Safety Data Sheet PHENOLPHTHALEIN Solution 0.5%

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SECTION 1: Identification

GHS Product identifier

Product name	PHENOLPHTHALEIN Solution 0.5%

Other means of identification

Product	Product Code
HENOLPHTHALEIN Solution 0.5% LR	PL101

Recommended use of the chemical and restrictions on use

Used as an acid-base (pH) indicator in colorimetric and titrimetric determinations (pH indicator: pH 8.3 (colourless) to pH 10 (red)); laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Carcinogenicity, Cat. 1B
- Serious eye damage/eye irritation, Cat. 2A
- Flammable liquids, Cat. 2

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**
Hazard statement(s)	
H319	Causes serious eye irritation
H350	May cause cancer
H225	Highly flammable liquid and vapor
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Component	Identification	Weight %	Classifications
Water	CAS no.: 7732-18-5 EC no.: 231-791-2	50 - <= 55 %	CLASSIFICATIONS: No data available. HAZARDS: No data available.
Ethanol	CAS no.: 64-17-5 EC no.: 200-578-6 Index no.: 603-002-00-5	45 - <= 50 %	CLASSIFICATIONS: Flammable liquids, Cat. 2. HAZARDS: H225 - Highly flammable liquid and vapor.
Phenolphthalein	CAS no.: 77-09-8 EC no.: 201-004-7 Index no.: 604-076-00-1	<= 0.5 %	CLASSIFICATIONS: Carcinogenicity, Cat. 1B; Germ cell mutagenicity, Cat. 2; Reproductive toxicity, Cat. 2. HAZARDS: H341 - Suspected of causing genetic defects [route]; H350 - May cause cancer [route]; H361f - . [SCLs/M-factors/ATEs]: Carc. 1B; H350: C ≥ 1 %

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.

If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If persistent irritation occurs, obtain medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Caution: Use of water spray when fighting fire may be inefficient.
Small fire: Use alcohol resistant foam, dry chemical, CO2 or fine water spray.
Large fire: Use alcohol resistant foam, fog or water spray - Do not use water jets.
If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.

Specific hazards arising from the chemical
Hazards from Combustion Products: Incomplete combustion may produce phenols, acrid smoke and fumes.

HIGHLY FLAMMABLE: These products have a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Many liquids are lighter than water. Many vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.

Special protective actions for fire-fighters
SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Methods and materials for containment and cleaning up
ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed.
Do not touch or walk through spilled material.
Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.
Vapour-suppressing foam may be used to control vapours.

Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds. SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid breathing vapour/gas/fumes/spray. Avoid contact with eyes, skin, and clothing. Do not ingest. Avoid prolonged or repeated exposure. If ingested, seek medical advice immediately and show the container or the label. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Take precautions against static discharge. Keep away from heat and all sources of ignition. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

Conditions for safe storage, including any incompatibilities
Keep tightly closed, in a cool, dry, well-ventilated location, away from any area where the fire hazard may be acute. Keep well closed and protected from direct sunlight and moisture. Keep away from heat, sparks, open flame and all possible sources of ignition. Separate from incompatibles; should not be stored with perchlorates, peroxides, chromic acid and nitric acid.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 64-17-5
Ethanol
AU/SWA (Australia): 1000 ppm; 1880 mg/m3 TWA inhalation [Ethyl alcohol]

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection
Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid

Appearance, such as physical state and colour	
Colour	Colourless
Odour	Ethanolic odour.
Odour threshold	The highest known value is 100 ppm (Ethyl alcohol). Weighted average: 96.1 ppm.
Melting point and freezing point	Not determined
Boiling point or initial boiling point and boiling range	78 °C (100%)
Flammability	Highly Flammable
Lower and upper explosion limit or lower and upper flammability limit	3.1% to 19.0% (at 60C)
Flash point	24 °C
Explosive properties	May react violently or explosively and increased risk of fire and explosion with strong oxidizing agents (e.g. chromium trioxide, chlorine oxides, nitrosyl perchlorate, nitric acid and permanganates). Mixtures of concentrated hydrogen peroxide and ethanol can be detonated by shock or heat. Perchloric acid, metal perchlorates (e.g. silver perchlorate), mercuric nitrate, silver nitrate, silver and nitric acid, or silver oxide and aqueous ammonia with phenolphthalein solution may form shock-sensitive or explosive compounds. Reaction with alkali metals (e.g. sodium or potassium) may be explosive due to the formation of hydrogen-air mixtures, unless air is excluded. Reaction with bromine pentafluoride, disulfuryl difluoride or bromides may be vigorous or violent with risk of fire and explosion. Reaction with acids, acid anhydrides, or acid chlorides may be vigorous or violent, with the evolution of heat.
Auto-ignition temperature	425 °C.
Decomposition temperature	Not Determined
pH	Not determined
Kinematic viscosity	Not determined
Solubility	Solubility in Water: Miscible in all proportions. Solubility in Organic Solvents: Easily soluble in n-octanol. Soluble in methanol, diethyl ether, acetone.
Partition coefficient — n-octanol/ water (logarithmic value)	Log P (o/w): - 0.32 (ethanol).
Vapour pressure	Like ethanol (5.9 kPa (44.3 mm Hg) at 20 °C).
Density and relative density	Specific Gravity: 0.89
Relative vapour density	Weighted average: 1.1 (air = 1).
Particle characteristics	Not applicable

