Material Safety Data Sheet

Creation Date 03-Dec-2010 **Revision Date** 22-Oct-2012 **Revision Number** 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **4-Chlorophenol**

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

Synonyms No information available.

Recommended Use Laboratory chemicals

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Entity / Business Name
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Harmful by inhalation, in contact with skin and if swallowed. Causes severe eye and skin irritation with possible burns. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Appearance Beige **Physical State** Solid **odor** No information available

Target Organs Skin, Respiratory system, Gastrointestinal tract (GI), Central nervous system (CNS), Liver, Kidney

Potential Health Effects

Acute Effects
Principle Routes of Exposure

Eyes	Causes severe eye irritation and possible burns.
Skin	Harmful in contact with skin. Contact causes severe skin irritation and possible burns.
Inhalation	Harmful by inhalation. May cause irritation.
Ingestion	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects May cause adverse liver effects. May cause adverse kidney effects. Experiments have shown reproductive toxicity effects on laboratory animals.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
p-Chlorophenol	106-48-9	95-98

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion Do not induce vomiting. Obtain medical attention.

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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
Suitable Extinguishing Media	Water spray. Carbon dioxide (CO_2). Dry chemical. chemical foam.
Unsuitable Extinguishing Media	No information available.
Hazardous Combustion Products	No information 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

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** 4 **Flammability** 1 **Instability** 0 **Physical hazards** N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with the skin and the eyes. Avoid dust formation.

Environmental Precautions Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep container tightly closed in a dry and well-ventilated place.

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe dust.

Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep under nitrogen.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

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

NIOSH IDLH: *Immediately Dangerous to Life or Health*

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 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 Standard EN 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Beige
odor	No information available
Odor Threshold	No information available.
pH	No information available.
Vapor Pressure	0.13 mbar @ 20 °C

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Density	No information available.
Viscosity	4.99 mPa.s at 50 °C
Boiling Point/Range	220°C / 428°F
Melting Point/Range	41 - 45°C / 105.8 - 113°F
Decomposition temperature	> 300°C
Flash Point	102°C / 215.6°F
Evaporation Rate	No information available.
Specific Gravity	1.260
Solubility	No information available.
log Pow	No data available
Molecular Weight	128.56
Molecular Formula	C6 H5 Cl O

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions. Air sensitive.
Conditions to Avoid	Exposure to air. Incompatible products.
Incompatible Materials	Strong oxidizing agents, Acid anhydrides, Acid chlorides
Hazardous Decomposition Products	Hydrogen chloride gas, Carbon monoxide (CO), Carbon dioxide (CO_2)
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

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

Irritation	Causes severe irritation and or burns
Toxicologically Synergistic Products	No information available.

Chronic Toxicity

Carcinogenicity	There are no known carcinogenic chemicals in this product
Sensitization	No information available.
Mutagenic Effects	Not mutagenic in AMES Test

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects No information available.

Teratogenicity No information available.

Other Adverse Effects See actual entry in RTECS for complete information.

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
p-Chlorophenol	8 mg/L EC50 = 96 h 3.34 - 18.7 mg/L EC50 72 h 38 mg/L EC50 = 96 h 2.29 - 41.7 mg/L EC50 96 h 8.3 mg/L EC50 = 72 h	5.43-6.87 mg/L LC50 96 h 3.4-4.3 mg/L LC50 96 h 3.7-6.6 mg/L LC50 96 h 5.6 mg/L LC50 96 h 1.91 mg/L LC50 96 h 3.1-4.8 mg/L LC50 96 h 9 mg/L LC50 96 h	EC50 = 0.96 mg/L 5 min EC50 = 1.07 mg/L 30 min EC50 = 8.3 mg/L 1 h	2.3 - 2.7 mg/L EC50 48 h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility .

Component	log Pow
p-Chlorophenol	2.39

13. DISPOSAL CONSIDERATIONS

Waste Disposal 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

14. TRANSPORT INFORMATION

DOT

UN-No UN2020
Proper Shipping Name CHLOROPHENOLS, SOLID
Hazard Class 6.1
Packing Group III

TDG

UN-No UN2020

14. TRANSPORT INFORMATION

Proper Shipping Name CHLOROPHENOLS, SOLID
Hazard Class 6.1
Packing Group III

IATA

UN-No 2020
Proper Shipping Name CHLOROPHENOLS, SOLID
Hazard Class 6.1
Packing Group III

IMDG/IMO

UN-No 2020
Proper Shipping Name CHLOROPHENOLS, SOLID
Hazard Class 6.1
Packing Group III

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
p-Chlorophenol	X	X	-	203-402-6	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

Component	CAS-No	Weight %	SARA 313 - Threshold Values %

p-Chlorophenol	106-48-9	95-98	0.1

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
Not applicable

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
p-Chlorophenol	-	-	X	-

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
Not Applicable

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

State Right-to-Know

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 any DHS chemicals.

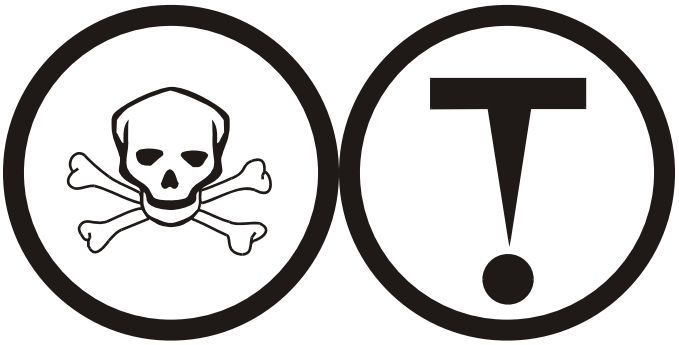
Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D1B Toxic materials
D2B Toxic materials



16. OTHER INFORMATION

Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date	03-Dec-2010
Print Date	22-Oct-2012
Revision Summary	"***", and red text indicates revision

Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of MSDS