

MATERIAL SAFETY DATA SHEET

IDENTITY: Semivolatile Phenols Stock Standard in Methylene chloride

SECTION I

Manufacturer: Cerilliant Corporation

811 Paloma Drive, Suite A Round Rock, TX 78665 Emergency Telephone Number: (512) 238-9974

Date Prepared: July 9, 2012

SECTION II - HAZARDOUS COMPONENTS/IDENTITY INFORMATION

Hazardous Components	Synonyms	CAS Number	%
Methylene Chloride	Methane dichloride; Methylene bichloride; Methylene dichloride; Dichloromethane; DCM.	75-09-2	97.0
2-Chlorophenol	1-chloro-2-hydroxybenzene; 2-chlorophenol; 2-hydroxychlorobenzene; Chlorophenol, 2-; chlorophenolate	95-57-8	0.2
4-Chloro-3- methylphenol	2-Chloro-5-hydroxytoluene; 3-Methyl-4-chlorophenol; p-Chloro-m-cresol; 4-chloro-3-methylphenol; 4-Chloro-3-cresol; 6-Chloro-3-hydroxytoluene; Aptal; Aptal, preventor CMK, raschitk; attafact; baktol; baktolan; candaseptic; Chlorocresol; Ottafect; parmatol; Parol; PCMC; peritonan; prevento 1 cmk; Preventol CMK; raschit	59-50-7	0.2
2,4-Dichlorophenol	2,4-DCP; 4,6-Dichlorophenol; Dichlorophenol, 2,4-; DCP	120-83-2	0.2
2,6-Dichlorophenol	2,6-DCP	87-65-0	0.2
2,4-Dimethylphenol	1-Hydroxy-2,4-Dimethylbenzene; 2,4-DMP; 2,4-Xylenol; m-Xylenol; 4,6-Dimethylphenol; 4-hydroxy-1,3-dimethylbenzene; 4-hydroxy-m-xylene; asym-o-xylenol; Dimethylphenol, 2,4-	105-67-9	0.2
2,4-Dinitrophenol	1-Hydroxy-2,4-Dinitrobenzene; 2,4-DNP; alpha-dinitrophenol; aldifen; Dinitrophenol, 2,4-; Dinitrophenols; dinofan; fenoxyl; Fenoxyl Carbon N; maroxol-50; nitro kleenup; solfo black 2b supra; solfo black b; solfo black bb; solfo black g; solfo black sb; tertrosulfur black pb; tertrosulfur pbr	51-28-5	0.2
Dinoseb	2,4-Dinitro-6-sec-butylphenol; 2-sec-Butyl-4,6-dinitrophenol; 4,6-dinitro-2-(1-methyl-n-propyl)phenol; 4,6-Dinitro-2-sec-butylphenol; Basanite; Dinitrax; Dinitro; Dinitro-o-sec-butylphenol; Dinitro-3; Dinitrobutyl phenol; Dinitro General; Dinoseb Phenol; BNP 30; butaphene; Caldon; Chemox General & PE; Chemox PE; Chemsect; DNBP; DNOSBP; DNPB; DNSBP; Dow General; dow general weed killer; dow selective weed killer; Drexel Dynamite 3; Dynamite; Dynanap; Elgetol 318; F-ISO; Hel-Fire; Kiloseb; Klean Krop; nitropone; Nitropone C; phenotan; pnosbp; Premerge; Premerge Plus, with Dinitro; Sinox general; sparic; spurge; Subitex; unicorp dnbp; Unicrop DNBP; vertac dinitro weed killer; Vertac Dinitro Weed Killer 5; Vertac General and Selective Weed Killer; Vertac General Weed Killer; WSX-8365	88-85-7	0.2
Hexachlorophene	2,2'-Dihydroxy-3,3',5,5',6,6'-hexachlorodiphenylmethane; 2,2'-dihydroxy-3,5,6,3',5',6'-hexachlorodiphenylmethane; 2,2'-methylenebis[3,4,6-trichlorophenol]; Acigena; Almederm; AT-7; B32; Bis(2,3,5-trichloro-6-hydroxyphenyl)methane; bis(2-hydroxy-3,5,6-trichlorophenyl)methane; bis(3,5,6-trichloro-2-hydroxyphenyl)methane; Bilevon; Bivelon; Compound G-11; Cotofilm; Dermadex; Eleven; Exofene; Fomac; Fostril; G-11; Gamophene; Germa-medica; HCP; Hexabalm; Hexafen; Hexide; hexophene; Hexosan; methane, bis(2,3,5-trichloro-6-hydroxyphenyl); Methylenebis(3,4,6-trichlorophenol); Nabac; Neosept V; Phisodan; pHisohex; Ritosept; Septisol; Septofen; Steral; Steraskin; Surgi-Cen; Surofene; Tersaseptic; Trichlorophene; Turgex	70-30-4	0.2
2-Methyl-4,6-	2,4-Dinitro-o-cresol; 2,4-Dinitro-6-methylphenol; 2-Methyl-4,6-dinitrophenol; 3,5-Dinitro-2-Hydroxytoluene; 3,5-Dinitro-6-hydroxy-toluene; 4,6-Dinitro-orthocresol; 4,6-Dinitro-2-Methylphenol; 4,6-DNOC; antinonin; Antinonnin; Dinitro-ocresol; Dinitrol; Dinitrocresol; dinitrosol; Ditrosol; Dekrysil; Detal; DNC; DNOC; Effusan; Elgetol; Elgetol 30; Elgetox; K III; K IV; Lipan; Methyl-4,6-	70-30-4	0.2
dinitrophenol	dinitrophenol; Nitrador; Prokarbol; Selinon; Sinox 1-hydroxy-2-methylbenzene; o-cresylic acid; 2-Hydroxytoluene; o-Cresol; o-	534-52-1	0.2
2-Methylphenol	toluol; Methylphenol, 2- (o-cresol)	95-48-7	0.2



