

SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

SECTION 1: Identification

1.1 GHS Product identifier

Product name 1,3-Dichloro-2-butene (cis- and trans- mixture)

1.2 Other means of identification

Product number C1534742

Other names 1,3-DICHLORO-2-BUTENE;

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou

Telephone +86-20-81960175

1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 3

Acute toxicity - Category 4, Oral

Acute toxicity - Category 4, Dermal

Eye irritation, Category 2

Acute toxicity - Category 3, Inhalation

Specific target organ toxicity – single exposure, Category 3

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H226 Flammable liquid and vapour
H302 Harmful if swallowed
H312 Harmful in contact with skin
H319 Causes serious eye irritation
H331 Toxic if inhaled
H335 May cause respiratory irritation

Precautionary statement(s)

Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area.
Response	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P317 Get medical help. P321 Specific treatment (see ... on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P316 Get emergency medical help immediately. P319 Get medical help if you feel unwell.
Storage	P403+P235 Store in a well-ventilated place. Keep cool. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1,3-Dichloro-2-butene (cis- and trans- mixture)	1,3-dichlorobut-2-ene	926-57-8	213-138-3	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer immediately for medical attention.

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.

4.2 Most important symptoms/effects, acute and delayed

no data available

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

Stabilization: Treatment is largely supportive. Watch for respiratory depression & arrhythmias. Obtain arterial blood gases. Administer oxygen if there is evidence of altered mental status or dyspnea. Treat hypotension with volume expansion & vasopressor. Use lidocaine or beta-blockers for ventricular arrhythmias. Skin: Remove contaminated clothing. Wash affected area with soap & copious amounts of water. Eye: Irrigate the eye for 15-20 min. Obtain a consultation if symptoms persist. Oral: Most of the halogenated solvents ingested in quantities of 1-2 swallows may be partially removed by ipecac-induced emesis if admin within a few hr to a patient who has not lost the gag reflex, is not seizing, is not markedly lethargic, or is not in coma. Observe the patient in the upright position to lessen the possibility of aspiration. Activated charcoal is probably ineffective. Inhalation: Move from the contaminated area. Provide a source of oxygen & prepare

for mechanical ventilation. If the patient is unconscious & the pulse is absent, initiate CPR measures. Enhancement of Elimination: Maintain good ventilation. Hemodialysis or hemoperfusion are not likely to be useful because of the high lipophilic properties of these solvents. Antidote: N-acetylcysteine may restore depleted glutathione stores, but no adequate clinical studies are available to validate this possible treatment. Supportive Care: Watch for cardiac dysrhythmias, aspiration pneumonitis, hepatotoxicity, & hypoxic encephalopathy. Monitor for arrhythmia for at least 24 hr & for hepatorenal failure for about 3 days. Obtain a chest x-ray, arterial blood gas, EKG, serum creatinine, & hepatic aminotransferase. Check electrolyte imbalance daily. Treat renal failure with dialysis & hepatic failure with fresh frozen plasma, vitamin K, a low-protein diet, neomycin, & lactulose. Watch fluid & electrolyte balance. Halogenated hydrocarbons

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Foam, carbon dioxide, dry chemical...

5.2 Specific hazards arising from the chemical

Flammable. Gives off irritating or toxic fumes (or gases) in a fire. Above 27°C explosive vapour/air mixtures may be formed.

5.3 Special protective actions for fire-fighters

Use fine water spray, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. Above 27°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Ventilation along the floor. Well closed. Separated from strong oxidants and food and feedstuffs. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Yellowish.
Odour	no data available
Melting point/freezing point	-81 °C.
Boiling point or initial boiling point and boiling range	131 °C. Atm. press.:101.325 kPa.
Flammability	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	80 °F. Atm. press.:1 013.25 hPa.
Auto-ignition temperature	495 °C.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	INSOL IN WATER; SOL IN MOST COMMON ORGANIC SOLVENTS
Partition coefficient n-octanol/water	log Pow = 2.84.
Vapour pressure	12.6 mm Hg.
Density and/or relative density	1.161 g/cm ³ .
Relative vapour density	4.31 (Air = 1)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on heating. This produces hydrogen chloride.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

Fire hazard: dangerous, when exposed to heat or flame.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic vapors of /hydrogen chloride/.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male) - 414 mg/kg bw.
- Inhalation: LC50 - rat - 546 ppm.
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The vapour is irritating to the respiratory tract and eyes. The substance is severely irritating to the eyes. The substance is corrosive to the skin.

STOT-repeated exposure

Repeated or prolonged inhalation of high concentrations may cause effects on the lungs.

Aspiration hazard

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: Danio rerio (previous name: Brachydanio rerio).
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 0.32 mg/L - 48 h.
- Toxicity to algae: EC50 - diatoms - 6.6 ppm - 7 d.
- Toxicity to microorganisms: EC50 - activated sludge - 152 mg/L - 3 h. Remarks: Respiration rate.

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

An estimated BCF of 30 was calculated for 1,3-dichloro-2-butene(SRC), using an estimated log Kow of 2.84(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low.

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for 1,3-dichloro-2-butene can be estimated to be 125(SRC). According to a classification scheme(2), this estimated Koc value suggests that 1,3-dichloro-2-butene is expected to have high mobility in soil.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN1992 (For reference only, please check.) IMDG: UN1992 (For reference only, please check.) IATA: UN1992 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: FLAMMABLE LIQUID, TOXIC, N.O.S. (For reference only, please check.) IMDG: FLAMMABLE LIQUID, TOXIC, N.O.S. (For reference only, please check.) IATA: FLAMMABLE LIQUID, TOXIC, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.) IMDG: 3 (For reference only, please check.) IATA: 3 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.) IMDG: I (For reference only, please check.) IATA: I (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
1,3-dichlorobut-2-ene	1,3-dichlorobut-2-ene	926-57-8	213-138-3
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Not Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Not Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Not Listed.
Korea Existing Chemicals List (KECL)			Not Listed.

SECTION 16: Other information

Information on revision

Creation Date July 15, 2019
Revision Date August 08, 2025

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

See ICSC 0995.

Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com

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