

## Material Safety Data Sheet

Phenolphthalein Solution  
MSDS# 88357

## Section 1 - Chemical Product and Company Identification

MSDS Name:

Phenolphthalein Solution

Catalog Numbers:

P/2400L/08, P/2400L/17, P/2401L/08

Synonyms:

None

Company Identification: Fisher Scientific UK

Bishop Meadow Road, Loughborough

Leics. LE11 5RG

For information in Europe, call: (01509) 231166

Emergency Number, Europe:

01509 231166

## Section 2 - Composition, Information on Ingredients

-----  
CAS#: 64-17-5  
Chemical Name: Ethyl Alcohol  
%: >95%  
EINECS#: 200-578-6  
Hazard Symbols: F  
Risk Phrases: 11  
-----

-----  
CAS#: 67-56-1  
Chemical Name: Methyl alcohol  
%: 3.6%  
EINECS#: 200-659-6  
Hazard Symbols: F T  
Risk Phrases: 11 23/24/25 39/23/24/25  
-----

-----  
CAS#: 77-09-8  
Chemical Name: Phenolphthalein  
%:  
EINECS#: 201-004-7  
Hazard Symbols:  
Risk Phrases:  
-----

Text for R-phrases: see Section 16

Hazard Symbols:

XN F

Risk Phrases:

11 20/21/22 68/20/21/22

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Harmful : possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

Potential Health Effects

Eye:

Causes severe eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage. Methanol is a mild to moderate eye irritant. Inhalation, ingestion or skin absorption of methanol can cause significant disturbances in vision, including blindness.

Skin:

Causes moderate skin irritation. Harmful if absorbed through the skin. May cause cyanosis of the extremities. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances.

Ingestion:

Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation. Harmful if inhaled.

Chronic:

Possible cancer hazard based on tests with laboratory animals. May

cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

#### Section 4 - First Aid Measures

**Eyes:**

Get medical aid. Gently lift eyelids and flush continuously with water.

**Skin:**

Get medical aid. Wash clothing before reuse. Flush skin with plenty of soap and water.

**Ingestion:**

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:**

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

**Notes to Physician:**

Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous system diseases may be at increased risk from exposure to this substance.

**Antidote:**

Replace fluid and electrolytes.

#### Section 5 - Fire Fighting Measures

**General Information:**

Replace fluid and electrolytes. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

**Extinguishing Media:**

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

#### Section 6 - Accidental Release Measures

**General Information:**

Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

#### Section 7 - Handling and Storage

**Handling:**

Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:**

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

#### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

CAS# 64-17-5:

United Kingdom, WEL - TWA: 1000 ppm TWA; 1920 mg/m3 TWA

United Kingdom, WEL - STEL: 3000 ppm STEL; 5760 mg/m3 STEL  
 United States OSHA: 1000 ppm TWA; 1900 mg/m3 TWA  
 Belgium - TWA: 1000 ppm TWA; 1907 mg/m3 TWA  
 France - VME: 1000 ppm VME; 1900 mg/m3 VME  
 France - VLE: 5000 ppm VLCT; 9500 mg/m3 VLCT  
 Germany: 500 ppm TWA (exposure factor 2); 960 mg/m3 TWA (exposure factor 2)  
 Malaysia: 1000 ppm TWA; 1880 mg/m3 TWA  
 Netherlands: 500 ppm MAC; 1000 mg/m3 MAC  
 Russia: 1000 mg/m3 TWA (vapor)  
 Russia: 2000 mg/m3 STEL (vapor)  
 Spain: 1000 ppm VLA-ED; 1910 mg/m3 VLA-ED  
 CAS# 67-56-1:  
 United Kingdom, WEL - TWA: 200 ppm TWA; 266 mg/m3 TWA  
 United Kingdom, WEL - STEL: 250 ppm STEL; 333 mg/m3 STEL  
 United States OSHA: 200 ppm TWA; 260 mg/m3 TWA  
 Belgium - TWA: 200 ppm TWA; 266 mg/m3 TWA  
 Belgium - STEL: 250 ppm STEL; 333 mg/m3 STEL  
 France - VME: 200 ppm VME; 260 mg/m3 VME  
 France - VLE: 1000 ppm VLCT; 1300 mg/m3 VLCT  
 Germany: 200 ppm TWA (exposure factor 4); 270 mg/m3 TWA (exposure factor 4)  
 Germany: skin notation  
 Japan: 200 ppm OEL; 260 mg/m3 OEL  
 Malaysia: 200 ppm TWA; 262 mg/m3 TWA  
 Netherlands: 400 ppm STEL; 520 mg/m3 STEL  
 Netherlands: 200 ppm MAC; 260 mg/m3 MAC  
 Russia: 5 mg/m3 TWA (vapor)  
 Russia: 15 mg/m3 STEL (vapor)  
 Spain: 200 ppm VLA-ED; 266 mg/m3 VLA-ED  
 CAS# 77-09-8:  
 Personal Protective Equipment

## Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

## Skin:

Wear appropriate protective gloves to prevent skin exposure.

