

Product code	Description
PANAL0224	ASTM D5808 Organic Chloride in Hydrocarbons Kit

Components:

PANAL0224-1	Methanol Solvent Blank
PANAL0224-2	Trichlorophenol (as Cl), 1 mg/L (1X2 mL)
PANAL0224-3	Trichlorophenol (as Cl), 5 mg/L (1X2 mL)
PANAL0224-4	Trichlorophenol (as Cl), 10 mg/L (1X2 mL)
PANAL0224-5	Trichlorophenol (as Cl), 15 mg/L (1X2 mL)
PANAL0224-6	Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

1 Identification

- **Product identifier**
- **Trade name:** Methanol Solvent Blank
- **Part number:** PANAL0224-1
- **CAS Number:**
67-56-1
- **EC number:**
200-659-6
- **Index number:**
603-001-00-X
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3

H301 Toxic if swallowed.

Acute Toxicity (Dermal) – Category 3

H311 Toxic in contact with skin.

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to organs.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
(Contd. on page 2)

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 1)

· Hazard pictograms

· Signal word Danger
· Hazard-determining components of labeling:

methanol

· Hazard statements

Highly flammable liquid and vapour.

Toxic if swallowed, in contact with skin or if inhaled.

Causes damage to organs.

· Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

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 [or shower].

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Call a poison center/doctor.

Call a poison center/doctor if you feel unwell.

Specific measures (see on this label).

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· Classification system:
· NFPA ratings (scale 0 - 4)


Health = 1

Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)


Health = *1

Fire = 3

Reactivity = 0

CA

(Contd. on page 3)



Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 2)

3 Composition/Information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
67-56-1 methanol
- **Identification number(s)**
- **EC number:** 200-659-6
- **Index number:** 603-001-00-X

4 First aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

(Contd. on page 4)



Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 3)

- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:	
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67-56-1 methanol	
EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

- **Breathing equipment:**
When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 4)

needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Color: Colorless

· **Odor:** Alcohol-like

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -98 °C

Boiling point/Boiling range: 64.7 °C

· **Flash point:** 9 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 455 °C

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

Lower: 5.5 Vol %

Upper: 44 Vol %

(Contd. on page 6)



Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 5)

· Vapor pressure at 20 °C:	100 hPa
· Density at 20 °C:	0.8 g/cm ³
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	100.0 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:****ATE (Acute Toxicity Estimate)**

Inhalative LC50/4 h 3 mg/L

67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 6)

· NTP (National Toxicology Program)

Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, TDG, IMDG, IATA** UN1230
- **UN proper shipping name**
- **DOT** Methanol
- **TDG** 1230 METHANOL
- **IMDG, IATA** METHANOL
- **Transport hazard class(es)**
- **DOT**
- 

- **Class** 3 Flammable liquids

(Contd. on page 8)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 7)

· **Label** 3, 6.1

· **TDG (Transport dangerous goods):**

· **Class** 3 Flammable liquids

· **Label** 3+6.1

· **IMDG**

· **Class** 3 Flammable liquids

· **Label** 3/6.1

· **IATA**

· **Class** 3 Flammable liquids

· **Label** 3 (6.1)

· **Packing group**

· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids

· **Danger code (Kemler):** 336

· **EMS Number:** 3-06

· **Stowage Category** B

· **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 1 L

On cargo aircraft only: 60 L

· **Hazardous substance:** 5000 lbs, 2270 kg

· **TDG**

· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)** 1L

(Contd. on page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/23/2019

Trade name: Methanol Solvent Blank

(Contd. of page 8)

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 1230 METHANOL, 3 (6.1), II

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Sara
· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Canadian substance listings:
· Canadian Domestic Substances List (DSL)

Substance is listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

Substance is not listed.

· Canadian Ingredient Disclosure list (limit 1%)

Substance is listed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

· Date of the latest revision of the safety data sheet 03/31/2019 / 2

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

1 Identification

- **Product identifier**
- **Trade name:** Trichlorophenol (as Cl), 1 mg/L (1X2 mL)
- **Part number:** PANAL0224-2
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to organs.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
methanol
- **Hazard statements**
Highly flammable liquid and vapour.
Toxic if inhaled.
Causes damage to organs.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 1)

· Precautionary statements

If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof [electrical/ventilating/lighting] equipment.
 Use non-sparking tools.
 Take actions to prevent static discharges.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF exposed or concerned: Call a poison center/doctor.
 Specific treatment (see on this label).
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