Hazardous		CAS	
Components	Synonyms	Number	%
4-Methylphenol	1-hydroxy-4-methylbenzene; 1-methyl-4-hydroxybenzene; Para-cresylic acid; 4-Hydroxytoluene; p-methylhydroxybenzene; p-Cresol; p-tolyl alcohol; p-toluol; Methylphenol, 4- (p-cresol)	106-44-5	0.2
2-Nitrophenol	2-Hydroxynitrobenzene;ONP	88-75-5	0.2
4-Nitrophenol	4-Hydroxynitrobenzene; 4-Nitrophenol; p-Nitrophenol; 4-Notrophenol; mononitrophenol; Niphen; PNP	100-02-7	0.2
Pentachlorophenol	2,3,4,5,6-Pentachlorophenol; chem-tol; Chlorophen; cryptogil oil; dowcide 7; Dowicide 7; Dowicide EC-7; dow pentachlorophenol dp-2 antimicrobial; Dura-Treet; durotox; EP 30; Forepen; fungifen; glazd penta; grundier arbezol; lauxtol; lauxtol a; liroprem; Osmoplastic; Oz-88; PCP; penchlorol; Penta; pentachlorofenol; Pentachlorophenate; pentachloro-Phenol; Pentachlorophenol; pentachlorophenol, dp-2; Pentacon; penta-kil; Penwar; peratox; permacide; permagard; permasan; permatox dp-2; permatox penta; permite; Pol-NU; priltox; santobrite; Santophen 20; Sinituho; term-i-trol;	87-86-5	0.2
Phenol	benzenol; Carbolic acid; Hydroxybenzene; monohydroxy benzene; monophenol; oxybenzene; Phenyl alcohol; Phenic Acid; Phenic; Phenol; Phenol ; phenol alcohol; Phenol, liquid; Phenol, molten; Phenol, solid; phenyl hydrate; phenyl hydroxide; Phenylic acid; phenylic acid, phenyl hydroxide; phenylic alcohol	108-95-2	0.2
2,3,4,6- Tetrachlorophenol	N/A	58-90-2	0.2
2,4,5-Trichlorophenol	Collunosol; Dowicide 2; preventol i	95-95-4	0.2
2,4,6-Trichlorophenol	2,4,6 T; 2,4,6-TCP; 2,4,6-Trichloro-2-hydroxybenzene; 2,4,6-trichlorophenol; dowcide 2S; Dowicide 2S; Omal; Phenachlor; TCP	88-06-2	0.2

SECTION III – Hazard Identification

Harmful. Carcinogen. Target Organs: Blood, kidneys, heart, central nervous system, liver, lungs, pancreas.

