

1. Identification

Product identifier	Phenols Mixture - 604	
Other means of identification		
Item	M-PP2M99	
Recommended use	For Laboratory Use Only	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Chem Service, Inc.	
Address	660 Tower Lane West Chester, PA 19380 United States	
Telephone	Toll Free	800-452-9994
	Direct	610-692-3026
Website	www.chemservice.com	
E-mail	info@chemservice.com	
Emergency phone number	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 1
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. Suspected of damaging fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash 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 must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Immediately call a poison center/doctor. Rinse mouth. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

Storage

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

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information

99.71% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 99.71% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Methanol		67-56-1	99.71
2,4-Dinitrophenol		51-28-5	0.1
4,6-Dinitro-o-cresol		534-52-1	0.1
2,4,6-Trichlorophenol		88-06-2	0.01
2,4-Dichlorophenol		120-83-2	0.01
2,4-Dimethylphenol		105-67-9	0.01
2-Chlorophenol		95-57-8	0.01
2-Nitrophenol		88-75-5	0.01
4-Chloro-3-methylphenol		59-50-7	0.01
4-Nitrophenol		100-02-7	0.01
Pentachlorophenol		87-86-5	0.01
Phenol		108-95-2	0.01

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. If swallowed, induce vomiting immediately as directed by medical personnel. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed

Headache. Dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
5. Fire-fighting measures	
Suitable extinguishing media	Water fog. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
4,6-Dinitro-o-cresol (CAS 534-52-1)	PEL	0.2 mg/m3
Methanol (CAS 67-56-1)	PEL	260 mg/m3 200 ppm
Pentachlorophenol (CAS 87-86-5)	PEL	0.5 mg/m3
Phenol (CAS 108-95-2)	PEL	19 mg/m3 5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
4,6-Dinitro-o-cresol (CAS 534-52-1)	TWA	0.2 mg/m3	
Methanol (CAS 67-56-1)	STEL	250 ppm	
	TWA	200 ppm	
Pentachlorophenol (CAS 87-86-5)	STEL	1 mg/m3	Inhalable fraction and vapor.
	TWA	0.5 mg/m3	Inhalable fraction and vapor.
Phenol (CAS 108-95-2)	TWA	5 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
4,6-Dinitro-o-cresol (CAS 534-52-1)	TWA	0.2 mg/m3
Methanol (CAS 67-56-1)	STEL	325 mg/m3 250 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
	TWA	260 mg/m3 200 ppm
Pentachlorophenol (CAS 87-86-5)	TWA	0.5 mg/m3
Phenol (CAS 108-95-2)	Ceiling	60 mg/m3 15.6 ppm
	TWA	19 mg/m3 5 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
2,4-Dichlorophenol (CAS 120-83-2)	TWA	6.7 mg/m3
		1 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*
Phenol (CAS 108-95-2)	250 mg/g	Phenol with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

4,6-Dinitro-o-cresol (CAS 534-52-1)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Pentachlorophenol (CAS 87-86-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

4,6-Dinitro-o-cresol (CAS 534-52-1)	Skin designation applies.
Methanol (CAS 67-56-1)	Skin designation applies.
Phenol (CAS 108-95-2)	Skin designation applies.

US - Tennessee OELs: Skin designation

4,6-Dinitro-o-cresol (CAS 534-52-1)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Pentachlorophenol (CAS 87-86-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

4,6-Dinitro-o-cresol (CAS 534-52-1)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Pentachlorophenol (CAS 87-86-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

4,6-Dinitro-o-cresol (CAS 534-52-1)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Pentachlorophenol (CAS 87-86-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US WEEL Guides: Skin designation

2,4-Dichlorophenol (CAS 120-83-2)	Can be absorbed through the skin.
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US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

4,6-Dinitro-o-cresol (CAS 534-52-1)	Can be absorbed through the skin.
Pentachlorophenol (CAS 87-86-5)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection	Chemical respirator with organic vapor cartridge and full facepiece.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -144.04 °F (-97.8 °C) estimated

Initial boiling point and boiling range 148.46 °F (64.7 °C) estimated

Flash point 53.6 °F (12.0 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 7.3 % estimated

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 169.3 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 867.2 °F (464 °C) estimated

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 0.78871 g/cm³ estimated

Explosive properties Not explosive.

Flammability class Flammable IB estimated

Oxidizing properties Not oxidizing.

Percent volatile 99.82 % estimated

Specific gravity 0.79 estimated

VOC 99.85 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Toxic gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled. May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Toxic in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Headache. Dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Toxic in contact with skin. Toxic if swallowed.