3 Composition/Information on ingredients

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

67-56-1	methanol	100% w/w
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4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 3)



Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 2)

- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:

67-56-1 methanol

EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
- **Breathing equipment:**
 - When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: >4 hours

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Alcohol-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	-98 °C
Boiling point/Boiling range:	64.7 °C

· Flash point: 9 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	5.5 Vol %
Upper:	44 Vol %

· Vapor pressure at 20 °C: 100 hPa

Density at 20 °C:	0.8 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 100.0 %

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 5)

Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	3 mg/L
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67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)

88-06-2	2,4,6-trichlorophenol	2B
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NTP (National Toxicology Program)
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88-06-2	2,4,6-trichlorophenol	R
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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, TDG, IMDG, IATA | <p>UN1230</p> | |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · TDG · IMDG, IATA | <p>Methanol solution
1230 METHANOL solution
METHANOL solution</p> | |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT <div style="display: flex; align-items: center;">   </div> <ul style="list-style-type: none"> · Class · Label · TDG (Transport dangerous goods): <div style="display: flex; align-items: center;">   </div> <ul style="list-style-type: none"> · Class · Label | | <p>3 Flammable liquids
3, 6.1</p> <p>3 Flammable liquids
3+6.1</p> |

(Contd. on page 8)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 7)

· IMDG


· **Class** 3 Flammable liquids
 · **Label** 3/6.1

· IATA


· **Class** 3 Flammable liquids
 · **Label** 3 (6.1)

· Packing group

· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 336
 · **EMS Number:** F-E,S-D
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· Transport/Additional information:

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 1 L
 On cargo aircraft only: 60 L

· TDG

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· IMDG

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1230 METHANOL SOLUTION, 3 (6.1), II

CA

(Contd. on page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 1 mg/L (1X2 mL)

(Contd. of page 8)

15 Regulatory information

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

· Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

67-56-1 | methanol

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

· **Date of the latest revision of the safety data sheet** 03/31/2019 / 2

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· *** Data compared to the previous version altered.**

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

1 Identification

- **Product identifier**
- **Trade name:** Trichlorophenol (as Cl), 5 mg/L (1X2 mL)
- **Part number:** PANAL0224-3
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to organs.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
methanol
- **Hazard statements**
Highly flammable liquid and vapour.
Toxic if inhaled.
Causes damage to organs.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 1)

· Precautionary statements

If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof [electrical/ventilating/lighting] equipment.
 Use non-sparking tools.
 Take actions to prevent static discharges.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF exposed or concerned: Call a poison center/doctor.
 Specific treatment (see on this label).
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



3 Composition/Information on ingredients

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

67-56-1	methanol	99.999% w/w
---------	----------	-------------

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 2)

- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:

67-56-1 methanol

EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
- **Breathing equipment:**
 - When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: >4 hours

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Alcohol-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	-98 °C
Boiling point/Boiling range:	64.7 °C

· Flash point: 9 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	5.5 Vol %
Upper:	44 Vol %

· Vapor pressure at 20 °C: 100 hPa

Density at 20 °C:	0.80001 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 100.0 %

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 5)

Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:	
---	--

ATE (Acute Toxicity Estimate)	
--------------------------------------	--

Inhalative	LC50/4 h	3 mg/L
------------	----------	--------

67-56-1 methanol	
-------------------------	--

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)	
---	--

88-06-2	2,4,6-trichlorophenol	2B
---------	-----------------------	----

NTP (National Toxicology Program)	
--	--

88-06-2	2,4,6-trichlorophenol	R
---------	-----------------------	---

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, TDG, IMDG, IATA | <p>UN1230</p> | |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · TDG · IMDG, IATA | <p>Methanol solution
1230 METHANOL solution
METHANOL solution</p> | |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT <div style="display: flex; align-items: center;">   </div> <ul style="list-style-type: none"> · Class · Label · TDG (Transport dangerous goods): <div style="display: flex; align-items: center;">   </div> <ul style="list-style-type: none"> · Class · Label | | <p>3 Flammable liquids
3, 6.1</p> <p>3 Flammable liquids
3+6.1</p> |

(Contd. on page 8)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 7)

· IMDG


· **Class** 3 Flammable liquids
 · **Label** 3/6.1

· IATA


· **Class** 3 Flammable liquids
 · **Label** 3 (6.1)

