ROWE SCIENTIFIC

Chemwatch: 21-9218 Version No: 10.1

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: **30/05/2024** Print Date: **30/05/2024** L.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Rowe Scientific Phenolphthalein (solid)
Chemical Name	phenolphthalein
Synonyms	CP5225, CP5327
Chemical formula	Not Applicable
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Acid-base indicator useful in the pH range 8.2 (colourless) to 10 (violet red); laboratory reagent. Use according to manufacturer's directions.
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	ROWE SCIENTIFIC
Address	11 Challenge Boulevard Wangara WA 6065 Australia
Telephone	+61 8 9302 1911
Fax	+61 8 9302 1905
Website	http://rowe.com.au/
Email	rowewa@rowe.com.au

Emergency telephone number

Association / Organisation	ROWE SCIENTIFIC
Emergency telephone numbers	+61 8 9302 1911 (24 Hrs)
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification ^[1]	Germ Cell Mutagenicity Category 2, Carcinogenicity Category 1B, Reproductive Toxicity Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
Signal word	Danger
Hazard statement(s)	
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361f	Suspected of damaging fertility.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves and protective clothing.

Precautionary statement(s) Response

P308+P313 IF exposed or concerned: Get medical advice/ attention.

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 P405
 Store locked up.

 Precautionary statement(s) Disposal

 P501
 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
77-09-8	>99	phenolphthalein
Legend:	 Classified by Chemwatch; 2. Classification drawn from He Classification drawn from C&L * EU IOELVs available 	CIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4.

SECTION 4 First aid measures

Description of first aid measures		
Eye Contact	 If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. 	
Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.	
Inhalation	 If dust is inhaled, remove from contaminated area. Encourage patient to blow nose to ensure clear passage of breathing. If irritation or discomfort persists seek medical attention. 	
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. 	

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

- Foam.
- Dry chemical powder.BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility
Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
Advice for firefighters

Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water courses. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	 Solid which exhibits difficult combustion or is difficult to ignite. Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. A dust explosion may release large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people. Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type. Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. Build-up of electrostatic charge may be prevented by bonding and grounding. Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. All movable parts coming in contact with this material should have a speed of less than 1-metre/sec. May emit clouds of acrid smoke Combustion products include: carbon monoxide (CO) carbon dioxide (CO2)

HAZCHEM Not Applicable

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Remove all ignition sources. Clean up all spills immediately. Avoid contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Use dry clean up procedures and avoid generating dust. Place in a suitable, labelled container for waste disposal.
Major Spills	 Remove all ignition sources. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Control personal contact with the substance, by using protective equipment and dust respirator. Prevent spillage from entering drains, sewers or water courses. Avoid generating dust. Sweep, shovel up. Recover product wherever possible. Put residues in labelled plastic bags or other containers for disposal. If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	 Remove all ignition sources. Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. When handling DO NOT eat, drink or smoke. Always wash hands with soap and water after handling. Avoid physical damage to containers. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS.
Other information	 Keep dry. Store under cover. Store in a well ventilated area. Store away from sources of heat or ignition. Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	Glass container is suitable for laboratory quantities Plastic container Plastic drum
Storage incompatibility	Avoid storage with oxidisers

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (INGREDIENT DATA Not Available	DEL)			
Emergency Limits				
Ingredient	TEEL-1	TEEL-2		TEEL-3
phenolphthalein	4 mg/m3	44 mg/m3		260 mg/m3
Ingredient	Original IDLH		Revised IDLH	
phenolphthalein	Not Available		Not Available	
Occupational Exposure Banding				
Ingredient	Occupational Exposure Band Rating		Occupational Ex	xposure Band Limit
phenolphthalein	E		≤ 0.01 mg/m³	
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.			
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MATERIAL DATA

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Rowe Scientific Phenolphthalein (solid)

Appropriate engineering controls	General exhaust is adequate under normal operating conditions.
Individual protection measures, such as personal protective equipment	
Eye and face protection	 Safety glasses with side shields; or as required, Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].
Skin protection	See Hand protection below
Hands/feet protection	 Rubber gloves PVC gloves Safety footwear
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: • Overalls. • Barrier cream. • Eyewash unit.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

Rowe Scientific Phenolphthalein (solid)

Material	CPI
NATURAL RUBBER	А
NEOPRENE	A
NITRILE	A
PVC	A

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	-	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or

hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur

Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO =

* - Negative pressure demand ** - Continuous flow

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion **NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

selection must be based on detailed observation. * Where the glove is to be used on a short term, casual or infrequent basis, factors
such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which
might otherwise be unsuitable following long-term or frequent use. A qualified
practitioner should be consulted.