## Clothing:

Wear appropriate protective clothing to prevent skin exposure.

## Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

Physical State: Clear liquid  
 Color: pale-yellow  
 Odor: Mild, rather pleasant, like wine or whis  
 pH: Not available  
 Vapor Pressure: Not available  
 Viscosity: 1.200 cP @ 20 deg C (Eth  
 Boiling Point: Not available  
 Freezing/Melting Point: Not available  
 Autoignition Temperature: Not applicable  
 Flash Point: 13 deg C ( 55.40 deg F)  
 Explosion Limits: Lower:Not available  
 Explosion Limits: Upper:Not available  
 Decomposition Temperature: Not available  
 Solubility in water: Miscible  
 Specific Gravity/Density: 0.790@20°C (Ethanol)  
 Molecular Formula: Solution  
 Molecular Weight: 0

## Section 10 - Stability and Reactivity

## Chemical Stability:

Stable under normal temperatures and pressures.

## Conditions to Avoid:

Incompatible materials, ignition sources, excess heat, oxidizers.

## Incompatibilities with Other Materials

Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide,

disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.

**Hazardous Decomposition Products**

Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information

**RTECS#:**

CAS# 64-17-5: KQ6300000

CAS# 67-56-1: PC1400000

CAS# 77-09-8: SM8380000

**LD50/LC50:**

RTECS: CAS# 64-17-5: Draize test, rabbit, eye: 500 mg Severe; Draize test, rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 39 gm/m<sup>3</sup>/4H; Inhalation, rat: LC50 = 20000 ppm/10H; Oral, mouse: LD50 = 3450 mg/kg; Oral, rabbit: LD50 = 6300 mg/kg; Oral, rat: LD50 = 7060 mg/kg; Oral, rat: LD50 = 9000 mg/kg;.

RTECS: CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rabbit: LC50 = 81000 mg/m<sup>3</sup>/14H; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5600 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg;.

RTECS: CAS# 77-09-8:.

**Carcinogenicity:**

Ethyl Alcohol -

Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Methyl alcohol -

Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Phenolphthalein -

California: carcinogen, initial date 5/15/98

NTP: Suspect carcinogen

IARC: Group 2B carcinogen

**Other:**

Standard Draize Test (Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

Section 12 - Ecological Information

**Ecotoxicity:**

Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @

24-24.3°C Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr;

Fingerling (Unspecified) Bacteria: Phytobacterium phosphoreum:

EC50 = 34900 mg/L; 5-30 min; Microtox test

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location.

Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

**IATA**

Shipping Name: ETHANOL SOLUTION  
Hazard Class: 3  
UN Number: 1170  
Packing Group: II

**IMO**

Shipping Name: ETHANOL SOLUTION  
Hazard Class: 3  
UN Number: 1170  
Packing Group: II

**RID/ADR**

Shipping Name: ETHANOL SOLUTION  
Hazard Class: 3  
UN Number: 1170  
Packing Group: II

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

**European/International Regulations**

European Labeling in Accordance with EC Directives

Hazard Symbols: XN F

**Risk Phrases:**

R 11 Highly flammable.

R 20/21/22 Harmful by inhalation, in contact with

skin and if swallowed.  
R 68/20/21/22 Harmful : possible risk of  
irreversible effects through inhalation, in contact  
with skin and if swallowed.

## Safety Phrases:

S 7 Keep container tightly closed.  
S 16 Keep away from sources of ignition - No  
smoking.  
S 36/37 Wear suitable protective clothing and  
gloves.  
S 45 In case of accident or if you feel unwell, seek  
medical advice immediately (show the label where  
possible).

## WGK (Water Danger/Protection)

CAS# 64-17-5: 0  
CAS# 67-56-1: 1  
CAS# 77-09-8: 1

## Canada

CAS# 64-17-5 is listed on Canada's DSL List  
CAS# 67-56-1 is listed on Canada's DSL List  
CAS# 77-09-8 is listed on Canada's DSL List

## US Federal

## TSCA

CAS# 64-17-5 is listed on the TSCA Inventory.  
CAS# 67-56-1 is listed on the TSCA Inventory.  
CAS# 77-09-8 is listed on the TSCA Inventory.

## Section 16 - Other Information

## Text for R-phrases from Section 2

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if  
swallowed.

R 39/23/24/25 Toxic : danger of very serious irreversible effects  
through inhalation, in contact with skin and if swallowed.

## MSDS Creation Date:

4/20/1998

## Revision #11 Date

12/04/2007

## Revisions were made in Sections:

9

The information above is believed to be accurate and represents the  
best information currently available to us. However, we make no  
warranty of merchantability or any other warranty, express or  
implied, with respect to such information, and we assume no liability  
resulting from its use. Users should make their own investigations to  
determine the suitability of the information for their particular  
purposes. In no event shall the company be liable for any claims,  
losses, or damages of any third party or for lost profits or any  
special, indirect, incidental, consequential, or exemplary damages  
howsoever arising, even if the company has been advised of the  
possibility of such damages.

---