

Chemical Safety Data Sheet MSDS / SDS

VINYLIDENE CHLORIDE

Revision Date:2025-06-14 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name : VINYLIDENE CHLORIDE
CBnumber : CB8292656
CAS : 75-35-4
EINECS Number : 200-864-0
Synonyms : 1,1-dichloroethene,vinylidene chloride

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P281 Use personal protective equipment as required.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continuerinsing.

P311 Call a POISON CENTER or doctor/physician.

P405 Store locked up.

Hazard statements

H224 Extremely flammable liquid and vapour

H225 Highly Flammable liquid and vapour

H301 Toxic if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

H332 Harmful if inhaled

H351 Suspected of causing cancer

H370 Causes damage to organs

Disposal

WARNING.Cancer - <https://oehha.ca.gov/proposition-65/chemicals/vinylidene-chloride-11-dichloroethylene>

SECTION 3: Composition/information on ingredients

Substance

Product name	: VINYLIDENE CHLORIDE
Synonyms	: 1,1-dichloroethene,vinylidene chloride
CAS	: 75-35-4
EC number	: 200-864-0
MF	: C ₂ H ₂ Cl ₂
MW	: 96.94

SECTION 4: First aid measures

Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Carbon oxides Hydrogen chloride gas Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

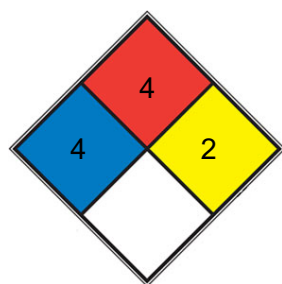
Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



HEALTH 4 Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, [hydrofluoric acid](#))

FIRE 4 Will rapidly or completely vaporize at normal atmospheric pressure and temperature, or is readily dispersed in air and will burn readily. Includes pyrophoric substances. Flash point below room temperature at 22.8 °C (73 °F). (e.g. acetylene, propane, [hydrogen gas](#))

REACT 2 Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, [potassium](#), [sodium](#))

SPEC.
☐

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemisorb?). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stability

Recommended storage temperature 2 - 8 °C

Air and moisture sensitive. Store under inert gas.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

Exposure limits

TLV-TWA 5 ppm ($\sim 20 \text{ mg/m}^3$) (ACGIH); TLV-STEL 20 ppm (ACGIH); carcinogenicity: Animal Limited Evidence, Human Inadequate Evidence (IARC).

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	colorless liquid, clear
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: -122°C - lit.
Initial boiling point and boiling range	$30 - 32^\circ\text{C}$ - lit.
Flash point	-19°C
Evaporation rate	No data available

Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 15,5 %(V) Lower explosion limit: 6,5 %(V)
Vapour pressure	658,6 hPa 667,3 hPa at 20,0 °C 2.137,4 hPa at 55,0 °C
Vapour density	3.46 (vs air)
Relative density	1,213 g/cm ³ at 20 °C - lit. No data available
Water solubility	0,2 g/l at 20 °C
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	520,0 °C 580,0 °C
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available
Henry's Law Constant	0.86, 1.00, 1.27, 1.97, and 2.66 at 2.0, 6.0, 10.0, 18.0, and 25.0 °C, respectively (EPICS-SPME, Dewulf et al., 1999)

Other safety information

No data available

SECTION 10: Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

No data available

Conditions to avoid

Warming.

Incompatible materials

Oxidizing agents, Copper, Aluminum, and its alloys, Peroxides, Strong bases, Oxygen

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 200 mg/kg (Calculation method)

LD50 Oral - Rat - 200,0 mg/kg Remarks: (RTECS)

Symptoms: Risk of aspiration upon vomiting., Pulmonary failure possible after aspiration of vomit.