Components	Species	Test Results
2,4,6-Trichlorophenol (CAS 88-06-2)		
<u>Acute</u>		
Oral		
LD50	Rat	820 mg/kg
2,4-Dichlorophenol (CAS 120-83-2)		
<u>Acute</u>		
Dermal		
LD50	Mouse	3100 mg/kg
	Rat	780 mg/kg, Days
Oral		
LD50	Guinea pig	500 - 1000 mg/kg
	Mouse	1276 - 1352 mg/kg
	Rat	2000 - 2400 mg/kg
2,4-Dimethylphenol (CAS 105-67-9)		
<u>Acute</u>		
Dermal		
LD50	Mouse	1040 mg/kg
	Rat	1040 mg/kg
Oral		
LD50	Mouse	809 mg/kg
	Rat	2300 mg/kg
2,4-Dinitrophenol (CAS 51-28-5)		
<u>Acute</u>		
Oral		
LD100	Rat	60 mg/kg
LD50	Cat	75 mg/kg
	Dog	20 - 30 mg/kg

Components	Species	Test Results
	Guinea pig	81 mg/kg
	Mouse	45 mg/kg
	Rabbit	30 mg/kg
	Rat	30 mg/kg
2-Chlorophenol (CAS 95-57-8)		
Acute		
Dermal		
LD50	Rabbit	740 mg/kg
Oral		
LD50	Mouse	670 mg/kg
	Rat	670 mg/kg
2-Nitrophenol (CAS 88-75-5)		
Acute		
Oral		
LD50	Mouse	1300 mg/kg
	Rat	2830 mg/kg
4,6-Dinitro-o-cresol (CAS 534-52-1)		
Acute		
Dermal		
LD50	Rat	200 mg/kg
Oral		
LD50	Cat	50 mg/kg
	Goat	100 mg/kg
	Mouse	21 mg/kg
	Rat	26 mg/kg
	Sheep	200 mg/kg
4-Chloro-3-methylphenol (CAS 59-50-7)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Inhalation		
LC50	Rat	36.8174 mg/l
Oral		
LD50	Mouse	600 mg/kg
	Rat	1830 mg/kg
4-Nitrophenol (CAS 100-02-7)		
Acute		
Oral		
LD50	Mouse	380 mg/kg
	Mouse, Rat	220 - 620 mg/kg
	Mouse; Rabbit; Rat	220 mg/kg
	Rat	220 - 620 mg/kg
Methanol (CAS 67-56-1)		
Acute		
Dermal		
LD50	Rabbit	15800 mg/kg
Inhalation		
LC50	Mouse	79.43 mg/l, 134 Minutes

Components	Species	Test Results
	Rat	> 115.9 mg/l, 4 Hours 64000 ppm, 4 Hours 82.1 mg/l, 6 Hours
Oral		
LD50	Monkey	6000 mg/kg
	Mouse	7300 mg/kg
	Pig	> 5000 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg
Other		
LD50	Guinea pig	3556 mg/kg
	Hamster	8555 mg/kg
	Mouse	4100 mg/kg
	Rabbit	1826 mg/kg
	Rat	2131 mg/kg
Pentachlorophenol (CAS 87-86-5)		
Acute		
Dermal		
LD50	Rat	96 mg/kg
Oral		
LD50	Rat	146 mg/kg
Phenol (CAS 108-95-2)		
Acute		
Dermal		
LD50	Rabbit	850 mg/kg, Hours
	Rat	525 mg/kg 0.625 ml/kg, 24 Hours
Oral		
LD50	Cat	0.1 g/kg
	Dog	0.5 g/kg
	Mouse	282 mg/kg
	Rabbit	620 mg/kg
	Rat	340 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

2,4,6-Trichlorophenol (CAS 88-06-2)	2B Possibly carcinogenic to humans.
2,4-Dichlorophenol (CAS 120-83-2)	2B Possibly carcinogenic to humans.
2-Chlorophenol (CAS 95-57-8)	2B Possibly carcinogenic to humans.
Pentachlorophenol (CAS 87-86-5)	2B Possibly carcinogenic to humans.
Phenol (CAS 108-95-2)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

2,4,6-Trichlorophenol (CAS 88-06-2)

Reasonably Anticipated to be a Human Carcinogen.

