

Infosafe No™ 1CH52 Issue Date : July 2021 RE-ISSUED by CHEMSUPP

Product Name **PHENOLPHTHALEIN**

Classified as hazardous

1. Identification

GHS Product Identifier PHENOLPHTHALEIN

Company Name CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)

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Recommended use of the chemical and restrictions on use Acid-base (pH) indicator in colorimetric and titrimetric determinations: pH 8.3 (colourless) to pH 10 (red); laboratory reagent. Formerly used as a laxative-cathartic, but recently has been substituted due to concerns regarding potential carcinogenicity.

Other Names	<u>Name</u>	<u>Product Code</u>
	3,3-Bis(4-hydroxyphenyl)-1[3H]-isobenzofuranone	
	Phthalin	
	2-[Bis(4-hydroxyphenyl)methyl]-benzoic acid	
	PHENOLPHTHALEIN Tech Grade	PT033
	PHENOLPHTHALEIN AR	PA033

Other Information

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.

2. Hazard Identification

GHS classification of the substance/mixture Carcinogenicity: Category 1B
Germ Cell Mutagenicity: Category 2
Toxic to Reproduction: Category 2

Signal Word (s) DANGER

Hazard Statement (s) H341 Suspected of causing genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.

Pictogram (s) Health hazard



Precautionary statement – Prevention P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.

Precautionary statement – Response P308+P313 IF exposed or concerned: Get medical advice/attention.

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Precautionary statement – Storage P405 Store locked up.

Precautionary statement – Disposal P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Phenolphthalein	77-09-8	100 %

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. Get 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 rapid recovery does not occur, obtain medical attention
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
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, oxides of carbon.
Specific Methods	No limitations to the type of extinguishing media. Small fire: Use dry chemical, CO ₂ , water spray or foam. Large fire: Use water spray, fog or foam. If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.
Specific hazards arising from the chemical	May burn but do not ignite readily. Runoff may pollute waterways. Fire may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated. Risk of dust explosion with ignition source.
Precautions in connection with Fire	Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions	Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.

7. Handling and storage

Precautions for Safe Handling	Avoid ingestion and inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Wear suitable protective clothing. Use only in a chemical fume hood. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep away from incompatibles such as
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Conditions for safe storage, including any incompatibilities	oxidizing agents. Keep in a tightly closed container, stored in a cool, dry, ventilated area. Keep well protected from direct sunlight and moisture. Store away from oxidizing agents. Protect against physical damage. Ensure good ventilation/exhaustion at the workplace. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
Storage Temperatures	Store at room temperature (15 to 25 °C recommended).

8. Exposure controls/personal protection

Other Exposure Information	No exposure standards have been established for this product by Safe Work Australia, however, the TWA exposure standard for dusts/mists not otherwise specified is 10 mg/m ³ . All atmospheric contamination should be kept to as low a level as is workable. 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.
Appropriate engineering controls	Maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
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	Clean impervious clothing should be worn. 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	Solid
Appearance	White or yellowish-white crystals or powder.
Odour	Odourless.
Melting Point	262-263 °C
Boiling Point	>450 °C

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Solubility in Water	Practically insoluble. The solubility is pH dependent and does not exceed 6 mg/100 mL.
Solubility in Organic Solvents	Very soluble in acetone; soluble in toluene; moderately soluble in ethanol (8.5 g/100 mL), and diethyl ether (1 g/100 mL); very slightly soluble in chloroform; insoluble in benzene and petroleum ether.
Specific Gravity	1.3 at 25 °C (water=1)
pH	8.2-10.0 (0.05 g in 50 mL ethanol and 50 mL water)
Vapour Pressure	Extremely low.
Vapour Density (Air=1)	11 (air = 1)
Evaporation Rate	Extremely low
Partition Coefficient: n-octanol/water	log P(o/w): 0.9
Flammability	Non combustible material. Does not support combustion. May burn if heated strongly enough, and during a fire irritating/toxic gases may be formed.
Explosion Properties	Under certain conditions, a dust cloud of phenolphthalein may explode when ignited by a spark or flame of sufficient energy.
Molecular Weight	318.33

