

Safety Data Sheet

Product name: 1,2-Dichloropropane

CAS No.: 78-87-5

Prepared in accordance with GB/T 16483, GB/T 17519

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

>Product identifier

- Product name: 1,2-Dichloropropane
- CBnumber: CB0472531
- CAS: 78-87-5
- EINECS Number: 201-152-2
- Synonyms: 1,2-DICHLOROPROPANE, Propylene Dichloride

>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: Linyi Tuohui New Materials Co., Ltd.
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SECTION 2: Hazards identification

>GHS Label elements, including precautionary statements

- Symbol(GHS) 
- Signal word Danger

Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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.

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P307+P311 IF exposed: call a POISON CENTER or doctor/physician.

P311 Call a POISON CENTER or doctor/physician.

P370+P378 In case of fire: Use ... for extinction.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P403+P235 Store in a well-ventilated place. Keep cool.

Hazard statements

H225 Highly Flammable liquid and vapour

H301 Toxic if swallowed

H302 Harmful if swallowed

H311 Toxic in contact with skin

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

H331 Toxic if inhaled

H332 Harmful if inhaled

H350 May cause cancer

H361 Suspected of damaging fertility or the unborn child

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

H373 May cause damage to organs through prolonged or repeated exposure

H412 Harmful to aquatic life with long lasting effects

Disposal

WARNING.Cancer - <https://oehha.ca.gov/proposition-65/chemicals/12-dichloropropane>

SECTION 3: Composition/information on ingredients

>Substance

- Product name: 1,2-Dichloropropane
- Synonyms: 1,2-DICHLOROPROPANE, Propylene Dichloride
- CAS: 78-87-5
- EC number: 201-152-2
- MF: C₃H₆Cl₂
- MW: 112.99

SECTION 4: First aid measures

>Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

>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

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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.

Chemizorb). 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.

>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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact Material: Viton

Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested:KCL 890 Vitoject

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: butyl-rubber

Minimum layer thickness: 0,7 mm Break through time: 10 min Material tested:KCL 898 Butoject

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 ABEK

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

Potential occupational carcinogen. NIOSH REL: IDLH 400 ppm; OSHA PEL: TWA 75 ppm (350 mg/m³); ACGIH TLV: TWA 75 ppm, STEL 110 ppm (adopted).

SECTION 9: Physical and chemical properties

>Information on basic physicochemical properties

- Appearanceclear liquid, clear
- OdourNo data available
- Odour ThresholdNo data available
- pHNo data available
- Melting point/freezing pointMelting point/range: -100 °C - lit.
- Initial boiling point and boiling range95 - 96 °C - lit.
- Flash point15,0 °C - closed cup
- Evaporation rateNo data available
- Flammability (solid, gas)No data available
- Upper/lower flammability or explosive limits Upper explosion limit: 14,5 %(V) Lower explosion limit: 3,4 %(V)
- Vapour pressure 66,17 - 71,98 hPa at 25 °C
- Vapour density 3.89 (vs air)
- Relative density1,156 g/mL at 25 °C - lit. No data available
- Water solubility1,297 g/l at 25 °C - soluble
- Partition coefficient: n-octanol/waterlog Pow: 1,98 - 2,28 - Bioaccumulation is not expected.
- Autoignition temperature557,0 °C
- Decomposition temperatureNo data available
- ViscosityViscosity, kinematic: 0,757 mm²/s at 20 °C Viscosity, dynamic: No data available
- Explosive propertiesNo data available
- Oxidizing propertiesNo data available
- Henry's Law Constant0.81, 1.06, 1.32, 2.01, and 2.74 at 2.0, 6.0, 10.0, 18.0, and 25.0 °C, respectively (EPICS-SPME, Dewulf et al., 1999)

>Other safety information

Surface tension 0,03 N/m at 20 °C

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

Strong oxidizing agents

>Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

>Information on toxicological effects**Acute toxicity**

LD50 Oral - Rat - 1.947 mg/kg Remarks: (RTECS)

LC50 Inhalation - Rat - male and female - 4 h - 9,24 mg/l Remarks: (ECHA)

LD50 Dermal - Rabbit - 10.100 mg/kg Remarks: (ECHA)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation**Respiratory or skin sensitization**

in vivo assay - Mouse

Result: Does not cause skin sensitization. (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471

Result: negative

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471

Result: negative

Test Type: In vivo micronucleus test Species: Mouse

Cell type: Red blood cells (erythrocytes) Application Route: Oral

Method: OPPTS 870.5395

Result: negative

Species: Rat

Application Route: Oral Result: negative

Carcinogenicity

Reproductive toxicity

Specific target organ toxicity - single exposure

Specific target organ toxicity - repeated exposure

Aspiration hazard

Toxicity

LD50 orally in rats: 1.19 ml/kg (Smyth)

SECTION 12: Ecological information

>Toxicity

Toxicity to fish

flow-through test LC50 - Pimephales promelas (fathead minnow) - 140 mg/l - 96 h

(US-EPA)

Toxicity to daphnia and other aquatic invertebrates

semi-static test EC50 - Daphnia magna (Water flea) - 2,7 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to algae

static test NOEC - Pseudokirchneriella subcapitata - 7,95 mg/l (OECD Test Guideline 201)

>Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 11,7 % - Not readily biodegradable. (OECD Test Guideline 301D)

>Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 42 d

(1,2-Dichloropropane)

Bioconcentration factor (BCF): 0,5 - 7 (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) for propylene dichloride (1,2-dichloropropane) is 4µg/m³ with annual averaging time (AT).

>Other adverse effects

No data available

SECTION 13: Disposal considerations

>Waste treatment methods

Incompatibilities

Contact with strong oxidizers, powdered aluminum may cause fire and explosion hazard. Strong acids can cause decomposition and the formation of hydrogen chloride vapors. Reacts with strong bases; o-dichlorobenzene, 1,2-dichloroethane. Corrosive to aluminum and its alloys. Attacks some plastics, rubber, and coatings.

> Product

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

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: 1279 IMDG: 1279 IATA: 1279

>UN proper shipping name

	ADR/RID: 1,2-DICHLOROPROPANE DICHLOROPROPANE	IMDG: 1,2-	
IATA: 1,2-Dichloropropane			
14.3	Transport hazard class(es) ADR/RID: 3 IMDG: 3		IATA: 3
14.4	Packaging group ADR/RID: II IMDG: II		IATA: II
14.5	Environmental hazards ADR/RID: no IMDG Marine pollutant: no		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/>

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

Do NOT take working clothes home.