

Issue Date 21-May-2015

Revision Date 16-Jun-2015

Version 2

1. IDENTIFICATION

Product identifier

Product Name Phenol / ortho-Dichlorobenzene 50/50%

Other means of identification

Product Code 6210

UN/ID no. UN2810

Synonyms Phenol: phenol, CVD; Carboic acid; phenic acid; phenylic acid; hydroxybenzene; monohydroxybenzene/ ortho-Dichlorobenzene: 1,2-dichlorobenzene: o-Dichlorobenzene: DCB not applicable to mixtures (phenol: 108-95-2; o-dichlorobenzene: 95-50-1)

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 800 633-8253 (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 3
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Germ cell mutagenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Danger

Hazard statements

Toxic if swallowed

Harmful in contact with skin

Toxic if inhaled

Causes severe skin burns and eye damage

Suspected of causing genetic defects

May cause respiratory irritation
 May cause damage to organs through prolonged or repeated exposure



POISON! DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. RAPIDLY ABSORBED THROUGH SKIN. CORROSIVE. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS. COMBUSTIBLE LIQUID AND VAPOR.

Appearance Colorless to light pink liquid

Physical state Solid

Odor Sharp, medicinal, sweet, tarry

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Use only outdoors or in a well-ventilated area
 Do not breathe dust.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth
 Do NOT induce vomiting

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Very toxic to aquatic life with long lasting effects Toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Synonyms

Phenol: phenol, CVD; Carboic acid; phenic acid; phenylic acid; hydroxybenzene;
 monohydroxybenzene/, ortho-Dichlorobenzene: 1,2-dichlorobenzene: o-Dichlorobenzene:
 DCB not applicable to mixtures (phenol: 108-95-2; o-dichlorobenzene: 95-50-1).

Chemical Name	CAS No.	Weight-%
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Phenol	108-95-2	50
o-Dichlorobenzene	95-50-1	50

4. FIRST AID MEASURES

Description of first aid measures

Eye contact	Phenol: Corrosive. Eye burns with redness, pain, blurred vision may occur. May cause severe damage and blindness. o-Dichlorobenzene: Vapors cause irritation, redness, and pain. Contact with liquid may cause burning of the eyes and tissue damage.
Skin contact	Phenol: Corrosive. Rapidly absorbed through the skin with systemic poisoning effects to follow. Discoloration and severe burns may occur but may be disguised by a loss in pain sensation. o-Dichlorobenzene: Skin contact causes irritations and possibly burns if contact is repeated or prolonged. May be absorbed through the skin.
Inhalation	Phenol: Breathing vapor, dust or mist results in digestive disturbances (vomiting, difficulty in swallowing, diarrhea, loss of appetite). Will irritate, possibly burn respiratory tract. Other symptoms listed under ingestion may also occur. o-Dichlorobenzene: 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.
Ingestion	Phenol: Poison. Symptoms may include burning pain in mouth and throat, abdominal, pain, nausea, vomiting, headache, dizziness, muscular weakness, central nervous system effects, increase in heart rate, irregular breathing, coma, and possibly death. Acute exposure is also associated with kidney and liver damage. Ingestion of 1 gram has been lethal to humans. o-Dichlorobenzene: Toxic! A liver and kidney poison. May cause systemic poisoning with symptoms paralleling inhalation. May be an aspiration hazard if swallowed.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

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 Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section VIII. Isolate hazard area. Keep unnecessary and unproved personnel from entering.

Methods for cleaning up Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material(e.g., vermiculite, dry sand, earth) and place in a chemical waste container such as a steel drum. Do not use combustible materials, such as saw dust. Do not flush to sewer! Spilled residues may be cleaned with a 2-5 % solution of soda ash.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Phenol: oxidizers, aluminum chloride, and nitrobenzene, calcium hypochlorite, butadiene, halogens, formaldehyde, mineral oxidizing acids, isocyanates, sodium nitrate, and many other materials. Hot liquid phenol will attack aluminum, magnesium, lead and zinc metals. o-Dichlorobenzene: Strong oxidizers, aluminum or aluminum alloys.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phenol 108-95-2	TWA: 5 ppm S*	TWA: 5 ppm TWA: 19 mg/m ³ (vacated) TWA: 5 ppm (vacated) TWA: 19 mg/m ³ (vacated) S* S*	IDLH: 250 ppm Ceiling: 15.6 ppm 15 min Ceiling: 60 mg/m ³ 15 min TWA: 5 ppm TWA: 19 mg/m ³
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 Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

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	Solid	Odor	Sharp, medicinal, sweet, tarry
Appearance	Colorless to light pink liquid	Odor threshold	No information available
Color	Light Pink		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	No information available	
Water solubility	No information available	
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.