Pentachlorophenol (CAS 87-86-5)

Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Causes damage to organs.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
2,4,6-Trichlorophenol (CAS 88-06-2)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 1.8 - 2.6 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 0.35 - 0.49 mg/l, 96 hours
2,4-Dichlorophenol (CAS 120-83-2)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 1.2 - 1.7 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 1.6 - 2.6 mg/l, 96 hours
2,4-Dimethylphenol (CAS 105-67-9)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 1.77 - 3.17 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 4.1 - 9.6 mg/l, 96 hours
2,4-Dinitrophenol (CAS 51-28-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 3.4 - 5.66 mg/l, 48 hours
Fish	LC50	Asiatic knifefish (Notopterus notopterus) 0.9 mg/l, 96 hours
2-Chlorophenol (CAS 95-57-8)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 3.31 - 4.91 mg/l, 48 hours
Fish	LC50	Starry, european flounder (Platichthys flesus) 6.99 mg/l, 96 hours
2-Nitrophenol (CAS 88-75-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 11 - 25 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus) 15 - 67 mg/l, 96 hours
4,6-Dinitro-o-cresol (CAS 534-52-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia pulex) 0.1 - 0.21 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss) 0.037 - 0.117 mg/l, 96 hours
4-Chloro-3-methylphenol (CAS 59-50-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 1.13 - 1.94 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 1 - 10 mg/l, 96 hours

Components	Species	Test Results
4-Nitrophenol (CAS 100-02-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 3.1 - 7.1 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio) 5.6 - 13.9 mg/l, 96 hours
Methanol (CAS 67-56-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) > 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
Pentachlorophenol (CAS 87-86-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 0.273 - 0.375 mg/l, 48 hours
Fish	LC50	Atlantic salmon (Salmo salar) 0.042 - 0.083 mg/l, 96 hours
Phenol (CAS 108-95-2)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia obtusa) 4.7 - 6.4 mg/l, 48 hours
Fish	LC50	Asiatic knifefish (Notopterus notopterus) 8 - 8.25 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2,4,6-Trichlorophenol	3.69
2,4-Dichlorophenol	3.06
2,4-Dimethylphenol	2.3
2,4-Dinitrophenol	1.67
2-Chlorophenol	2.15
2-Nitrophenol	1.79
4,6-Dinitro-o-cresol	2.13
4-Chloro-3-methylphenol	3.1
4-Nitrophenol	1.91
Methanol	-0.77
Pentachlorophenol	5.12
Phenol	1.46

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste P List: Reference

2,4-Dinitrophenol (CAS 51-28-5)	P048
4,6-Dinitro-o-cresol (CAS 534-52-1)	P047

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1230
UN proper shipping name	Methanol, solution (Methanol RQ = 5015 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP2
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1230
UN proper shipping name	Methanol solution (Methanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1230
UN proper shipping name	METHANOL SOLUTION (Methanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT





15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

2,4-Dichlorophenol (CAS 120-83-2) 0.1 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

2,4,6-Trichlorophenol (CAS 88-06-2) Listed.
 2,4-Dichlorophenol (CAS 120-83-2) Listed.
 2,4-Dimethylphenol (CAS 105-67-9) Listed.
 2,4-Dinitrophenol (CAS 51-28-5) Listed.
 2-Chlorophenol (CAS 95-57-8) Listed.
 2-Nitrophenol (CAS 88-75-5) Listed.
 4,6-Dinitro-o-cresol (CAS 534-52-1) Listed.
 4-Chloro-3-methylphenol (CAS 59-50-7) Listed.
 4-Nitrophenol (CAS 100-02-7) Listed.
 Methanol (CAS 67-56-1) Listed.
 Pentachlorophenol (CAS 87-86-5) Listed.
 Phenol (CAS 108-95-2) Listed.

SARA 304 Emergency release notification

4,6-Dinitro-o-cresol (CAS 534-52-1) 10 LBS
 Phenol (CAS 108-95-2) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
4,6-Dinitro-o-cresol	534-52-1	10		10	10000
Phenol	108-95-2	1000		500	10000

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Methanol	67-56-1	99.71

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

2,4,6-Trichlorophenol (CAS 88-06-2)
 2,4-Dinitrophenol (CAS 51-28-5)
 4,6-Dinitro-o-cresol (CAS 534-52-1)
 4-Nitrophenol (CAS 100-02-7)
 Methanol (CAS 67-56-1)
 Pentachlorophenol (CAS 87-86-5)

Phenol (CAS 108-95-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Phenol (CAS 108-95-2) Low priority

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

2,4,6-Trichlorophenol (CAS 88-06-2) Listed: January 1, 1988

Pentachlorophenol (CAS 87-86-5) Listed: January 1, 1990

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

2,4-Dichlorophenol (CAS 120-83-2)

2,4-Dimethylphenol (CAS 105-67-9)

2,4-Dinitrophenol (CAS 51-28-5)

2-Nitrophenol (CAS 88-75-5)

4-Chloro-3-methylphenol (CAS 59-50-7)

Methanol (CAS 67-56-1)

Phenol (CAS 108-95-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 11-04-2014
Revision date 09-15-2017
Version # 02
NFPA ratings Health: 4
Flammability: 3
Instability: 0

Disclaimer

The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

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This document has undergone significant changes and should be reviewed in its entirety.

Revision information