Ansell Glove Selection

AlphaTec 02-100 AlphaTec® 15-554 AlphaTec® Solvex® 37-185 AlphaTec® 38-612 AlphaTec® 58-008 AlphaTec® 58-530B AlphaTec® 58-530W AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	Glove — In order of recommendation
AlphaTec® 15-554 AlphaTec® Solvex® 37-185 AlphaTec® 38-612 AlphaTec® 58-008 AlphaTec® 58-530B AlphaTec® 58-530W AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec 02-100
AlphaTec® Solvex® 37-185AlphaTec® 38-612AlphaTec® 58-008AlphaTec® 58-530BAlphaTec® 58-530WAlphaTec® 58-735AlphaTec® 79-700AlphaTec® Solvex® 37-675	AlphaTec® 15-554
AlphaTec® 38-612 AlphaTec® 58-008 AlphaTec® 58-530B AlphaTec® 58-530W AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec® Solvex® 37-185
AlphaTec® 58-008 AlphaTec® 58-530B AlphaTec® 58-530W AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec® 38-612
AlphaTec® 58-530B AlphaTec® 58-530W AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec® 58-008
AlphaTec® 58-530W AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec® 58-530B
AlphaTec® 58-735 AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec® 58-530W
AlphaTec® 79-700 AlphaTec® Solvex® 37-675	AlphaTec® 58-735
AlphaTec® Solvex® 37-675	AlphaTec® 79-700
	AlphaTec® Solvex® 37-675

The suggested gloves for use should be confirmed with the glove supplier.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White to off-white minute odourless crystals; practically insoluble in water. Soluble in acetone, toluene and moderately soluble in alcohol. Slightly soluble in chloroform. Insoluble in petroleum ether.		
Physical state	Divided Solid	Relative density (Water = 1)	1.28 - 1.30
Odour	Not Available	Partition coefficient n-octanol / water	Not Available

Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	258-263	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	(decomp)	Molecular weight (g/mol)	320.34
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Negligible	Gas group	Not Available
Solubility in water	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Applicable

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Accidental ingestion of the material may be damaging to the health of the individual. Phenolphthalein is used as a laxative. Large doses phenolphthalein and related substances cause nausea, vomiting and diarrhoea No systemic toxicity has been reported after oral doses except for occasional allergic reactions. Several acute reactions to oral doses have been reported with various types of skin rash described, in some cases followed by persistent pigmentation. Signs of systemic lupus erythematosus have been have also been ascribed to phenolphthalein. In one fatal case a child developed cerebral and pulmonary oedema and became comatose following the ingestion of 600 mg of the laxative in chocolate. In another case a 35 year old man developed hypothermia, hypotension, severe acidosis, oedema and oliguria after ingesting a dose of 2 gm in chocolate. If urine or faeces is alkaline it may acquire a red colour; this is not blood. Phenolphthalein has been widely used as a laxative for many years. The usual dose for an adult is 30-195 mg, although doses of several grams may be swallowed without serious symptoms. In most people ingested phenolphthalein can cause diarrhoea but no other problems. A rare but potentially serious allergic reaction may occur with some people using laxatives but these effects are generally not relevant to occupational exposure to phenolphthalein. (CCINFO) Abuse of phenolphthalein-containing laxatives (for weight loss), has been associated with gastrointestinal bleeding and iron deficient anaemia, acute pancreatitis, and multiple organ damage in cases of massive overdosage, including fulminant hepatic failure and disseminated intravascular coagulation. Constant use of purgatives/laxatives may decrease the sensitivity of the intestinal mucosa causing a diminished response to normal stimulii. The redevelopment of a normal habit is thus prevented.
The dust may be absorbed through moist or oil skin and produce effects similar to those following ingestion. The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.
Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure. On the basis, primarily, of animal experiments, the material may be regarded as carcinogenic to humans. There is sufficient evidence to provide a strong presumption that human exposure to the material may result in cancer on the basis of: - appropriate long-term animal studies - other relevant information Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Limited evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a significant number of individuals at a greater frequency than would be expected from the response of a normal population. Pulmonary sensitisation, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a