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Can react vigorously with oxidisers.
The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium(VIII) oxide, silver perchlorate, silver peroxide, uranium hexafluoride, uranyl perchlorate.
Ethanol reacts violently/explodes with the following compounds: acetyl bromide (evolves hydrogen bromide) acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide and silver oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2-dimethoxy propane.

Conditions to avoid
Excess heat, ignition sources (sparks, flames), incompatible materials.

Incompatible materials
Oxidizing agents, acids, acid chlorides, anhydrides/acids, alkalis, alkali metals, alkaline earth metals, metals, mercury compounds, silver compounds, metal hydrides, hydrazine, halogen-halogen compounds, alkali oxides, nonmetallic halides, ethylene oxide, fluorine, hydrides, chromyl chloride, and many other substances.

Hazardous decomposition products
Carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Ingestion: Swallowing large amounts may be harmful. Ethanol causes headaches, gastritis, intoxication, CNS depression and, in acute cases, death. Phenolphthalein causes cathartic effects. Very active, even in small amounts (30-100 mg). May cause purging, collapse, and fall of blood pressure or an itching skin rash that can become ulcerous. Swallowing large amounts may cause gastrointestinal tract irritation with nausea, vomiting and diarrhoea, abdominal pain. It also may affect the urinary system, cardiovascular system, sense organs, behaviour or central nervous system depression (somnolence, irritability, headache, dizziness, drowsiness, stupor, incoordination, unconsciousness, respiratory paralysis, coma, narcosis), peripherial nervous system, liver, blood, metabolism, and respiratory system (breathing difficulty).

Inhalation: Slight mucosal irritation. Risk of absorption. Breathing large amounts may be harmful and may cause respiratory tract and mucous membrane irritation. It may affect the brain, respiration (difficulty breathing), behaviour (central nervous system depression - headache, somnolence, irritability, dizziness, drowsiness, stupor, narcosis, incoordination, unconsciousness, respiratory paralysis, coma and possible death), peripheral nerve and sensation (peripheral nervous system), blood, urinary system, cardiovascular system, gastrointestinal system, and liver. Prolonged exposures to high concentrations may cause drowsiness, loss of appetite and inability to concentrate.

Skin corrosion/irritation
Ethanol causes skin irritation, cracking or flaking due to dehydration and defatting action. May be absorbed through the skin with possible systemic effects. Phenolphthalein may be absorbed via moist or oily surfaces. Symptoms may resemble those from ingestion exposure. Prolonged or repeated exposure may cause dermatitis.

Serious eye damage/irritation
Can cause eye irritation. Splashes may cause temporary pain and blurred vision.

Serious eye damage/irritation: Eye Damage/Irritation: Category 2A
H319 Causes serious eye irritation.

Respiratory or skin sensitization
Respiratory sensitisation: Not classified based on available information.

Skin Sensitisation: Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Carcinogenicity: Category 1B
H350 May cause cancer.
Phenolphthalein [77-09-8] is evaluated in the IARC Monographs (Vol. 76; 2000) as Group 2B: Possibly carcinogenic to humans. Substance with carcinogenic and genotoxic effect whose potency, however, is considered to be so low that no appreciable contribution to the cancer risk in humans is to be expected where the limit value for occupational safety is observed.

Reproductive toxicity
Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure
Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure
Not classified based on available information.

Aspiration hazard
Not classified based on available information.

Additional information
Chronic Effects: Repeated or prolonged skin contact causes drying and cracking of skin and may cause chronic dermatitis. May affect the nervous system. May affect liver, kidneys, blood, reproductive system.

SECTION 12: Ecological information

Persistence and degradability
Biologic degradation: Biodegradation: 94 % modified OECD screening test.

Bioaccumulative potential
No bioaccumulation is to be expected (log P(o/w <1).

Mobility in soil
Distribution: log P(oct): -0.32 (ethanol).

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal
No bioaccumulation is to be expected (log P(o/w <1).

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 1993
Class: 3
Packing Group: III
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Contains 50% Ethanol)

Hazchem emergency action code (EAC)
•3Y

IMDG
UN Number: 1993
Class: 3
Packing Group: III
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Contains 50% Ethanol)

IATA
UN Number: 1993
Class: 3
Packing Group: III
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (Contains 50% Ethanol)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: S5

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)