· Packing group

· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 336
 · **EMS Number:** F-E,S-D
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· Transport/Additional information:

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 1 L
 On cargo aircraft only: 60 L

· TDG

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· IMDG

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1230 METHANOL SOLUTION, 3 (6.1), II

CA

(Contd. on page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 5 mg/L (1X2 mL)

(Contd. of page 8)

15 Regulatory information

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

· Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

67-56-1 | methanol

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

· **Date of the latest revision of the safety data sheet** 03/31/2019 / 2

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· *** Data compared to the previous version altered.**

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

1 Identification

- **Product identifier**
- **Trade name:** Trichlorophenol (as Cl), 10 mg/L (1X2 mL)
- **Part number:** PANAL0224-4
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to organs.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
methanol
- **Hazard statements**
Highly flammable liquid and vapour.
Toxic if inhaled.
Causes damage to organs.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 1)

· Precautionary statements

If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof [electrical/ventilating/lighting] equipment.
 Use non-sparking tools.
 Take actions to prevent static discharges.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF exposed or concerned: Call a poison center/doctor.
 Specific treatment (see on this label).
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



3 Composition/Information on ingredients

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

67-56-1	methanol	99.998% w/w
---------	----------	-------------

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 3)



Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 2)

- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:

67-56-1 methanol

EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
- **Breathing equipment:**
 - When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: >4 hours

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Alcohol-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	-98 °C
Boiling point/Boiling range:	64.7 °C

· Flash point: 9 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	5.5 Vol %
Upper:	44 Vol %

· Vapor pressure at 20 °C: 100 hPa

Density at 20 °C:	0.80002 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 100.0 %

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 5)

Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	3 mg/L
------------	----------	--------

67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)

88-06-2	2,4,6-trichlorophenol	2B
---------	-----------------------	----

NTP (National Toxicology Program)
--

88-06-2	2,4,6-trichlorophenol	R
---------	-----------------------	---

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, TDG, IMDG, IATA | <p>UN1230</p> | |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · TDG · IMDG, IATA | <p>Methanol solution
1230 METHANOL solution
METHANOL solution</p> | |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT <div style="display: flex; align-items: center;">   </div> <ul style="list-style-type: none"> · Class · Label · TDG (Transport dangerous goods): <div style="display: flex; align-items: center;">   </div> <ul style="list-style-type: none"> · Class · Label | | <p>3 Flammable liquids
3, 6.1</p> <p>3 Flammable liquids
3+6.1</p> |

(Contd. on page 8)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 7)

· IMDG


· **Class** 3 Flammable liquids
 · **Label** 3/6.1

· IATA


· **Class** 3 Flammable liquids
 · **Label** 3 (6.1)

· Packing group

· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 336
 · **EMS Number:** F-E,S-D
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· Transport/Additional information:

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 1 L
 On cargo aircraft only: 60 L

· TDG

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· IMDG

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1230 METHANOL SOLUTION, 3 (6.1), II

CA

(Contd. on page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 10 mg/L (1X2 mL)

(Contd. of page 8)

15 Regulatory information

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

- Sara

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

67-56-1 methanol

- **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

- **Canadian Ingredient Disclosure list (limit 1%)**

All ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Department issuing SDS:** Document Control / Regulatory

- **Contact:** regulatory@ultrasci.com

- **Date of the latest revision of the safety data sheet** 03/31/2019 / 2

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- *** Data compared to the previous version altered.**

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

1 Identification

- **Product identifier**
- **Trade name:** Trichlorophenol (as Cl), 15 mg/L (1X2 mL)
- **Part number:** PANAL0224-5
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to organs.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
methanol
- **Hazard statements**
Highly flammable liquid and vapour.
Toxic if inhaled.
Causes damage to organs.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 1)

· Precautionary statements

If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof [electrical/ventilating/lighting] equipment.
 Use non-sparking tools.
 Take actions to prevent static discharges.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF exposed or concerned: Call a poison center/doctor.
 Specific treatment (see on this label).
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



3 Composition/Information on ingredients

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

67-56-1	methanol	99.997% w/w
---------	----------	-------------

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 2)

- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:**67-56-1 methanol**

EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
- **Breathing equipment:**
 - When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: >4 hours

(Contd. on page 5)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Alcohol-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	-98 °C
Boiling point/Boiling range:	64.7 °C

· Flash point: 9 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	5.5 Vol %
Upper:	44 Vol %