SECTION IV – First Aid Measures

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Skin Contact: Wash off with soap and plenty of water. Consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration and transport to a medical facility.

SECTION V- Fire Fighting Measures

Flash Point: N/A Flammable Limits

Method Used: N/A LEL: 12% UEL: 19% (Methylene chloride)

Extinguishing Media: Dry chemical or carbon dioxide extinguisher

Special Fire Fighting Procedures: Wear SCBA and protective clothing to prevent contact with skin and eyes.

Unusual Fire and Explosion Hazards: N/A

SECTION VI- Accidental Release Measures

Evacuate area. Remove all sources of ignition. Use inert absorbent to pick up all spilled material. Transfer to a suitable waste container with non-sparking tools. Wash spill site with appropriate cleaning agent to removal residual traces of spilled material.



SECTION VII- Handling and Storage

Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged repeated exposure. Wash thoroughly after handling.

Storage: Refrigerate. Protect from light. Keep container closed. Keep away from ignition sources.

SECTION VIII-Exposure Controls/Personal Protection

As appropriate to quantity handled.

Ventilation - Local Exhaust: Use with forced ventilation. **General Mechanical:** Normal laboratory air exchange.

Special: N/A

Respiratory Protection: NIOSH approved cartridge type respirator with organic vapor cartridges recommended.

Eye Protection: Safety glasses with side shields or chemical safety goggles.

Protective Gloves: Compatible chemical resistant gloves. **Other Protective Clothing or Equipment**: Lab coat

Work/Hygienic Practices: Only experienced personnel should be allowed to handle this material.

	Exposure Limits						
	OSHA PEL	ACGIH TLV	DFG MAK	Other Limits			
Methylene Chloride	TWA 25 ppm STEL 125 ppm	TWA 50 ppm Animal carcinogen	Confirmed animal carcinogen with unknown relevance to humans 100 ppm (350 mg/m³)	NIOSH REL Reduce to lowest feasible level.			
2-Chlorophenol	N/A	N/A	N/A	N/A			
4-Chloro-3-methylphenol	N/A	N/A	N/A	N/A			
2,4-Dichlorophenol	N/A	N/A	N/A	N/A			
2,6-Dichlorophenol	N/A	N/A	N/A	N/A			
2,4-Dimethylphenol	N/A	N/A	N/A	N/A			
2,4-Dinitrophenol	N/A	N/A	N/A	N/A			
Dinoseb	N/A	N/A	N/A	N/A			
Hexachlorophene	N/A	N/A	N/A	N/A			
2-Methyl-4,6-dinitrophenol	Final TWA 0.2 mg/m³ (skin)	TWA 0.2 mg/m ³ (skin)	0.2 mf/m ³	TWA 0.2 mg/m³ (skin)			
2-Methylphenol	TWA 5 ppm (skin)	TWA 5 ppm (skin)	N/A	TWA 10 mg/m ³			
4-Methylphenol	TWA 5 ppm (skin)	TWA 5 ppm (skin)	N/A	TWA 10 mg/m ³			
2-Nitrophenol	N/A	N/A	N/A	N/A			
4-Nitrophenol	N/A	N/A	N/A	N/A			
Pentachlorophenol	Final TWA 0.5 mg/m³ (skin)	TWA 0.5 mg/m ³ (skin)	Animal Carcinogen Suspect Human Carcinogen	N/A			
Phenol	TWA 5ppm (skin)	TWA 5ppm (skin)	Confirmed animal carcinogen with unknown relevance to humans	NIOSH REL TWA 20 mg/m³ CL 60 mg/m³/15M			
2,3,4,6-Tetrachlorophenol	N/A	N/A	N/A	N/A			
2,4,5-Trichlorophenol	N/A	N/A	N/A	N/A			
2,4,6-Trichlorophenol	N/A	N/A	5 ppm	N/A			



