

Infosafe No™ 3CHD2 Issue Date : July 2021 RE-ISSUED by ACR

Product Name **PHENOLPHTHALEIN Solution**

Classified as hazardous

1. Identification

GHS Product Identifier PHENOLPHTHALEIN Solution

Company Name AUSTRALIAN CHEMICAL REAGENTS (ACR) (ABN 19 008 264 211)

Address 38 - 50 Bedford Street Gillman
S.A. 5013 Australia

Telephone/Fax Number Tel: (08) 8440 2000
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Emergency phone number CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

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.

Other Names	Name	Product Code
	PHENOLPHTHALEIN Solution 1%	0229
	PHENOLPHTHALEIN Solution 5% LR	4232

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Australian Chemical Reagents (ACR) 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 Australian Chemical Reagents (ACR) 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 Australian Chemical Reagents (ACR) is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture Carcinogenicity: Category 1B
Eye Damage/Irritation: Category 2A
Flammable Liquids: Category 2
Germ Cell Mutagenicity: Category 2
Toxic to Reproduction: Category 2

Signal Word (s) DANGER

Hazard Statement (s) H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.

Pictogram (s) Flame, Corrosion, Health hazard



Precautionary statement – Prevention P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.

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Precautionary statement – Response	<p>P243 Take precautionary measures against static discharge. P264 Wash ... thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.</p>
Precautionary statement – Storage	<p>Skin P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Eyes P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention.</p>
Precautionary statement – Disposal	<p>Fire P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. Health P308+P313 IF exposed or concerned: Get medical advice/attention. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. P501 Dispose of contents/container to an approved waste disposal plant.</p>

3. Composition/information on ingredients

Ingredients	Name	CAS	Proportion
	Ethanol	64-17-5	95-100 %
	Phenolphthalein	77-09-8	1-5 %

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
Ingestion	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.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If rapid recovery does not occur, obtain medical attention
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. If persistent irritation occurs, obtain medical attention.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products	Incomplete combustion may produce phenols, acrid smoke and fumes.
Specific Methods	<p>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.</p>
Specific hazards arising from the chemical	<p>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</p>

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Hazchem Code hazard.
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Precautions in connection with Fire SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

6. Accidental release measures

Spills & Disposal 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.

Personal Precautions Evacuate the area of all non-essential personnel. Extinguish naked flames. Remove ignition sources Avoid inhalation, contact with skin, eyes and clothing.

Personal Protection Wear protective clothing specified for normal operations (see Section 8)

Clean-up Methods - Small Spillages Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.

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.

Storage Regulations Refer Australian Standard AS 1940-2004 'The storage and handling of flammable and combustible liquids'. Refer Australian Standard AS/NZS 2243.10:2004 'Safety in laboratories - Storage of chemicals'.

Storage Temperatures Store at room temperature (15 to 25 °C recommended).

8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Ethanol			1880	1000	

Other Exposure Information These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for Ethyl alcohol (Safe Work Australia) of 1,880 mg/m³, (1,000 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

Appropriate engineering controls Maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances

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Respiratory Protection	at the source, or other methods. Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.
Eye 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.
Hand Protection	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Body Protection	Flame retardant antistatic protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Colourless solution.
Odour	Ethanollic odour.
Solubility in Water	Soluble in all proportions.
Solubility in Organic Solvents	Easily soluble in n-octanol. Soluble in methanol, diethyl ether, acetone.
Specific Gravity	0.89
Vapour Pressure	Like ethanol (5.9 kPa (44.3 mm Hg) at 20 °C).
Vapour Density (Air=1)	Weighted average: 1.1 (air = 1).
Odour Threshold	The highest known value is 100 ppm (Ethyl alcohol). Weighted average: 96.1 ppm.
Partition Coefficient: n-octanol/water	Log P (o/w): - 0.32 (ethanol).
Flash Point	23 °C (Open Cup).
Flammability	Flammable liquid.
Auto-Ignition Temperature	425 °C.
Explosion 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

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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.

10. Stability and reactivity

Chemical Stability Stable under ordinary conditions of use and storage.

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.

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.

Hazardous Polymerization Will not occur.

11. Toxicological Information

Toxicology Information No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. If mishandled or overexposed to this product the following symptoms or effects may occur.

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), peripheral 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 Ethanol causes skin irritation, cracking or flaking due to dehydration and defatting action. May be absorbed through the skin with possible systemic

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	effects. Phenolphthalein may be absorbed via moist or oily surfaces. Symptoms may resemble those from ingestion exposure. Prolonged or repeated exposure may cause dermatitis.
Eye	Can cause eye irritation. Splashes may cause temporary pain and blurred vision.
Respiratory sensitisation	Not classified based on available information.
Skin Sensitisation	Not classified based on available information.
Germ cell mutagenicity	Germ Cell Mutagenicity: Category 2 H341 Suspected of causing genetic defects.
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	Toxic to Reproduction: Category 2 H361 Suspected of damaging fertility or the unborn child.
STOT-single exposure	Not classified based on available information.
STOT-repeated exposure	Not classified based on available 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.
Serious eye damage/irritation	Eye Damage/Irritation: Category 2A H319 Causes serious eye irritation.
Mutagenicity	Not classified based on available information.

12. Ecological information

Ecological Information	No ecological problems are to be expected when the product is handled and used with due care and attention.
Ecotoxicity	In high concentrations: Toxic for aquatic organisms. When used properly, no impairments in the function of waste-water-treatment plants are to be expected.
Persistence and degradability	Biologic degradation: Biodegradation: 94 % modified OECD screening test.
Mobility	Distribution: log P(oct): -0.32 (ethanol).
Bioaccumulative Potential	No bioaccumulation is to be expected (log P(o/w) <1).

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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14. Transport information

Transport Information	Dangerous Goods of Class 3 Flammable Liquids, are incompatible in a placard load with any of the following: - Class 1, Class 2.1, if both the Class 3 and Class 2.1, dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane and Class 7.
U.N. Number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. - (Contains Ethanol)
Transport hazard class(es)	3

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Hazchem Code	•2Y
Packing Group	III
EPG Number	3A1
IERG Number	14
Environmental Hazards	In high concentrations: Harmful effect on aquatic organisms.

15. Regulatory information

Regulatory Information	All the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	S5

16. Other Information

Literature References	'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 for the Preparation of Safety Data Sheets for Hazardous Chemicals'. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand. Safe Work Australia, 'Hazardous Chemical Information System'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.
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