1,2-Dichlorobenzene

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Description: 1,2-Dichlorobenzene

Synonyms o-Dichlorobenzene
CAS No 95-50-1
Molecular Formula C6 H4 Cl2

Supplier

Ji'Nan Da Data Industrial Base,
2222 190 meters southeast Lixia
District, Jinan, Shandong, China,
250101
Office Tel: +86 15688411080

Emergency Telephone Number 0086 15688411080

E-mail address info@orientred.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State	Appearance	Odor
Liquid	Clear	No information available

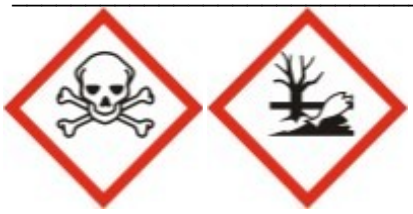
Emergency Overview

Toxic if inhaled. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects. Combustible liquid. Harmful if swallowed. May cause an allergic skin reaction.

Classification of the substance or mixture

Flammable liquids.	Category 4
Acute Oral Toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Specific target organ toxicity - (single exposure)	Category 3
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label Elements



Signal Word **Danger**

Hazard Statements H227
- Combustible liquid H331
- Toxic if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects
H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction

Precautionary Statements
Prevention
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed 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
P280 - Wear protective gloves/protective clothing/eye protection/face protection
Response
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P362 + P364 - Take off contaminated clothing and wash it before reuse
Storage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards
Combustible material.
Health Hazards
Toxic if inhaled. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Harmful if swallowed. May cause an allergic skin reaction.
Environmental hazards
Very toxic to aquatic life with long lasting effects. . Is not likely mobile in the environment due its low water solubility. The product is insoluble and sinks in water. The product evaporates slowly. Spillage unlikely to penetrate soil.

Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
o-Dichlorobenzene	95-50-1	99

SECTION 4. FIRST AID MEASURES

General Advice
If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects
None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician
Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Water spray. Carbon dioxide (CO_2). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons No information available.

Specific Hazards Arising from the Chemical
Combustible material. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	China	Taiwan	Thailand	Hong Kong
o-Dichlorobenzene	TWA: 50 mg/m³ STEL: 100 mg/m³	-	Ceiling: 50 ppm	TWA: 25 ppm TWA: 150 mg/m³ STEL: 50 ppm STEL: 301 mg/m³

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
o-Dichlorobenzene	TWA: 25 ppm STEL: 50 ppm	Ceiling: 50 ppm Ceiling: 300 mg/m³ (Vacated) Ceiling: 50 ppm (Vacated) Ceiling: 300 mg/m³	IDLH: 200 ppm Ceiling: 50 ppm Ceiling: 300 mg/m³	STEL: 50 ppm 15 min STEL: 306 mg/m³ 15 min TWA: 25 ppm 8 hr TWA: 153 mg/m³ 8 hr Skin	TWA: 20 ppm (8h) TWA: 122 mg/m³ (8h) STEL: 50 ppm (15min) STEL: 306 mg/m³ (15min) Skin

Legend

ACGIH *- American Conference of Governmental Industrial Hygienists*
OSHA *- Occupational Safety and Health Administration*
NIOSH: *NIOSH - National Institute for Occupational Safety and Health*

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours

Exposure Controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. 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 (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time >	Glove thickness -	EU standard	Glove comments
Viton (R)	480 minutes		Level 6	

EN 374	As tested under EN374-3 Determination of Resistance to Permeation by Chemicals

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure 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.
Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection 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.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387

Small scale/Laboratory use Maintain adequate ventilation Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear	
Physical State	Liquid	
Odor	No information available	
Odor Threshold	No data available	
pH	Not applicable	
Melting Point/Range	-15 °C / 5 °F	
Softening Point	No data available	
Boiling Point/Range	179 - 180 °C / 354.2 - 356 °F	
Flash Point	67 °C / 152.6 °F	**Method -** CC (closed cup)
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	**Lower** 2.2 Vol%	
	Upper 12 Vol%	
Vapor Pressure	1.3 mbar @ 20 °C	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	1.300	
Bulk Density	Not applicable	Liquid
Water Solubility	0.13 g/l(20°C)	practically insoluble
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
o-Dichlorobenzene	3.433	
Autoignition Temperature	640 - °C / 1184 - °F	
Decomposition Temperature	No data available	
Viscosity	No data available	

Explosive Properties explosive air/vapour mixtures possible
Oxidizing Properties No information available

Molecular Formula C6 H4 Cl2
Molecular Weight 147

SECTION 10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Hazardous Reactions None under normal processing.
Hazardous Polymerization No information available.