Hazardous polymerization Will not occur.

Conditions to avoid

Heat, flames, ignition sources and incompatibles.

Incompatible materials

Phenol: oxidizers, aluminum chloride, and nitrobenzene, calcium hypochlorite, butadiene, halogens, formaldehyde, mineral

oxidizing acids, isocyanates, sodium nitrate, and many other materials. Hot liquid phenol will attack aluminum, magnesium, lead and zinc metals. o-Dichlorobenzene: Strong oxidizers, aluminum or aluminum alloys.

Hazardous Decomposition Products

Phenol: Carbon dioxide and carbon monoxide may form when heated to decomposition. Toxic gases and vapors may be released if involved in a fire. TCE: Carbon dioxide, carbon monoxide, and hydrogen chloride gas. o-Dichlorobenzene: May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Inhaled corrosive substances can lead to a toxic edema of the lungs.
Eye contact	Risk of serious damage to eyes.
Skin contact	Phenol: Corrosive. Rapidly absorbed through the skin with systemic poisoning effects to follow. Discoloration and severe burns may occur, but may be disguised by a loss in pain sensation.
Ingestion	Poison. Symptoms may include burning pain in mouth and throat, abdominal pain, nausea, vomiting, headache, dizziness, muscular weakness, central nervous system effects, increase in heart rate, irregular breathing, coma, and possibly death. Acute exposure is also associated with kidney and liver damage. Ingestion of 1 gram has been lethal to humans.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Phenol 108-95-2	= 317 mg/kg (Rat) = 340 mg/kg (Rat)	= 630 mg/kg (Rabbit)	-
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

Sensitization

Germ cell mutagenicity

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Phenol 108-95-2	-	Group 3	-	-
o-Dichlorobenzene 95-50-1	-	Group 3	-	-

Reproductive toxicity

STOT - single exposure

STOT - repeated exposure

Aspiration hazard

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Phenol 108-95-2	46.42: 96 h Pseudokirchneriella subcapitata mg/L EC50 0.0188 - 0.1044: 96 h Pseudokirchneriella	11.9 - 50.5: 96 h Pimephales promelas mg/L LC50 flow-through 20.5 - 25.6: 96 h Pimephales	4.24 - 10.7: 48 h Daphnia magna mg/L EC50 Static 10.2 - 15.5: 48 h Daphnia magna mg/L EC50

	subcapitata mg/L EC50 static 187 - 279: 72 h Desmodemus subspicatus mg/L EC50 static	promelas mg/L LC50 static 32: 96 h Pimephales promelas mg/L LC50 5.449 - 6.789: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 7.5 - 14: 96 h Oncorhynchus mykiss mg/L LC50 static 4.23 - 7.49: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 5.0 - 12.0: 96 h Oncorhynchus mykiss mg/L LC50 13.5: 96 h Lepomis macrochirus mg/L LC50 static 11.9 - 25.3: 96 h Lepomis macrochirus mg/L LC50 flow-through 11.5: 96 h Lepomis macrochirus mg/L LC50 semi-static 34.09 - 47.64: 96 h Poecilia reticulata mg/L LC50 static 31: 96 h Poecilia reticulata mg/L LC50 semi-static 27.8: 96 h Brachydanio rerio mg/L LC50 0.00175: 96 h Cyprinus carpio mg/L LC50 semi-static 33.9 - 43.3: 96 h Oryzias latipes mg/L LC50 flow-through 23.4 - 36.6: 96 h Oryzias latipes mg/L LC50 static	
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
Phenol 108-95-2	1.47
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
Phenol 108-95-2	U188	Included in waste streams: F039, K001, K022, K087 Included in waste stream: K060	-	U188
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	-	-	-

Chemical Name	California Hazardous Waste Status
Phenol 108-95-2	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II
 Reportable Quantity (RQ) 1000 lbs (454 kg)

TDG
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

MEX
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

ICAO (air)
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

IATA
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

IMDG
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

RID
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

ADR
 UN/ID no. Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

ADN
 UN Number Regulated
 UN2810
 Proper shipping name Toxic Liquids, Organic, N.O.S., (Phenol/ O-Dichlorobenzene 60/40%)
 Hazard Class 6.1
 Packing Group II

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**

Chemical Name	SARA 313 - Threshold Values %
Phenol - 108-95-2	1.0
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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phenol 108-95-2	1000 lb	X	X	X
o-Dichlorobenzene 95-50-1	-	X	X	X

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Phenol 108-95-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final 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****U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Phenol 108-95-2	X	X	X
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

<u>NFPA</u>	Health hazards 3	Flammability 2	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 3	Flammability 2	Physical hazards 0	Personal protection X

Issue Date 21-May-2015

Revision Date 16-Jun-2015

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