SECTION IX-Physical/Chemical Properties

Boiling Point (degrees C): 39.8 (Methylene Chloride)
Melting Point (degrees C): -97 (Methylene Chloride)
Specific Gravity (Water=1): 1.326 (Methylene Chloride)
Vapor Pressure (mmHg): 380 @ 22°C (Methylene Chloride)

Vapor Density (Air=1): 2.93 (Methylene Chloride)

Evaporation Rate (Butyl Acetate=1): N/A

Solubility in Water: Slightly soluble (Methylene Chloride)

Appearance and Odor: Clear, colorless liquid (Methylene Chloride)

SECTION X-Stability and Reactivity

Stability: Stable

Conditions to Avoid: Heat, sparks or other sources of ignition.

Incompatible Materials: Strong oxidizing agents, strong bases, chemically active metals. **Hazardous Dcmp Pdts:** Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur

Conditions to Avoid: N/A

SECTION XI-Toxicological Information

Routes of Entry: Inhalation? Yes Skin? Yes Ingestion? Yes

Carcinogenicity: NTP: Reasonably anticipated to be Human Carcinogen: Methylene chloride,

IARC: Possible Human Carcinogen (Group 2B): Methylene chloride, Pentachlorophenol,

2,4,6-Trichlorophenol

OSHA: N/A

Symptoms of Exposure: Methylene chloride may cause severe eye irritation, skin irritation with burning pain, itching, and redness, nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, and drowsiness.

Toxicity Data:

Methylene chloride

Oral-human LD_{LO}: 357 mg/kg Inhalation-rat TC_{LO}: 500 ppm/6H Inhalation-human TC_{LO}: 500 ppm/1Y-1 Inhalation-human TC_{LO}: 500 ppm/8H

Oral-rat LD₅₀:1 600 mg/kg

The toxicological properties of this formulation have not been fully investigated. It should be assumed to have toxic effects and, therefore, procedures appropriate for the safe handling of hazardous chemicals should be followed.

SECTION XII-Ecological Information

Acute Toxicity Tests

Methylene chloride

Fish: Bluegill/Sunfish: EC_{50} : 230mg/L/24H StaticFish: Fathead Minnow EC_{50} : 196mg/L/H Fathead minnow: 99mg/L/96H EC_{10} : 66.3 mg/L.

Bluegill sunfish: LC_{50} : 220 mg/L Water flea LC_{50} : 2270 mg/L/24H

SECTION XIII-Disposal Considerations

Waste materials should be disposed of under conditions that meet Federal, State, and Local environmental control regulations. Contact a licensed waste disposal specialist to dispose of this material.



SECTION XIX- Transportation Information

DOT

Proper Shipping Name: Methylene chloride
UN #: 1593
Class: 6.1
Packing Group: III

Proper Shipping Name: Methylene chloride
UN #:1593
Class: 6.1
Packing Group: III

SECTION XV-Regulatory Information

EU Directives Classification Symbol of Danger: Xn Indication of Danger: Harmful

R: 45-22-68 Risk Statements:

May cause cancer. Harmful if swallowed. Possible risk of irreversible effects.

S: 23-24/25-36/37-45-53

Safety Statements:

Do not breathe vapor. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. Avoid exposure - obtain special instruction before use. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

California Prop. 65: WARNING! This product contains a chemical known to the State of California to cause cancer. [Methylene chloride, Pentachlorophenol, 2,4,6-Trichlorophenol]

California Prop. 65: WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. [Dinoseb]

SARA 313: Listed

SECTION XVI-Other Information

The information contained herein is believed to be accurate and is supplied in good faith. Cerilliant Corporation makes no warranty with respect to and assumes no legal responsibility for use of or reliance upon this information. Individuals receiving this data must exercise their own judgement in determining its suitability for a particular purpose.