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Version 1

1. IDENTIFICATION

Product identifier

Product Name Ortho-Dichlorobenzene

Other means of identification

Product Code 4930

UN/ID no. UN1591

Synonyms 1,2-dichlorobenzene: O-Dichlorobenzene: DCB

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335

Fax Number 803-327-7808

24 Hour Emergency Phone Number (800) 633-6335 (PERS)

Emergency Telephone (800) 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Emergency Overview

Warning

Hazard statements

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



DANGER! ASPIRATION MAY CAUSE LUNG DAMAGE. VAPORS CAUSE IRRITATION TO EYES AND RESPIRATORY TRACT. LIQUID CAUSES SKIN IRRITATION AND SEVERE EYE IRRITATION. HARMFUL IF SWALLOWED. INHALED OR ABSORBED THROUGH SKIN. AFFECTS LIVER. KIDNEYS AND BLOOD. COMBUSTIBLE LIQUID AND VAPOR. POSSIBLE CANCER HAZARD. MAY CONTAIN P-DICHLOROBENZENE WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA. Risk of cancer depends upon duration and level of exposure.

Appearance Clear, colorless to yellow liquid

Physical state liquid

Odor Pleasant

Precautionary Statements - Prevention

Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves/protective clothing/eye protection/face protection
Avoid release to the environment

Precautionary Statements - Response

If SWALLOWED, call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention
Take off contaminated clothing and wash before reuse.
Vapors cause pain and irritation to eye. Splashes may cause severe irritation and possible eye damage.
Skin contact causes irritations and possibly burns if contact is repeated or prolonged. May be absorbed through the skin.
Causes irritation to the respiratory tract. Can cause headache, nausea, swelling around the eyes, runny nose, loss of appetite and weight loss. Higher concentrations may cause drowsiness, central nervous system depression, kidney and liver damage, unconsciousness, and death.
Toxic! A liver and kidney poison. May cause systematic poisoning with symptoms parallel to inhalation. May be an aspiration hazard if swallowed.
Flash point: 66C (151F) CC Autoignition temperature: 648C (1198F). Flammable limits in air % by volume: lel: 2.2; uel: 9.2
Combustible
Collect spillage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance**Synonyms****Formula**

1,2-dichlorobenzene: O-Dichlorobenzene: DCB.
C6H4Cl2

Chemical Name	CAS No.	Weight-%
o-Dichlorobenzene	95-50-1	99

4. FIRST AID MEASURES

Description of first aid measures

General advice	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
Eye contact	Immediately flush eyes with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention immediately.
Skin contact	Immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
Ingestion	Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Small Fire	Water spray, dry chemical, alcohol foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.
Large Fire	Water spray, dry chemical, alcohol foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

Carbon oxides, hydrogen chloride gas.

Explosion data

Sensitivity to Mechanical Impact Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

Sensitivity to Static Discharge None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13), Keep in suitable, closed containers for disposal.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Light sensitive: Storage class (TRGS 510): Non-Combustible, acute toxic Cat3/toxic hazardous materials or hazardous materials causing chronic effects.

Incompatible materials Strong oxidizing agents. Aluminum. Aluminum alloys.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
o-Dichlorobenzene 95-50-1	STEL: 50 ppm TWA: 25 ppm	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 300 mg/m ³ Ceiling: 50 ppm Ceiling: 300 mg/m ³	IDLH: 200 ppm Ceiling: 50 ppm Ceiling: 300 mg/m ³

Appropriate engineering controls

Engineering Controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the work day.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full Contact: Material: Nitrile rubber, Minimum

layer thickness: 0.11 mm Break through time: 480 min Material tested: Dematril (R) (KCL 740 Aldrich Z677272, Size M). Splash contact: Material Nitrile rubber. Minimum Layer thickness: 0.11 mm Break through time: 480 min Material tested Dermatril (R) (KCL 740/Aldrich Z677272, Size M), data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0) 6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety office familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. Complete suit protecting against chemicals, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100(US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	liquid	Odor	Pleasant
Appearance	Clear, colorless to yellow liquid	Odor threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	-17.6 °C / 0 °F	
Boiling point / boiling range	180 °C / 356 °F	
Flash point	No information available	
Evaporation rate	<1	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	1.2 @ 20C (68F)	
Vapor density	5.1	
Relative density	1.30 @ 20C/4C	
Water solubility	Practically insoluble in water.	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Heat, flames, ignition sources and incompatibles.

Incompatible materials

Strong oxidizing agents. Aluminum. Aluminum alloys.

Hazardous Decomposition Products

May emit oxides or carbon and hydrogen chloride gas when heated to decomposition. May produce carbon monoxide, carbon dioxide, and hydrogen chloride when heated to decomposition.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
o-Dichlorobenzene 95-50-1	= 1516 mg/kg (Rat)	> 10 g/kg (Rabbit)	= 8.15 mg/L (Rat) 4 h

Information on toxicological effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
o-Dichlorobenzene 95-50-1	-	Group 3	-	-

Numerical measures of toxicity - Product Information**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
o-Dichlorobenzene 95-50-1	91.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.2: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 61.2 - 181: 72 h Pseudokirchneriella subcapitata mg/L EC50	8.23 - 10.9: 96 h Pimephales promelas mg/L LC50 flow-through 5.8: 96 h Pimephales promelas mg/L LC50 static 42.6 - 80.4: 96 h Pimephales promelas mg/L LC50 static 5.2: 96 h Brachydanio rerio mg/L LC50 flow-through 4.8 - 6.6: 96 h Lepomis macrochirus mg/L LC50 static 1.44 - 1.73: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	1.7: 24 h Daphnia magna mg/L EC50 0.74: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability**Bioaccumulation**

Chemical Name	Partition coefficient
o-Dichlorobenzene 95-50-1	3.43

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
o-Dichlorobenzene 95-50-1	U070	Included in waste streams: F002, F039, K042	-	U070

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
o-Dichlorobenzene 95-50-1	Category II - Semi-volatiles	-	-	-

14. TRANSPORT INFORMATION

DOT Regulated
UN/ID no. UN1591
Proper shipping name O-Dichlorobenzene
Hazard Class 6.1
Packing Group III
Reportable Quantity (RQ) 20L

TDG Regulated
UN/ID no. UN1591
Proper shipping name ORTHO-DICHLOROBENZENE
Hazard Class 6.1
Packing Group III

ICAO (air) Regulated
UN/ID no. UN1591
Proper shipping name Ortho-Dichlorobenzene
Hazard Class 6.1
Packing Group III

IATA Regulated
UN/ID no. UN1591
Proper shipping name Ortho-Dichlorobenzene
Hazard Class 6.1
Packing Group III

IMDG Regulated
UN/ID no. UN1591
Proper shipping name Ortho-Dichlorobenzene
Hazard Class 6.1
Packing Group III

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

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

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

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

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
o-Dichlorobenzene - 95-50-1	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
o-Dichlorobenzene 95-50-1	-	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
o-Dichlorobenzene 95-50-1	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
o-Dichlorobenzene 95-50-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 2	Flammability 2	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 2*	Flammability 2	Physical hazards 1	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

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Revision Note

No information available

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.

End of Safety Data Sheet