Acute toxicity estimate Inhalation - 4 h - 11 mg/l (Calculation method)

Acute toxicity estimate Inhalation - 4 h - 11,1 mg/l (Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Dermal

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE) Result: No skin irritation - 3 - 60 min (Regulation (EC) No. 440/2008, Annex, B.40)

Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: Causes serious eye irritation. - 10 min (OECD Test Guideline 437)

Respiratory or skin sensitization

(OECD Test Guideline 429)

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Test Type: comet assay Species: Rat

Cell type: Bone marrow

Application Route: inhalation (vapor) Method: OECD Test Guideline 489 Result: positive

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Inhalation - Causes damage to organs through prolonged or repeated exposure. - Nose Oral - May cause damage to organs through prolonged or repeated exposure. - Liver

Aspiration hazard

No data available

Toxicity

Acute oral LD₅₀ for rats 1,550 mg/kg, male mice 194 mg/kg, female mice 217 mg/kg (Jones and Hathway, 1978): dogs 5,750 mg/kg (Tierney et al., 1979). Heitmuller et al. (1981) reported a NOEC of 80 ppm.

SECTION 12: Ecological information

Toxicity**Toxicity to fish**

LC50 - Pimephales promelas (fathead minnow) - 108 mg/l - 96 h Remarks: (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 37 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae

static test EC50 - Chlamydomonas reinhardtii (green algae) - 9,12 mg/l - 72 h

Remarks: (ECHA)

Toxicity to bacteria

EC50 - Pseudomonas putida - > 2.000 mg/l - 17 h

Remarks: (IUCLID)

Persistence and degradability

Biodegradability Result: 0 % - Not readily biodegradable.

(OECD Test Guideline 301D)

Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 6 Weeks

at 25 °C - 0,5 mg/l(1,1-Dichloroethene)

Bioconcentration factor (BCF): 2,5 - 6,4 (OECD Test Guideline 305C)

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Toxics Screening Level

The initial threshold screening level (ITSL) is 7.3 µg/m³ (annual averaging time). The initial risk screening level (IRSL) for 1,1'-dichloroethylene is 0.15 µg/m³ (annual averaging time) and the secondary screening level (SRSL) is 1.5 µg/m³ (annual averaging time).

Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Incompatibilities

Readily forms explosive peroxides; violent polymerization from heat or on contact with oxidizers, chlorosulfonic acid; nitric acid; or oleum; or under the influence of oxygen, sunlight, alkali metals; aluminum, copper. Explosive on heating or on contact with flames. Inhibitors, such as the monomethyl ether of hydroquinone are added to prevent polymerization.

Waste Disposal

Return refillable compressed gas cylinders to supplier. Consult with environmental regulatory agencies for guidance on acceptable disposal

practices. Generators of waste containing this contaminant (≥ 100 kg/mo) must conform to EPA regulations governing storage, transportation, treatment, and waste disposal. Incineration, preferably after mixing with another combustible fuel. Care must be exercised to assure complete combustion to prevent the formation of phosgene. An acid scrubber is necessary to remove the halo acids produced.

SECTION 14: Transport information

UN number

ADR/RID: 1303 IMDG: 1303 IATA: 1303

UN proper shipping name

ADR/RID: VINYLIDENE CHLORIDE, STABILIZED IMDG: VINYLIDENE CHLORIDE, STABILIZED

IATA: Vinylidene chloride, stabilized

14.3	Transport hazard class(es)	
	ADR/RID: 3 IMDG: 3	IATA: 3
14.4	Packaging group	
	ADR/RID: I IMDG: I	IATA: I
14.5	Environmental hazards	
	ADR/RID: yes IMDG Marine pollutant: yes	IATA: no
14.6	Special precautions for user	
	No data available	

SECTION 15: Regulatory information

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

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

EC Inventory: Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

SECTION 16: Other information

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

References

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

Other Information

Depending on the degree of exposure, periodic medical examination is suggested. An added stabilizer or inhibitor can influence the toxicological properties of this substance; consult an expert. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding.

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.