SAFETY DATA SHEET

Issuing Date 30-Jun-2009 **Revision Date** 15-Mar-2016 **Revision Number** 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name Phenol:Chloroform:Isoamyl Alcohol

Other means of identification
Product Code(s) K169
UN/ID no. 2810
Synonyms No information available

Recommended use of the chemical and restrictions on use
Recommended Use For Further Manufacturing Use Only.
Uses advised against Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Company Address	**Manufacturer Address**
VWR International, LLC	VWR Chemicals, LLC
Radnor Corporate Center	28600 Fountain Parkway
100 Matsonford Road	Solon, Ohio 44139
Radnor, PA 19087-8660	
Company Phone Number	1-800-448-4442
E-mail Address	info@amresco-inc.com

Emergency Telephone Number
Emergency Telephone Number Chemtrec 1-800-424-9300

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
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

Label elements

Emergency Overview

Danger

Hazard statements
H301 - Toxic if swallowed
H312 - Harmful in contact with skin
H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H341 - Suspected of causing genetic defects
H350 - May cause cancer

H361 - Suspected of damaging fertility or the unborn child
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure

Appearance Clear **Physical State** Liquid **Odor** Phenolic Medicinal

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
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/fume/gas/mist/vapors/spray

Precautionary Statements - Response
Specific treatment (see .? on this label)
Immediately call a POISON CENTER or doctor
Specific treatment (see .? on this label)
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
Call a POISON CENTER or doctor if you feel unwell
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Immediately call a POISON CENTER or doctor
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 regulated
Other Information
• Toxic to aquatic life with long lasting effects
• Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	EC No.	Weight %	Trade Secret
Phenol	108-95-2	203-632-7	40-50	Not applicable
Chloroform	67-66-3	200-663-8	40-50	Not applicable
Methanol	67-56-1	200-659-6	1-5	Not applicable
Isoamyl alcohol	123-51-3	204-633-5	1-5	Not applicable

4. FIRST AID MEASURES

First Aid Measures

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Use copious amounts of glycerol or polyethylene glycol, then rinse off under running water. Repeat as necessary.

Inhalation Move to fresh air. If not breathing, give artificial respiration.

Ingestion Never give anything by mouth to an unconscious person. Rinse mouth.

Protection of First-aiders Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician 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 No information available.

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 protection 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 Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Cover with dry lime or soda ash. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling Light Sensitive. Handle under red lights. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

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

Incompatible Products Strong oxidizing agents. Strong acids. Strong bases. Protect from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phenol 108-95-2	TWA: 5 ppm	TWA: 5 ppm TWA: 19 mg/m³	IDLH: 250 ppm Ceiling: 15.6 ppm Ceiling: 60 mg/m³ TWA: 5 ppm TWA: 19 mg/m³
Chloroform 67-66-3	TWA: 10 ppm	Ceiling: 50 ppm Ceiling: 240 mg/m³	IDLH: 500 ppm STEL: 2 ppm STEL: 9.78 mg/m³
Methanol 67-56-1	250 ppm STEL TWA: 200 ppm	TWA: 200 ppm TWA: 260 mg/m³	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³
Isoamyl alcohol 123-51-3	125 ppm STEL TWA: 100 ppm	TWA: 100 ppm TWA: 360 mg/m³	IDLH: 500 ppm TWA: 100 ppm TWA: 360 mg/m³ STEL: 125 ppm STEL: 450 mg/m³

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields. Avoid contact with eyes. Face-shield.

Skin and Body Protection Wear protective gloves/clothing.

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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Clear	**Odor**	Phenolic Medicinal
Color	No information available	**Odor Threshold**	No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point/freezing point		
Boiling Point/Range	No information available	
Flash Point (High in °C)	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	
Specific Gravity	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.
Conditions to Avoid
Protect from light.
Incompatible Materials
Strong oxidizing agents. Strong acids. Strong bases. Protect from light.
Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Toxic by inhalation.
Eye Contact	Severely irritating to eyes.
Skin Contact	Harmful in contact with skin. Causes burns.
Ingestion	Toxic if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phenol 108-95-2	= 317 mg/kg (Rat) = 340 mg/kg (Rat)	= 630 mg/kg (Rabbit)	= 316 mg/m³ (Rat) 4 h
Chloroform 67-66-3	= 450 mg/kg (Rat) = 695 mg/kg (Rat)	> 20 g/kg (Rabbit)	= 47702 mg/kg (Rat) 4 h = 47702 mg/m³ (Rat) 4 h
Methanol 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
Isoamyl alcohol 123-51-3	= 1300 mg/kg (Rat)	= 3250 mg/kg (Rabbit) = 3970 µL/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Phenol 108-95-2	-	Group 3	-	-
Chloroform 67-66-3	A3	Group 2B	Reasonably Anticipated	X
Methanol 67-56-1	-	-	-	-
Isoamyl alcohol 123-51-3	-	-	-	-

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic Toxicity Suspected carcinogen. Prolonged exposure may cause chronic effects.
Target Organ Effects Liver, Kidneys, Eyes, Central nervous system (CNS), Skin, Heart.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

