition Temperature	220 °C / 428 °F
Explosion Limits	
Upper	9.70%
Lower	1.00%
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Extremely flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
2	4	0	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions	Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open
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flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage.

Refrigerator/flammables. Store under an inert atmosphere. Keep container tightly closed. Protect from direct sunlight. Keep away from heat, sparks and flame. Incompatible Materials. Strong bases. Acids. Alcohols. Ammonia. Halogens. oxygen. Acid chlorides. Metals. Strong oxidizing agents. Reducing Agent.

8. Exposure controls / personal protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment**Eye Protection**

Goggles

Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber	See manufacturers	-	Splash protection only
Nitrile rubber	recommendations		
Neoprene			
PVC			

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

**Physical State
Appearance**

Liquid
Light yellow

Odor	mild aromatic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-146 °C / -230.8 °F
Boiling Point/Range	34 °C / 93.2 °F @ 760 mmHg
Flash Point	-48 °C / -54.4 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	9.70%
Lower	1.00%
Vapor Pressure	532 hPa @ 20 °C
Vapor Density	2.35
Specific Gravity	0.680
Solubility	practically insoluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	220 °C / 428 °F
Decomposition Temperature	No information available
Viscosity	0.225 cP at 15 °C
Molecular Formula	C5 H8
Molecular Weight	68.11

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Sensitivity to light. Air sensitive.
Conditions to Avoid	Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Incompatible products. Exposure to light. Exposure to air.
Incompatible Materials	Strong bases, Acids, Alcohols, Ammonia, Halogens, oxygen, Acid chlorides, Metals, Strong oxidizing agents, Reducing Agent
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization may occur upon depletion of inhibitor.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50 Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,3-Butadiene, 2-methyl-	2043-2210 mg/kg (Rat)	>1 mL/kg (Rat)	LC50 = 180 mg/L (Rat) 4 h
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	815 mg/kg (Rat)	1331 mg/kg (Rat)	Not listed

Toxicologically Synergistic Products No information available

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

Irritation May cause skin, eye, and respiratory tract irritation

Sensitization No information available

Carcinogenicity Limited evidence of a carcinogenic effect. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
1,3-Butadiene, 2-methyl-	78-79-5	Group 2B	Reasonably Anticipated	Not listed	X	Not listed
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	98-29-3	Not listed	Not listed	Not listed	Not listed	Not listed

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

NTP: (National Toxicity Program)

Mutagenic Effects Animal experiments showed mutagenic and teratogenic effects

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1,3-Butadiene, 2-methyl-	EC50: > 1000 mg/L, 96h (Scenedesmus quadricauda)	LC50: 32.5 - 50.15 mg/L, 96h static (Lepomis macrochirus) LC50: 188.77 - 305.14 mg/L, 96h static (Poecilia reticulata) LC50: 58.75 - 95.32 mg/L, 96h static (Pimephales promelas)	Not listed	EC50: = 140 mg/L, 48h (Daphnia magna)
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	Not listed	LC50 = 0.12 mg/L 96h	Not listed	EC50=0.48 mg/L 48h

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
1,3-Butadiene, 2-methyl-	2.42

1,2-Benzenediol, 4-(1,1-dimethylethyl)-

1.98

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1218
 Proper Shipping Name ISOPRENE, STABILIZED
 Hazard Class 3
 Packing Group I

TDG

UN-No UN1218
 Proper Shipping Name ISOPRENE, STABILIZED
 Hazard Class 3
 Packing Group I

IATA

UN-No UN1218
 Proper Shipping Name ISOPRENE, STABILIZED
 Hazard Class 3
 Packing Group I

IMDG/IMO

UN-No UN1218
 Proper Shipping Name ISOPRENE, STABILIZED
 Hazard Class 3
 Packing Group I

15. Regulatory information

International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
1,3-Butadiene, 2-methyl-	78-79-5	X	-	X	ACTIVE	201-143-3	-	-
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	98-29-3	X	-	X	ACTIVE	202-653-9	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
1,3-Butadiene, 2-methyl-	78-79-5	X	KE-23526	X	X	X	X	X	X
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	98-29-3	X	KE-11368	X	X	X	X	X	X

Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Component	Canada - National Pollutant Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
1,3-Butadiene, 2-methyl-	Part 1, Group B Substance Part 4 Substance	Schedule I	Subject to Monitoring and Surveillance Activities

Other International Regulations

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
1,3-Butadiene, 2-methyl-	-	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	-
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
1,3-Butadiene, 2-methyl-	78-79-5	Listed	Not applicable	Not applicable	Not applicable
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	98-29-3	Listed	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1,3-Butadiene, 2-methyl-	78-79-5	Not applicable	Not applicable	Not applicable	Not applicable
1,2-Benzenediol, 4-(1,1-dimethylethyl)-	98-29-3	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

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Creation Date 09-February-2012

Revision Date 22-August-2022

Print Date 22-August-2022

Revision Summary This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS