

Material Safety Data Sheet

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Infosafe No. 1CH52 Issue Date : September 2006 RE-ISSUED by CHEMSUPP

Product Name : PHENOLPHTHALEIN

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Name PHENOLPHTHALEIN
Company Name CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address 50 Bedford Street GILLMAN
SA 5013 Australia
Telephone/Fax Number Tel: (08) 8440-2000 Fax: (08) 8440-2001
Recommended 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	Name	Product Code
	PHENOLPHTHALEIN LR	PL033
	3,3-Bis(4-hydroxyphenyl)-1[3H]-isobenzofuranone	
	Phthalin	
	2-[Bis(4-hydroxyphenyl)methyl]-benzoic acid	

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

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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. HAZARDS IDENTIFICATION

Hazard Classification Classified as hazardous
HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s) Classified as hazardous
R40 Possible risk of irreversible effects.

Safety Phrase(s) S36/37 Wear suitable protective clothing and gloves.

Irritancy of Product High concentrations of dust may cause coughing and mild, temporary irritation by inhalation. The dust is probably not irritating by skin contact. Slightly irritating to the eyes.

Sensitization of Product Risk of allergic reactions with prolonged or repeated exposure in certain sensitive individuals. A rare but potentially serious allergic reaction may occur from ingestion of phenolphthalein in laxative products. The reaction primarily affects the skin, causing swelling, reddening and itching. Some deaths have been attributed to allergy to the drug.

Medical Conditions Generally Aggravated by Exposure Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of the substance.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Solid

Characterization

Ingredients	Name	CAS	Proportion	Hazard Symbol	Risk Phrase
	Phenolphthalein	77-09-8	100 %	Xn	R40

4. FIRST AID MEASURES

Inhalation Remove victim to fresh air. Employ artificial respiration if indicated. Seek medical attention.

Ingestion Rinse mouth thoroughly with water immediately. Give water to drink. DO NOT induce vomiting. If vomiting occurs give further water to achieve effective dilution. Seek immediate medical assistance.

Skin Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical attention.

Eye Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.

First Aid Facilities Maintain eyewash fountain and drench facilities in workarea.

Advice to Doctor Treat symptomatically and supportively.

Other Information For advice, contact a Doctor or Poisons Information Centre. Phone 13 1126 from anywhere in Australia, 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 Small fire: Use dry chemical, CO₂, 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.

Sensitivity to Impact (Shock Sensitivity) Not sensitive. Stable compound.

Specific Hazards 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.

Hazchem Code None Allocated

Sensitivity to Static Discharge Like other organic dusts, phenolphthalein dust may accumulate a static charge, and under certain conditions, airborne dust can explode when ignited by an electrostatic spark, other high-voltage sparks or other ignition source.

Precautions in connection with Fire Wear SCBA and structural firefighter's uniform.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 15m. Do NOT touch or walk through this product. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Prevent dust cloud. Use clean non-sparking tools to collect material and place it into loosely-covered plastic containers for later disposal. SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

7. HANDLING AND STORAGE

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Product Name : **PHENOLPHTHALEIN**

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. Ground all equipment containing material. Keep away from incompatibles such as oxidizing agents. 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.

Conditions for Safe Storage 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. Precautions for 'carcinogens': Storage site should be as close as practical to laboratory in which carcinogens are to be used, so that only small quantities required for experiment need to be carried. Carcinogens should be kept in only one section of cupboard, an explosion-proof refrigerator or freezer (depending on chemichophysical properties) that bears appropriate label. An inventory should be kept, showing quantity of carcinogen and date it was acquired. Facilities for dispensing should be contiguous to storage area.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Other Exposure Information A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by NOHSC Australia for this product. There is a blanket limit of 10 mg/m³ for dusts when limits have not otherwise been established.

Engineering Controls Use with adequate ventilation.

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 Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body Protection Flame retardant 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 Solid

Appearance White or yellowish-white crystals or powder.

Odour Odourless.

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Product Name : **PHENOLPHTHALEIN**

Melting Point	262-263 °C
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 Value	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
Octanol/Water Partition Coefficient	log Kow = 2.41.
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.
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

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.
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 overdosage is fluid and electrolyte deficits resulting from excessive laxative effect. Ingestion is not a typical route of occupational exposure.
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.

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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.
Carcinogenicity	Phenolphthalein [77-09-8] is evaluated in the IARC Monographs (Vol. 76; 2000) as Group 2B: Possibly carcinogenic to humans.
Skin Sensitisation	Risk of skin sensitisation.
Other Information	Use of phenolphthalein by women during breast-feeding may cause diarrhoea in their infants.

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	Quantitative data on the ecological effect of this product are not available.
Persistence / Degradability	Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.
Mobility	Distribution: log Kow = 2.41.
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 6.7×10^{-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 9.0×10^{-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.
Bioaccumulative Potential	An estimated BCF of 14 was calculated for phenolphthalein, using a log Kow of 2.41 and a regression-derived equation. According to a classification scheme, this BCF suggests the potential for bioconcentration in aquatic organisms is low.
Environ. Protection	Do not allow to enter waters, waste water, or soil!

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of according to relevant local, state and federal government regulations.
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14. TRANSPORT INFORMATION

U.N. Number	None Allocated
DG Class	None Allocated
Hazchem Code	None Allocated
Packing Group	None Allocated

15. REGULATORY INFORMATION

Poisons Schedule	Not Scheduled
Hazard Category	Harmful

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16. OTHER INFORMATION

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

Literature References

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Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley & Sons, Inc., NY, 1997.

National Road Transport Commission, 'Australian Dangerous Goods Code 6th. Ed.', AGPS, Canberra, 1998.

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Worksafe Australia, 'Hazardous Substances Information System, 2005'.

Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]', AGPS, Canberra 1994.

Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]', AusInfo, Canberra 1995.

User Codes	User Field Title	User Code
	Risk Phrases	40
	Safety phrases	36/37
	CAS No.	77-09-8
	...End Of MSDS...	