0.18% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Phenol 108-95-2	46.42: 96 h Pseudokirchneriella subcapitata mg/L EC50 0.0188 - 0.1044: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 187 - 279: 72 h Desmodesmus subspicatus mg/L EC50 static	5.449 - 6.789: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 11.9 - 25.3: 96 h Lepomis macrochirus mg/L LC50 flow-through 11.5: 96 h Lepomis macrochirus mg/L LC50 semi-static 27.8: 96 h Brachydanio rerio mg/L LC50 23.4 - 36.6: 96 h Oryzias latipes mg/L LC50 static 34.09 - 47.64: 96 h Poecilia reticulata mg/L LC50 static 32: 96 h Pimephales promelas mg/L LC50 7.5 - 14: 96 h Oncorhynchus mykiss mg/L LC50 static 4.23 - 7.49: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.00175: 96 h Cyprinus carpio mg/L LC50 semi-static 33.9 - 43.3: 96 h Oryzias latipes mg/L LC50 flow-through 11.9 - 50.5: 96 h	4.24 - 10.7: 48 h Daphnia magna mg/L EC50 Static 10.2 - 15.5: 48 h Daphnia magna mg/L EC50

		Pimephales promelas mg/L LC50 flow-through 20.5 - 25.6: 96 h Pimephales promelas mg/L LC50 static 13.5: 96 h Lepomis macrochirus mg/L LC50 static 31: 96 h Poecilia reticulata mg/L LC50 semi-static 5.0 - 12.0: 96 h Oncorhynchus mykiss mg/L LC50	
Chloroform 67-66-3	560: 48 h Desmodesmus subspicatus mg/L EC50	71: 96 h Pimephales promelas mg/L LC50 flow-through 18: 96 h Lepomis macrochirus mg/L LC50 flow-through 18: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 300: 96 h Poecilia reticulata mg/L LC50 static	29: 48 h Daphnia magna mg/L EC50
Methanol 67-56-1	-	28200: 96 h Pimephales promelas mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	-
Isoamyl alcohol 123-51-3	181: 96 h Desmodesmus subspicatus mg/L EC50 493: 72 h Desmodesmus subspicatus mg/L EC50	700: 96 h Salmo gairdneri mg/L LC50 static	260: 48 h Daphnia magna mg/L EC50

Persistence and Degradability
No information available.

Bioaccumulation/Accumulation
No information available.

Chemical Name	Partition coefficient
Phenol 108-95-2	1.47
Chloroform 67-66-3	2
Methanol 67-56-1	-0.77
Isoamyl alcohol 123-51-3	1.28

Other Adverse Effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging Do not re-use empty containers.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Water 7732-18-5	-	-	-	-
TRIS 77-86-1	-	-	-	-

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Phenol 108-95-2	-	-	-	-

Chloroform 67-66-3	Category I - Volatiles	-	-	-
Methanol 67-56-1	-	-	-	-
Isoamyl alcohol 123-51-3	-	-	-	-

Chemical Name	California Hazardous Waste Status
Phenol 108-95-2	Toxic; Corrosive
Chloroform 67-66-3	Toxic
Methanol 67-56-1	Toxic; Ignitable
Isoamyl alcohol 123-51-3	-

14. TRANSPORT INFORMATION

DOT

UN/ID no. 2810
Proper shipping name Toxic Liquid, Organic, N.O.S. (Phenol/Chloroform Solution)
Hazard Class 6.1
Packing Group II

IATA

UN/ID no. 2810
Proper shipping name Toxic Liquid, Organic, N.O.S. (Phenol/Chloroform Solution)
Hazard Class 6.1
Packing Group II

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Does not Comply
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 Commercial Chemical Substances/EU 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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values %
Phenol	1.0

108-95-2 (40-50)	
Chloroform 67-66-3 (40-50)	0.1
Methanol 67-56-1 (1-5)	1.0
Isoamyl alcohol 123-51-3 (1-5)	-

SARA 311/312 Hazard Categories

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

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phenol 108-95-2	1000 lb	X	X	X
Chloroform 67-66-3	10 lb	X	X	X
Methanol 67-56-1	-	-	-	-
Isoamyl alcohol 123-51-3	-	-	-	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Phenol 108-95-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Chloroform 67-66-3	10 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ
Methanol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Isoamyl alcohol 123-51-3	-	-	-

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Phenol - 108-95-2	-
Chloroform - 67-66-3	Carcinogen Developmental
Methanol - 67-56-1	Developmental
Isoamyl alcohol - 123-51-3	-

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Phenol 108-95-2	X	X	X
Chloroform 67-66-3	X	X	X
Methanol 67-56-1	X	X	X
Isoamyl alcohol	X	X	X

123-51-3			

U.S. EPA Label Information

EPA Pesticide Registration Number Not regulated

16. OTHER INFORMATION

Issuing Date 30-Jun-2009
Revision Date 15-Mar-2016
Revision Note
No information available

Disclaimer

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

End of Safety Data Sheet