Safety Data Sheet

1,2-dichlorobenzene

According to Regulation (EC) No. 1907/2006 (REACH)

Version number: GHS 2.1
Replaces version of: 2021-06-28 (GHS 1)

Revision: 2023-02-02

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

1.1 Product identifier

Identification of the substance	**1,2-dichlorobenzene**
Registration number (REACH)	this information is not available
CAS number	2199-69-1
Alternative name(s)	o-dichlorobenzene

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

Relevant identified uses	industrial uses the product is intended for research, analysis and scientific education scientific research and development product and process oriented research and development laboratory and analytical use feedstock use laboratory chemical

1.3 Details of the supplier of the safety data sheet

Zeochem AG
Joweid 5, CH-8630 Rüti
Switzerland

Telephone: +41 44 922 93 93
e-Mail: info@zeochem.com / info@zeochem.ch
Website: https://www.zeochem.com

1.4 Emergency telephone number

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word warning

2.2.1.2 **Pictograms**

GHS07, GHS09	

Hazard statements	
H302	harmful if swallowed
H315	causes skin irritation
H319	causes serious eye irritation
H335	may cause respiratory irritation
H410	very toxic to aquatic life with long lasting effects

Precautionary statements	
P261	avoid breathing dust/fume/gas/mist/vapours/spray
P273	avoid release to the environment
P280	wear protective gloves/protective clothing/eye protection/face protection/hearing protection
P312	call a POISON CENTRE/doctor if you feel unwell
P391	collect spillage
P403+P233	store in a well-ventilated place. Keep container tightly closed
P501	dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	1,2-dichlorobenzene
Identifiers	
CAS No	2199-69-1
EC No	218-606-0
Purity	≥90 %

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	500 $^{mg}/_{kg}$	oral

Molecular formula	C6D4Cl2
Molar mass	151 $^{g}/_{mol}$

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2), Hydrogen chloride (HCl)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Store in a dry place.

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
DE	1,2-dichlorobenzene	95-50-1	MAK	10	61	20	122			H	DFG
DE	1,2-dichlorobenzene	95-50-1	AGW	10	61	20	122			H, Y	TRGS 900
ES	o-dichlorobenzene	95-50-1	VLA	20	122	50	306			H	INSHT
EU	1,2-dichlorobenzene	95-50-1	IOELV	20	122	50	306			H	2000/39/EC
FR	1,2-dichlorobenzene	95-50-1	VME	20	122	50	306			H	INRS
IT	1,2-dichlorobenzene	95-50-1	VLEP	20	122	50	306			H	G.U. n. 218 - Allegato XXXVIII

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
H	absorbed through the skin
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)
Y	a risk of developmental toxicity does not need to be expected if the occupational exposure limit value and the biological limit value (BGW) are adhered to

Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
DE	1,2-dichlorobenzene	1,2-dichlorobenzene		BAT	140 µg/l	DFG
DE	1,2-dichlorobenzene	1,2-dichlorobenzene		BLV	140 µg/l	TRGS 903
DE	1,2-dichlorobenzene	3,4-dichlorocatechol, 4,5-dichlorocatechol	hydr, crea	BAT	150 mg/g	DFG
DE	1,2-dichlorobenzene	3,4-dichlorocatechol, 4,5-dichlorocatechol	hydr, crea	BLV	150 mg/g	TRGS 903

Notation

crea	creatinine
hydr	hydrolysis

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	4.2 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	21 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	1.2 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	6 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

Environmental values

Relevant PNECs and other threshold levels

Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.004 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
PNEC	0 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
PNEC	4.7 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.177 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.018 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0.033 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Type of material

Nitrile
IIR: isobutene-isoprene (butyl) rubber

- Breakthrough times of the glove material

>30 minutes (permeation: level 2)

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear - light yellow
Odour	characteristic
Melting point/freezing point	-17 °C
Boiling point or initial boiling point and boiling range	180 – 182 °C
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	2.2 vol% - 9.2 vol%
Flash point	66 °C (closed cup)
Auto-ignition temperature	640 °C (ECHA)
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined

Solubility(ies)

Water solubility	156 $^{mg}/_{l}$ at 25 °C

Partition coefficient

Partition coefficient n-octanol/water (log value)	3.43 (25 °C) (ECHA)
Soil organic carbon/water (log KOC)	2.65 (ECHA)

Vapour pressure	1.56 mmHg at 25 °C

Density and/or relative density

Density	1.34 $^{g}/_{cm^3}$ at 20 °C
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics

Surface tension	36.6 $^{mN}/_{m}$ (ECHA)
Refractive index	1.55 – 1.55 ((lit.))
Temperature class (EU, acc. to ATEX)	T1 (maximum permissible surface temperature on the equipment: 450°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed.

- Acute toxicity estimate (ATE)

Oral 500 $^{mg}/_{kg}$

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LC50	1.58 $^{mg}/_{l}$	fish	48 h
EC50	0.66 $^{mg}/_{l}$	aquatic invertebrates	48 h
ErC50	2.2 $^{mg}/_{l}$	algae	96 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Exposure time
LC50	1.65 $^{mg}/_{l}$	fish	22 h
EC50	0.55 $^{mg}/_{l}$	aquatic invertebrates	14 d

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	3.43 (25 °C) (ECHA)
BCF	150 – 230 (ECHA)

12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient	2.65 (ECHA)

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 1591
IMDG-Code	UN 1591
ICAO-TI	UN 1591

14.2 UN proper shipping name

ADR/RID/ADN	o-DICHLOROBENZENE
IMDG-Code	o-DICHLOROBENZENE
ICAO-TI	o-Dichlorobenzene

14.3 Transport hazard class(es)

ADR/RID/ADN	6.1
IMDG-Code	6.1
ICAO-TI	6.1

14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Classification code	T1
Danger label(s)	6.1, fish and tree

Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	279, 802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	60

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	6.1, fish and tree

Special provisions (SP)	279
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-A
Stowage category	A
Segregation group	10 - Liquid halogenated hydrocarbons

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	6.1

Special provisions (SP)	A113
Excepted quantities (EQ)	E1
Limited quantities (LQ)	2 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	No
1,2-dichlorobenzene	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
1,2-dichlorobenzene	substances in tattoo inks and permanent make-up		75

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

not listed

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	CAS No	Listed in	Remarks
1,2-dichlorobenzene		a)	

Legend
A) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

Not listed.

National inventories

Country	Inventory	Status
EU	REACH Reg.	substance is listed
US	TSCA	substance is listed

Legend
REACH Reg. REACH registered substances
TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.