MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : **4-chlorophenol**

Cat No.: **AC181000000; AC181000025; AC181000050; AC181000051; AC181001000; AC181005000**

CAS No. : 106-48-9

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

Recommended uses : Laboratory chemicals

Uses advised against: Food, drug, pesticide or biocidal product use.

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Limited.
B/503, Shayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.

Telephone : +91-22-6123 0222

Email : exports@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-8657457330

SECTION 2: Hazards identification

2.1 Classification

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

Acute oral toxicity	(Category 4)
Acute dermal toxicity	(Category 4)
Acute Inhalation Toxicity – Dusts and Mists	(Category 4)

2.2 Label elements

Pictogram :

Signal word Warning

Hazard statement (s) Harmful if swallowed, in contact with skin or if inhaled

Precautionary statement (s)

Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Do not eat, drink or smoke when using this product

Response:

Get medical attention/advice if you feel unwell

Inhalation :

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

IF ON SKIN (or hair):

If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes:

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

Ingestion:

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Storage:

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

		Disposal: Dispose of contents/container to an approved waste disposal plant
	Hazards not otherwise classified (HNOC)	Toxic to aquatic life with long lasting effects.

SECTION 3: Composition / information on ingredients

3.1

Component	CAS-No	Weight %
p-Chlorophenol	106-48-9	>97

SECTION 4: First aid measures

4.1	**Description of first aid measures**	
	General Advice:	If symptoms persist, call a physician.
	If inhalation :	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
	In case of skin contact :	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
	In case of eye contact :	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
	Ingestion :	Clean mouth with water and drink afterwards plenty of water.
4.2	**Most important symptoms and effects :**	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
4.3	**Notes to Physician :**	Treat symptomatically

SECTION 5: Firefighting effects

5.1	**Extinguishing media**	
	Suitable extinguishing media	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.
	Unsuitable Extinguishing Media: :	No information available
5.2	**Flash Point :**	102 °C / 215.6 °F
	Method :	No information available

	Autoignition Temperature:	No information available
	Explosion Limits:	
	Upper	No data available
	Lower	No data available
	Sensitivity to Mechanical Impact	No information available
	Sensitivity to Static Discharge	No information available
	Specific Hazards Arising from the Chemical :	Keep product and empty container away from heat and sources of ignition.
	Hazardous Combustion Products :	Carbon monoxide (CO). Carbon dioxide (CO2). Hydrogen chloride

5.4 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.

NFPA:

Health	Flammability	Instability	Physical hazards
4	1	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

7.2	Conditions for safe storage
	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep under nitrogen. Incompatible Materials. Strong oxidizing agents. Acid anhydrides. Acid chlorides.

SECTION 8: Exposure controls/personal protection

8.1 Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure that eyewash stationsand safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

8.2 Exposure controls

Personal protective equipment -

Eye / Face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European StandardEN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid
b) Odour	No information available
c) Odour Threshold	No information available
d) pH	No information available
e) Melting point / freezing point	41 - 45 °C / 105.8 - 113 °F
f) Initial boiling point and	220 °C / 428 °F

boiling range	
g) Flash point	102 °C / 215.6 °F
h) Evaporation rate	No information available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available No data available
k) Vapour pressure	0.13 mbar @ 20 °C
l) Vapour density	Not applicable
m) Specific Gravity	1.260
n) Solubility	No information available
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	No information available
q) Decomposition temperature	> 300°C.
r) Viscosity	Not applicable
s) Molecular formula	C6 H5 Cl O
t) Molecular Weight	128.56

SECTION 10: Stability and Reactivity

10.1	**Reactive Hazard :**	None known, based on information available
10.2	**Chemical stability :**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions :**	None under normal processing.
10.4	**Conditions to avoid :**	Exposure to air. Incompatible products.
10.5	**Incompatible materials:**	Strong oxidizing agents, Acid anhydrides, Acid chlorides
10.6	**Hazardous decomposition products :**	Carbon monoxide (CO), Carbon dioxide (CO2), Hydrogen chloride
10.7	**Hazardous Polymerization**	Hazardous polymerization does not occur

SECTION 11: Toxicological information

11.1

Information on toxicological effects

Acute toxicity:

Product Information:

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
p-Chlorophenol	LD50 = 500 mg/kg (Rat)	LD50 = 1500 mg/kg (Rat)	LC50 = 1.01 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

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

Irritation : No information available

Sensitization: No information available

Carcinogenicity : The table below indicates whether each agency ha Any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
p-Chlorophenol	106-48-9	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects: No information available.