	 variety of nonspecific environmental stimuli such as automobile exhaust, perfumes and passive smoking. There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals. Very rarei, altistations, iong-term, repeated exposure to high evels of dust will ead to chronic non-specific lung disease (ILO Encyclopaeda). Indiscriminate use of phenolphthalein and exhibited no signs of toxicity. Chronic stomattis was present in three patients addiced to the drug. In industrial situations, iong-term, repeated exposure to high levels of dust will lead to chronic non-specific lung disease (ILO Encyclopaeda). Indiscriminate use of phenolphthalein results in chronic constipation and laxative dependence, loss of normal bowel fraitation. Habitual use over several years may cause a "cathartic colon", i.e., a poorly functioning, atonic dilation of the colon, especially of the right side, resulting in extensive bowel retention. This condition resembles chronic lucerative colitis both radiodigical grant dipathologically, involves thining of the intestinal wall and loss of the normal mucosal pattern of the terminal ieur. Long term uses or verdeae have been associated, anectoally, with abdominal pain, diarrhoea, electrolyte imbalance (hypokalaemia, hypocalaeemia, and/ or metabolic acidosis or alkalosis), dehydralin, malabsorption, protein-losing gastroenteropy reactions of the skin. In extreme cases recurrences involve progressively more severe lesions characterised by bulious erythema multiform, with flocal haemorrhage and necrois, Corsa-sensitivity reactions in individuals reviews, weight to estily colores. Corsa-sensitivity reactions in individuals reviews. Phenolphthalein largery beside of special with antibicamphologic lesions. Kidney muscle, and central nerovous system distub		
	ΤΟΧΙΟΙΤΥ	IRRITATION	
Rowe Scientific			
Rowe Scientific Phenolphthalein (solid)	Not Available	Not Available	
Rowe Scientific Phenolphthalein (solid)	Not Available TOXICITY	Not Available IRRITATION	
Rowe Scientific Phenolphthalein (solid) phenolphthalein	Not Available TOXICITY Not Available	Not Available IRRITATION Eye: no adverse effect observed (not irritating) ^[1]	
Rowe Scientific Phenolphthalein (solid) phenolphthalein	Not Available TOXICITY Not Available	Not Available IRRITATION Eye: no adverse effect observed (not irritating) ^[1] Skin: adverse effect observed (irritating) ^[1]	
Rowe Scientific Phenolphthalein (solid) phenolphthalein <i>Legend:</i>	Not Available TOXICITY Not Available 1. Value obtained from Europe ECHA Registered Substances - Acute specified data extracted from RTECS - Register of Toxic Effect of cher	Not Available IRRITATION Eye: no adverse effect observed (not irritating) ^[1] Skin: adverse effect observed (irritating) ^[1] toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise mical Substances	

