

Creation Date 16-Nov-2010

Revision Date 19-Oct-2023

Revision Number 11

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

1.1. Product identifier

Product Description:	1,2-Dichlorobenzene
Cat No. :	D/1600/PB17, D/1600/17, D/1600/15, D/1600/27
Synonyms	o-Dichlorobenzene
Index No	602-034-00-7
CAS No	95-50-1
EC No	202-425-9
Molecular Formula	C6 H4 Cl2
REACH registration number	01-2119451167-40

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

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

1.3. Details of the supplier of the safety data sheet

Company

EU entity/business name
Thermo Fisher Scientific
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

UK entity/business name
Fisher Scientific UK
Bishop Meadow Road, Loughborough,
Leicestershire LE11 5RG, United Kingdom

Swiss distributor - Fisher Scientific AG
Neuhofstrasse 11, CH 4153 Reinach
Tel: +41 (0) 56 618 41 11
e-mail - infoch@thermofisher.com

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

Tel: 01509 231166
Chemtrec US: (800) 424-9300
Chemtrec EU: 001-703-527-3887

For customers in Switzerland:
Tox Info Suisse Emergency Number: **145 (24hr)**
Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)
Chemtrec (24h) Toll-Free: 0800 564 402
Chemtrec Local: +41-43 508 20 11 (Zurich)

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Acute oral toxicity	Category 4 (H302)
Acute Inhalation Toxicity - Vapors	Category 4 (H332)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Skin Sensitization	Category 1 (H317)
Specific target organ toxicity - (single exposure)	Category 3 (H335)

Environmental hazards

Acute aquatic toxicity	Category 1 (H400)
Chronic aquatic toxicity	Category 1 (H410)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Warning

Hazard Statements

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects
H302 + H332 - Harmful if swallowed or if inhaled
Combustible liquid

Precautionary Statements

P312 - Call a POISON CENTER or doctor if you feel unwell
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

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P337 + P313 - If eye irritation persists: Get medical advice/attention
P280 - Wear protective gloves/protective clothing/eye protection/face protection

2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
o-Dichlorobenzene	95-50-1	EEC No. 202-425-9	>95	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
o-Dichlorobenzene	-	1	-

REACH registration number	01-2119451167-40
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Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of 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.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
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.

4.2. Most important symptoms and effects, both acute and delayed

None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and

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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

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

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.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen chloride gas.

5.3. Advice 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

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. 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.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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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.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

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

Technical Rules for Hazardous Substances (TRGS) 510
Storage Class (LGK) (Germany)

Storage Class/LGK 10

Switzerland - Storage of hazardous substances

Storage class - SC 10/12

<https://www.kvu.ch/de/themen/stoffe-und-produkte>

<https://www.kvu.ch/fr/themes/substances-et-produits>

<https://www.kvu.ch/it/temi/sostanze-e-prodotti>

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Forth edition. Published 2020. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority. **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

Component	European Union	The United Kingdom	France	Belgium	Spain
o-Dichlorobenzene	TWA: 20 ppm (8h) TWA: 122 mg/m ³ (8h) STEL: 50 ppm (15min) STEL: 306 mg/m ³ (15min) Skin	STEL: 50 ppm 15 min STEL: 306 mg/m ³ 15 min TWA: 25 ppm 8 hr TWA: 153 mg/m ³ 8 hr Skin	TWA / VME: 20 ppm (8 heures). restrictive limit TWA / VME: 122 mg/m ³ (8 heures). restrictive limit STEL / VLCT: 50 ppm. restrictive limit STEL / VLCT: 306 mg/m ³ . restrictive limit Peau	TWA: 20 ppm 8 uren TWA: 122 mg/m ³ 8 uren STEL: 50 ppm 15 minuten STEL: 306 mg/m ³ 15 minuten Huid	STEL / VLA-EC: 50 ppm (15 minutos). STEL / VLA-EC: 306 mg/m ³ (15 minutos). TWA / VLA-ED: 20 ppm (8 horas) TWA / VLA-ED: 122 mg/m ³ (8 horas) Piel

Component	Italy	Germany	Portugal	The Netherlands	Finland
o-Dichlorobenzene	TWA: 20 ppm 8 ore. Time Weighted Average TWA: 122 mg/m ³ 8 ore. Time Weighted Average STEL: 50 ppm 15 minuti. Short-term STEL: 306 mg/m ³ 15 minuti. Short-term Pelle	TWA: 10 ppm (8 Stunden). AGW - exposure factor 2 TWA: 61 mg/m ³ (8 Stunden). AGW - exposure factor 2 TWA: 10 ppm (8 Stunden). MAK TWA: 61 mg/m ³ (8 Stunden). MAK Höhepunkt: 20 ppm Höhepunkt: 122 mg/m ³	STEL: 50 ppm 15 minutos STEL: 306 mg/m ³ 15 minutos TWA: 20 ppm 8 horas TWA: 122 mg/m ³ 8 horas Pele	huid STEL: 300 mg/m ³ 15 minuten TWA: 122 mg/m ³ 8 uren	TWA: 10 ppm 8 tunteina TWA: 61 mg/m ³ 8 tunteina STEL: 50 ppm 15 minuutteina STEL: 300 mg/m ³ 15 minuutteina Iho