· Vapor pressure at 20 °C: 100 hPa

Density at 20 °C:	0.80002 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 100.0 %

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 5)

Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	3 mg/L
------------	----------	--------

67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)

88-06-2	2,4,6-trichlorophenol	2B
---------	-----------------------	----

NTP (National Toxicology Program)
--

88-06-2	2,4,6-trichlorophenol	R
---------	-----------------------	---

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, TDG, IMDG, IATA | <p>UN1230</p> | |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · TDG · IMDG, IATA | <p>Methanol solution
1230 METHANOL solution
METHANOL solution</p> | |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT <div style="display: flex; align-items: center; gap: 20px;">   </div> <ul style="list-style-type: none"> · Class · Label · TDG (Transport dangerous goods): <div style="display: flex; align-items: center; gap: 20px;">   </div> <ul style="list-style-type: none"> · Class · Label | | <p>3 Flammable liquids
3, 6.1</p> <p>3 Flammable liquids
3+6.1</p> |

(Contd. on page 8)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 7)

· IMDG


· **Class** 3 Flammable liquids
 · **Label** 3/6.1

· IATA


· **Class** 3 Flammable liquids
 · **Label** 3 (6.1)

· Packing group

· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 336
 · **EMS Number:** F-E,S-D
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· Transport/Additional information:

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 1 L
 On cargo aircraft only: 60 L

· TDG

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· IMDG

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1230 METHANOL SOLUTION, 3 (6.1), II

CA

(Contd. on page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 15 mg/L (1X2 mL)

(Contd. of page 8)

15 Regulatory information

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

- Sara

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

67-56-1 | methanol

- **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

- **Canadian Ingredient Disclosure list (limit 1%)**

All ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Department issuing SDS:** Document Control / Regulatory

- **Contact:** regulatory@ultrasci.com

- **Date of the latest revision of the safety data sheet** 03/31/2019 / 2

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- *** Data compared to the previous version altered.**

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

1 Identification

- **Product identifier**
- **Trade name:** Trichlorophenol (as Cl), 25 mg/L (1X2 mL)
- **Part number:** PANAL0224-6
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to organs.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS06



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
methanol
- **Hazard statements**
Highly flammable liquid and vapour.
Toxic if inhaled.
Causes damage to organs.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 1)

· Precautionary statements

If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof [electrical/ventilating/lighting] equipment.
 Use non-sparking tools.
 Take actions to prevent static discharges.
 Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF exposed or concerned: Call a poison center/doctor.
 Specific treatment (see on this label).
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



3 Composition/Information on ingredients

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

67-56-1	methanol	99.997% w/w
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4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 2)

- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:

67-56-1 methanol

EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
- **Breathing equipment:**
 - When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: >4 hours

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Alcohol-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	-98 °C
Boiling point/Boiling range:	64.7 °C

· Flash point: 9 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	5.5 Vol %
Upper:	44 Vol %

· Vapor pressure at 20 °C: 100 hPa

Density at 20 °C:	0.80002 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 100.0 %

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 5)

Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	3 mg/L
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67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)

88-06-2	2,4,6-trichlorophenol	2B
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NTP (National Toxicology Program)
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88-06-2	2,4,6-trichlorophenol	R
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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|------------------------|
| · UN-Number | |
| · DOT, TDG, IMDG, IATA | UN1230 |
| · UN proper shipping name | |
| · DOT | Methanol solution |
| · TDG | 1230 METHANOL solution |
| · IMDG, IATA | METHANOL solution |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3, 6.1 |
| · TDG (Transport dangerous goods): | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3+6.1 |

(Contd. on page 8)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 7)

· IMDG


· **Class** 3 Flammable liquids
 · **Label** 3/6.1

· IATA


· **Class** 3 Flammable liquids
 · **Label** 3 (6.1)

· Packing group

· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 336
 · **EMS Number:** F-E,S-D
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· Transport/Additional information:

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 1 L
 On cargo aircraft only: 60 L

· TDG

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· IMDG

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1230 METHANOL SOLUTION, 3 (6.1), II

CA

(Contd. on page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/30/2019

Trade name: Trichlorophenol (as Cl), 25 mg/L (1X2 mL)

(Contd. of page 8)

15 Regulatory information

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

· Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

67-56-1 methanol

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

· **Date of the latest revision of the safety data sheet** 03/31/2019 / 2

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· *** Data compared to the previous version altered.**