	Allergy to phenolphthalein is often manifested as cut defined, erythematous macules that may progress to each subsequent dose of phenolphthalein and gener numerous melanin-containing demal macrophages	aneous inflammatory reactions or fix o vesicles and/or bullae. These lesion rally leave residual hyperpigmentation have been found in pigmented areas bullous outboome utiliforme with for	ted drug eruptions, i.e. solitary or multiple, well- ns characteristically recur in the same location with on that increases in intensity with each exposure; is In extreme cases, recurrences have involved
	lymphocytic infiltration and, in one case report, toxic A review of 204 cases of phenolphthalein ingestion in over a 30-month period indicated that ingestion of < diarrhoea and resulting fluid loss	epidermal necrolysis n children aged five years and young 1 g was associated with a minimal ri	ger reported to the Pittsburgh Poison Center (USA) sk of developing dehydration due to excessive
	Despite the profile of low acute toxicity documented pulmonary and cerebral oedema, multiple organ effe administration of phenolphthalein-containing laxative	in this study, cases of fatal poisoning ects and encephalitis were attributed as to children has led to serious illnes	g of children have been reported; symptoms of to hypersensitivity reactions. Repeated as and multiple hospitalisations
	Analogy with related biphenolic compounds suggest breast cancer cells in tissue culture and in rat uterus Phenolphthalein is a partial oestrogen in immature ra Wistar rats weighing 35-40 g induced a dose-related induced by oestradiol. Phenolphthalein was shown tu In a study reported in an abstract, exposure of femal or 60 days caused no changes in weight gain, oestro growing or antral), or any detectable pathological change in ovarian cells. In a 1997 study there was no 344/N rats. Lower epididymal weights and lower spe- at 12 000, 25 000 and 50 000 mg/kg	s that phenolphthalein has oestrogei in vivo suggested only a weak oestr at uteri. Doses of 1-10 mg given sub lincrease in uterine weight, but the r o bind to the oestrogen receptor and le B6C3F1 mice to 1895 mg/kg bw p pous cycles or the numbers of oocyte- o evidence of reproductive toxicity in rm density (number of sperm/g of cr	nic activity; however, studies with MCF-7 human rogenic response. cutaneously twice daily for two days to female naximum increase was only about half of that was a competitive antagonist to oestradiol. henolphthalein orally [method not stated] daily for 30 containing follicles of any class (primordial, primary, female B6C3F1 mice or male or female Fischer ude epididymal tissue) were observed in male mice
	Studies have shown that phenolphthalein, at high do With respect to the carcinogenicity study, the US FD and 60 to 100 fold the human exposure for rats and	ese levels, is carcinogenic in mice an A has stated that " the systemic exp mice, respectively	d has a weak genotoxic (clastogenic) activity in vivo. osures in rodents were approximately 40 to 70 fold
	Phenolphthalein is <i>reasonably anticipated to be a hu</i> and/or combination of malignant and benign tumors mouse carcinogenicity study, NTP (1996) concluded incidence of histiocytic sarcoma and lymphomas of t ovarian sex cord stromal tumors in females. In the co significant increases in the incidence of benign pheo in males (NTP 1996). In a 6-month dietary study with significant increase in the incidence of malignant lym A few epidemiological studies have investigated the or adenomatous colorectal polyps. No consistent as	Iman carcinogen based on sufficient in multiple tissue sites and in multipl that phenolphthalein, administered hymic origin in males and females a orresponding Fischer 344 rat dietary chromocytoma of the adrenal medul in female heterozygous <i>p53</i> -deficient nphoma of thymic origin . association between the use of pher sociation was found.	evidence of increased incidence of malignant e species (IARC 2000). In a two-year B6C3F1 in feed, induced significant increases in the nd malignant lymphoma (all types) and benign carcinogenicity study, phenolphthalein induced la in males and females and renal tubule adenoma transgenic mice, phenolphthalein induced a nolphthalein-containing laxatives and colon cancer
	Phenolphthalein has been identified as a multisite carcinogen in rodents, but the molecular species responsible for the carcinogenicity is not known. A catechol metabolite hydroxyphenolphthalein , was recently identified and may be the molecular species responsible for at least part of the toxicity/carcinogenicity The metabolite is an extremely potent mixed-type inhibitor of the O-methylation of the catechol estrogens. It has been suggested that chronic administration of phenolphthalein may enhance metabolic redox cycling of both the metabolite and the catechol estrogens and this, in turn, may contribute to hydroxyphenolphthalein-induced tumourigenesis. Toxicol Appl. Pharmacol Vol 162(2) pp 124-131 2000 Although negative for mutagenicity and DNA damage in bacteria, phenolphthalein exhibits genetic activity in several in vitro and in vivo mammalian assays. Phenolphthalein was positive for the induction of chromosomal aberrations, and morphological transformation in Syrian hamster embryo cells. Phenolphthalein was also positive for the induction of micronucleated erythrocytes in mice following multiple, but not single, treatments administered by gavage or dosed feed. Phenolphthalein also induced micronuclei in female heterozygous p53-deficient transgenic mice exposed via dosed feed for 26 weeks. Phenolphthalein was negative for Na/K ATPase gene mutations and aneuploidy in Syrian hamster embryo cells		
	Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002]		
	WARNING: This substance has been classified by the	ne IARC as Group 2B: Possibly Carc	anogenic to Humans.
Acute Toxicity	×	Carcinogenicity	✓
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×

 Aspiration Hazard
 ×

 Legend:
 ×

 - Data either not available or does not fill the criteria for classification

 - Data available to make classification

×

STOT - Repeated Exposure

SECTION 12 Ecological information

Respiratory or Skin sensitisation

Mutagenicity

×

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Foxicity					
Rowe Scientific Phenolphthalein (solid)	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
phenolphthalein	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	72h	Algae or other aquatic plants	0.57mg/l	2
	EC50	72h	Algae or other aquatic plants	2.54mg/l	2
	EC50	48h	Crustacea	5.5- 8.22mg/l	4
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil Persistence: Air		
phenolphthalein	HIGH	HIGH	
Bioaccumulative potential			
Ingredient	Bioaccumulation		
phenolphthalein	LOW (LogKOW = 3.0584)		
Mobility in soil			
Ingredient	Mobility		
phenolphthalein	LOW (Log KOC = 307100)		

SECTION 13 Disposal considerations

Product / Packaging disposal Packaging disposal Produ	Waste treatment methods	
The solution of the solut	Product / Packaging disposal	 Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. Bury residue in an authorised landfill. Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required		
Marine Pollutant	NO	
HAZCHEM	Not Applicable	

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
phenolphthalein	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
phenolphthalein	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

phenolphthalein is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status		
Australia - AIIC / Australia Non- Industrial Use	Yes		
Canada - DSL	Yes		
Canada - NDSL	No (phenolphthalein)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	Yes		

National Inventory	Status
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	30/05/2024
Initial Date	31/07/2009

SDS Version Summary

Version	Date of Update	Sections Updated
9.1	10/03/2023	Classification change due to full database hazard calculation/update.
10.1	30/05/2024	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information, Identification of the substance / mixture and of the company / undertaking - Synonyms, Identification of the substance / mixture and of the company / undertaking - Use

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- PC TWA: Permissible Concentration-Time Weighted Average
- PC STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit。
 IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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