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		Haut			
Component	Austria	Denmark	Switzerland	Poland	Norway
o-Dichlorobenzene	Haut MAK-KZGW: 50 ppm 15 Minuten MAK-KZGW: 306 mg/m ³ 15 Minuten MAK-TMW: 20 ppm 8 Stunden MAK-TMW: 122 mg/m ³ 8 Stunden	TWA: 20 ppm 8 timer TWA: 122 mg/m ³ 8 timer STEL: 306 mg/m ³ 15 minutter STEL: 50 ppm 15 minutter Hud	Haut/Peau STEL: 20 ppm 15 Minuten STEL: 122 mg/m ³ 15 Minuten TWA: 10 ppm 8 Stunden TWA: 61 mg/m ³ 8 Stunden	STEL: 180 mg/m ³ 15 minutach TWA: 90 mg/m ³ 8 godzinach	TWA: 20 ppm 8 timer TWA: 122 mg/m ³ 8 timer STEL: 50 ppm 15 minutter. value from the regulation STEL: 306 mg/m ³ 15 minutter. value from the regulation Hud

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
o-Dichlorobenzene	TWA: 120 mg/m ³ STEL : 300 mg/m ³ Skin notation	kože TWA-GVI: 20 ppm 8 satima. TWA-GVI: 122 mg/m ³ 8 satima. STEL-KGVI: 50 ppm 15 minutama. STEL-KGVI: 306 mg/m ³ 15 minutama.	TWA: 20 ppm 8 hr. TWA: 122 mg/m ³ 8 hr. STEL: 50 ppm 15 min STEL: 306 mg/m ³ 15 min Skin	Skin-potential for cutaneous absorption STEL: 50 ppm STEL: 306 mg/m ³ TWA: 20 ppm TWA: 122 mg/m ³	TWA: 100 mg/m ³ 8 hodinách. Potential for cutaneous absorption Ceiling: 200 mg/m ³

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
o-Dichlorobenzene	Nahk TWA: 20 ppm 8 tundides. TWA: 122 mg/m ³ 8 tundides. STEL: 50 ppm 15 minutites. STEL: 306 mg/m ³ 15 minutites.	Skin notation TWA: 20 ppm 8 hr TWA: 122 mg/m ³ 8 hr STEL: 50 ppm 15 min STEL: 306 mg/m ³ 15 min	STEL: 50 ppm STEL: 300 mg/m ³ TWA: 50 ppm TWA: 300 mg/m ³	STEL: 306 mg/m ³ 15 percekben. CK TWA: 122 mg/m ³ 8 órában. AK lehetséges borön keresztüli felszívódás	STEL: 50 ppm STEL: 306 mg/m ³ TWA: 20 ppm 8 klukkustundum. TWA: 122 mg/m ³ 8 klukkustundum. Skin notation

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
o-Dichlorobenzene	skin - potential for cutaneous exposure STEL: 50 ppm STEL: 306 mg/m ³ TWA: 20 ppm TWA: 122 mg/m ³	TWA: 20 ppm IPRD TWA: 122 mg/m ³ IPRD Oda STEL: 50 ppm STEL: 306 mg/m ³	Possibility of significant uptake through the skin TWA: 20 ppm 8 Stunden TWA: 122 mg/m ³ 8 Stunden STEL: 50 ppm 15 Minuten STEL: 306 mg/m ³ 15 Minuten	possibility of significant uptake through the skin TWA: 20 ppm TWA: 122 mg/m ³ STEL: 50 ppm 15 minuti STEL: 306 mg/m ³ 15 minuti	Skin notation TWA: 20 ppm 8 ore TWA: 122 mg/m ³ 8 ore STEL: 50 ppm 15 minute STEL: 306 mg/m ³ 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
o-Dichlorobenzene		Ceiling: 306 mg/m ³ Potential for cutaneous absorption TWA: 20 ppm TWA: 122 mg/m ³	TWA: 20 ppm 8 urah TWA: 122 mg/m ³ 8 urah Koža STEL: 50 ppm 15 minutah STEL: 306 mg/m ³ 15 minutah	Binding STEL: 50 ppm 15 minuter Binding STEL: 306 mg/m ³ 15 minuter TLV: 20 ppm 8 timmar. NGV TLV: 122 mg/m ³ 8 timmar. NGV Hud	Deri TWA: 20 ppm 8 saat TWA: 122 mg/m ³ 8 saat STEL: 50 ppm 15 dakika STEL: 306 mg/m ³ 15 dakika

Biological limit values

List source(s):

Component	European Union	United Kingdom	France	Spain	Germany
o-Dichlorobenzene					1,2-Dichlorobenzene: 140 µg/L whole blood (immediately after exposure) 3,4- and 4,5-Dichlorocatechol