Conditions to Avoid Incompatible products. Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition.

Materials to avoid Strong oxidizing agents. Metals.

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO_2). Chlorine. Hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
o-Dichlorobenzene	LD50 = 1516 mg/kg (Rat)	LD50 > 10 g/kg (Rabbit)	14,04 mg/L/4h (Rat)

(b) skin corrosion/irritation; Category 2 Based on available data, the classification criteria are not met
Test method OECD 404
Test species rabbit
Observational endpoint Erythema/Eschar = = 1.56
Oedema = = 1

(c) serious eye damage/irritation; Category 2 Based on available data, the classification criteria are not met
Test method OECD 405
Test species rabbit
Observation end point Iris lesion = 0.06
Cornea opacity = 0
Redness of the conjunctivae = 0.6
Oedema of the conjunctivae = 0.11

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Category 1
Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
o-Dichlorobenzene 95-50-1 (99)	OECD Test Guideline 429 Local Lymph Node Assay	mouse	Sensitizer

May cause sensitization by skin contact

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
o-Dichlorobenzene 95-50-1 (99)	OECD Test Guideline 476 Gene cell mutation	in vitro Animal germ cell	Positive
	OECD Test Guideline 471 Bacterial Reverse Mutation Test	in vitro Bacteria	negative
	OECD Test Guideline 473 Chromosomal aberration assay	in vitro Animal germ cell	negative
	OECD Test Guideline 474 Mouse micronucleus assay	in vivo Animal germ cell	negative

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Category 3
Based on available data, the classification criteria are not met

Results / Target organs Respiratory system

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Test method Chronic Toxicity
Test species / Duration Rat / 90 days
Study result NOAEL = 125 mg/kg
Route of exposure Oral
Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

SECTION 12. ECOLOGICAL INFORMATION

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

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
o-Dichlorobenzene	LC50: 4.8 - 6.6 mg/L, 96h static (Lepomis macrochirus) LC50: = 5.2 mg/L, 96h flow-through (Brachydanio rerio) LC50: 42.6 - 80.4 mg/L, 96h static (Pimephales promelas) LC50: 8.23 - 10.9 mg/L, 96h flow-through	EC50: = 0.74 mg/L, 48h Static (Daphnia magna)	EC50: = 91.6 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: 61.2 - 181 mg/L, 72h (Pseudokirchneriella subcapitata) EC50: = 2.2 mg/L, 96h static (Pseudokirchneriella subcapitata)	EC50 = 4.76 mg/L 5 min EC50 = 4.98 mg/L 15 min EC50 = 5.99 mg/L 30 min

	(Pimephales promelas) LC50: 1.44 - 1.73 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 5.8 mg/L, 96h static (Pimephales promelas)			

Persistence and Degradability Not readily biodegradable
Persistence Persistence is unlikely.

Component	Degradability
o-Dichlorobenzene 95-50-1 (99)	0 % (28d) OECD 301C

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
o-Dichlorobenzene	3.433	90 - 260 dimensionless

Mobility in soil The product is insoluble and sinks in water The product evaporates slowly Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility Spillage unlikely to penetrate soil

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

UN-No UN1591
Proper Shipping Name O-DICHLOROBENZENE
Hazard Class 6.1
Packing Group III

IMDG/IMO

UN-No UN1591
Proper Shipping Name O-DICHLOROBENZENE
Hazard Class 6.1
Packing Group III

IATA

UN-No	UN1591
Proper Shipping Name	O-DICHLOROBENZENE
Hazard Class	6.1
Packing Group	III

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 -2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
o-Dichlorobenzene	X	X	X	X	202-425-9	X	X	X	X	X	X	KE-10066

National Regulations

Component	Toxic Chemical Substances Control Act
o-Dichlorobenzene 95-50-1 (99)	Class I (1 wt%) TRQ = 50 kg

SECTION 16. OTHER INFORMATION

Prepared By	Health, Safety and Environmental Department
Revision Date	20-Jun-2025
Revision Summary	New emergency telephone response service provider.

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.

Legend

CAS - Chemical Abstracts Service

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

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances **KECL** - Korean Existing and Evaluated Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

TWA - Time Weighted Average

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

DNEL - Derived No Effect Level

PNEC - Predicted No Effect Concentration

RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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