Reproductive Effects: No information available.

Developmental Effects : No information available.

Teratogenicity: No information available.

STOT - single exposure : None known

STOT - repeated exposure: None known

Aspiration hazard : No information available.

Symptoms / effects,both acute and delayed: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information : No information available

Other Adverse Effects : The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1

Ecotoxicity:

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 Algae	Freshwater Fish	Microtox	Water Flea
p-Chlorophenol	EC50: = 8 mg/L, 96h static(Desmodesmus subspicatus) EC50: = 38 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: = 8.3 mg/L, 72h static(Desmodesmus subspicatus) EC50: 2.29 - 41.7 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: 3.34 - 18.7 mg/L, 72h (Pseudokirchneriella subcapitata)	LC50: 5.43 - 6.87 mg/L, 96h flow-through (Pimephalespromelas) LC50: = 1.91 mg/L, 96h flow-through (Oncorhynchusmykiss) LC50: 3.4 - 4.3 mg/L, 96h static (Pimephales promelas) LC50: 3.1 - 4.8 mg/L, 96h static (Lepomis macrochirus)LC50: = 5.6 mg/L, 96h (Brachydanio rerio) LC50: 3.7 - 6.6 mg/L, 96h static (Oryzias latipes) LC50: = 9 mg/L, 96h semi-static (Poecilia reticulata)	EC50 = 0.96 mg/L 5 min EC50 = 1.07 mg/L 30 min EC50 = 8.3 mg/L 1 h	EC50: 2.3 - 2.7 mg/L, 48h Static (Daphnia magna)

12.2 Persistence and degradability: Soluble in water Persistence is unlikely based on information Available.

Bioaccumulation/ Accumulation No information available

12.3 Mobility: Will likely be mobile in the environment due to its water solubility. Log pow : 2.4

SECTION 13: Disposal considerations

13.1 Waste treatment methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

14.1 UN number :

DOT: UN2020 TDG: UN2020

IATA: UN2020 IMDG: UN2020

14.2 UN proper shipping name

DOT : CHLOROPHENOLS, SOLID

	TDG :	CHLOROPHENOLS, SOLID			
	IATA :	CHLOROPHENOLS, SOLID			
	IMDG :	CHLOROPHENOLS, SOLID			
14.3	**Transport hazard class(es)**	DOT: 6.1	TDG: 6.1	IMDG: 6.1	IATA: 6.1
14.4	**Packaging group:**	DOT: III	TDG: III	IMDG: III	IATA: III

SECTION 15: Regulatory information

15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
p-Chlorophenol	106-48-9	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed
TSCA 12(b) - Notices of Export Not applicable

International Inventories:
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-N(	DS	NDS	EINECS	PICC	ENC	ISHL	AICS	IECS(	KECL
p-	106-48-9	X	-	203-402-6	X	X	X	X	X	KE-0580

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65chemicals.

15.2 U.S. State Right-to-Know Regulations:

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
p-Chlorophenol	X	X	X	-	X

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security - This product does not contain the any DHS Chemicals.

Other International Regulations

Mexico – Grade No information available

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances
p-	106-48-9	Listed	Not	Not	Not

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantitiesfor Major Accident	Seveso III Directive (2012/18/EC) - Qualifying Quantitiesfor Safety Report	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
p-	106-48-9	Not	Not	Not	Not

SECTION 16: Other information

16.1 Prepared By: Regulatory affairs
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Limited

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Revision Summary: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C FR 1910.1200 to align with the Globally Harmonized System ofClassification and Labeling of Chemicals (GHS).

16.2 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 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.