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					(after hydrolysis): 150 mg/g Creatinine urine (end of shift) 3,4- and 4,5-Dichlorocatechol (after hydrolysis): 150 mg/g Creatinine urine (for long-term exposures: at the end of the shift after several shifts)
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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

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
o-Dichlorobenzene 95-50-1 (>95)		DNEL = 6mg/kg bw/day		DNEL = 1.2mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
o-Dichlorobenzene 95-50-1 (>95)		DNEL = 21mg/m ³		DNEL = 4.2mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
o-Dichlorobenzene 95-50-1 (>95)	PNEC = 0.0037mg/L	PNEC = 0.177mg/kg sediment dw		PNEC = 4.7mg/L	PNEC = 0.0333mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
o-Dichlorobenzene 95-50-1 (>95)	PNEC = 0.00037mg/L	PNEC = 0.0177mg/kg sediment dw		PNEC = 5.56mg/kg food	

8.2. Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas.

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

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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	0.7 mm	Level 6 EN 374	As tested under EN374-3 Determination of Resistance to Permeation by Chemicals

Skin and body protection Long sleeved clothing.

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

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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

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

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance	Clear	
Odor	No information available	
Odor Threshold	No data available	
Melting Point/Range	-15 °C / 5 °F	
Softening Point	No data available	
Boiling Point/Range	179 - 180 °C / 354.2 - 356 °F	
Flammability (liquid)	Combustible liquid	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 2.2 Vol% Upper 12 Vol%	
Flash Point	67 °C / 152.6 °F	Method - CC (closed cup)
Autoignition Temperature	640 °C / 1184 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	No data available	
Water Solubility	0.13 g/l	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
o-Dichlorobenzene	3.433	

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Vapor Pressure	1.3 mbar @ 20 °C	
Density / Specific Gravity	1.3 g/cm3 @20°C	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

Molecular Formula	C6 H4 Cl2
Molecular Weight	147
Explosive Properties	explosive air/vapour mixtures possible

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong oxidizing agents. Metals.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride gas.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

Oral	Category 4
Dermal	Based on available data, the classification criteria are not met
Inhalation	Category 4

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;

Test method	OECD 404
Test species	rabbit
Observational endpoint	Erythema/Eschar = = 1.56 Oedema = = 1

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(c) serious eye damage/irritation; Category 2
 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

Component	Test method	Test species	Study result
o-Dichlorobenzene 95-50-1 (>95)	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 (>95)	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
 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,

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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.

11.2. Information on other hazards

Endocrine Disrupting Properties

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

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

Component	Freshwater Fish	Water Flea	Freshwater Algae
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 (Pimephales promelas) LC50: 1.44 - 1.73 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 5.8 mg/L, 96h static (Pimephales promelas)	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)

Component	Microtox	M-Factor
o-Dichlorobenzene	EC50 = 4.76 mg/L 5 min EC50 = 4.98 mg/L 15 min EC50 = 5.99 mg/L 30 min	1

12.2. Persistence and degradability

Persistence

Not readily biodegradable
May persist, based on information available.

Component	Degradability
o-Dichlorobenzene 95-50-1 (>95)	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.

12.3. Bioaccumulative potential

May have some potential to bioaccumulate

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

12.4. 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

12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

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12.6. Endocrine disrupting properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

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.

European Waste Catalogue (EWC)

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

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.

Switzerland - Waste Ordinance

Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600
<https://www.fedlex.admin.ch/eli/cc/2015/891/en>

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number

UN1591

14.2. UN proper shipping name

O-DICHLOROBENZENE

14.3. Transport hazard class(es)

6.1

14.4. Packing group

III

ADR

14.1. UN number

UN1591

14.2. UN proper shipping name

o-DICHLOROBENZENE

14.3. Transport hazard class(es)

6.1

14.4. Packing group

III

IATA

14.1. UN number

UN1591

14.2. UN proper shipping name

o-DICHLOROBENZENE

14.3. Transport hazard class(es)

6.1

14.4. Packing group

III

14.5. Environmental hazards

Dangerous for the environment
Product is a marine pollutant according to the criteria set by IMDG/IMO

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14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
o-Dichlorobenzene	95-50-1	202-425-9	-	-	X	X	KE-10066	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
o-Dichlorobenzene	95-50-1	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
o-Dichlorobenzene	95-50-1	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
o-Dichlorobenzene	95-50-1	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

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National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
o-Dichlorobenzene	WGK2	

Component	France - INRS (Tables of occupational diseases)
o-Dichlorobenzene	Tableaux des maladies professionnelles (TMP) - RG 9

Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
o-Dichlorobenzene 95-50-1 (>95)	Prohibited and Restricted Substances		

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H332 - Harmful if inhaled
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
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

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

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ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

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

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.

Creation Date	16-Nov-2010
Revision Date	19-Oct-2023
Revision Summary	Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 .

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

Disclaimer

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End of Safety Data Sheet