10. Stability and reactivity

Chemical Stability	Stable at normal temperatures when protected from light.
Conditions to Avoid	Generation of dust, high temperatures, sources of ignition, incompatibles.
Incompatible Materials	Strong acids, bases, oxidising agents (e.g. perchlorates, peroxides, permanganates) and strong reducing agents (e.g. phosphorus, tin (II) chloride, metal hydrides).
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Possibility of hazardous reactions	Can react rapidly and violently with strong oxidizing agents (e.g. perchlorates, peroxides, permanganates) with the risk of fire and/or explosion; may react vigorously or violently with strong reducing agents (e.g. phosphorus, tin (II) chloride, metal hydrides).
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	Phenolphthalein has been widely used therapeutically as a laxative for many years; doses of 30 to 195 mg are typical. Animal toxicity data suggests that phenolphthalein has low short-term toxicity. May cause gastrointestinal irritation with nausea, vomiting and diarrhoea. May cause purging, fever, collapse, fall of blood pressure, other unspecified vascular effects, or an itching skin rash that can become ulcerous. Major danger of overdose is fluid and electrolyte deficits resulting from excessive laxative effect. Ingestion is not a typical route of occupational exposure.
Inhalation	Pure phenolphthalein is a dust with an extremely low tendency to form a vapour. In general, high concentrations of dust may cause coughing and mild, temporary irritation. May cause respiratory tract irritation. May cause coughing and sneezing.
Skin	The dust is probably not irritating. May be harmful if absorbed through the skin. May be absorbed via moist or oily surfaces. Symptoms may resemble those from ingestion exposure.
Eye	Slight irritant. In general, dusts may cause tearing, blinking and mild temporary pain as the solid material is rinsed from the eye by tears.
Respiratory sensitisation	Not classified based on available information.
Skin Sensitisation	Not classified based on available information.

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Germ cell mutagenicity	Germ Cell Mutagenicity: Category 2 H341 Suspected of causing genetic defects.
Carcinogenicity	Phenolphthalein [77-09-8] is evaluated in the IARC Monographs (Vol. 76; 2000) as Group 2B: Possibly carcinogenic to humans. Carcinogenicity: Category 1B H350 May cause cancer.
Reproductive Toxicity	Toxic to Reproduction: Category 2 H341 Suspected of causing genetic defects. 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	The medical literature contains references to a number of different health effects which have resulted from abuse of phenolphthalein in laxatives or accidental ingestion of large amounts by children. Animal toxicity information suggests that it would not be harmful at low doses. Rare, but potentially serious, allergic reactions may occur from ingestion of phenolphthalein in laxative products. These effects are not relevant to occupational exposures.
Serious eye damage/irritation	Not classified based on available information.
Mutagenicity	Not classified based on available information.
Skin corrosion/irritation	Not classified based on available information.

12. Ecological information

Ecotoxicity	Quantitative data on the ecological effect of this product are not available.
Environmental Fate	Phenolphthalein's production and use as an acid/base indicator, as a laboratory reagent, and its former use as a laxative may result in its release to the environment through various waste streams. If released to air, an estimated vapour pressure of 6.7 x 10 ⁻¹³ mm Hg at 25 °C indicates phenolphthalein will exist solely in the particulate phase in the ambient atmosphere. Particulate-phase phenolphthalein will be removed from the atmosphere by wet and dry deposition. If released to soil, phenolphthalein is expected to have moderate mobility based upon a Koc of 490. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant of 9.0 x 10 ⁻¹⁶ atm-m ³ /mole. If released into water, phenolphthalein is expected to adsorb to suspended solids and sediment based upon the Koc. Volatilization from water surfaces is not expected to be an important fate process based upon this compound's estimated Henry's Law constant. Occupational exposure to phenolphthalein may occur through inhalation and dermal contact with this compound at workplaces where phenolphthalein is produced or used.
Environmental Protection	Do not allow to enter waters, waste water, or soil!
Acute Toxicity - Daphnia	EC50 (Daphnia magna): > 100 mg/l/48h

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	Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
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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
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Poisons Schedule Not Scheduled

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'.

Contact Person/Point Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**
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Empirical Formula & Structural Formula C20H14O4

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