Material Safety Data Sheet

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Version 1.3
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	PHENOBARBITAL, SODIUM——DEA SCHEDULE IV ITEM
Product Number	P5178
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
5-ETHYL-5-PHENYLBARBITURIC ACID SODIUM SALT	57-30-7	200-322-3	None

Ingredient Name	Percent	CAS #	EC no	Annex I
THE FOLLOWING SUBSTANCES ARE PRESENT AS RESIDUAL COMPONENTS OF PRODUCTION.		None	None	None
ETHYL ALCOHOL, NON-DENATURED, 200 PROOF Symbols: F R-Phrases: 11 Highly flammable.	<= 2	64-17-5	200-578-6	603-002-00-5

Formula	C12H11N2NaO3
Molecular Weight	254.2 AMU
Synonyms	5-Ethyl-5-phenylbarbituric acid sodium salt * 5-Ethyl-5-phenyl-2,4,6-(1H,3H,5H)pyrimidinetrione monosodium salt * Gardenal sodium * Fenobarbital natrium (Polish) * Luminal sodium * PBS * Phenemalum * Phenobal sodium * Phenobarbital elixir * Phenobarbital Na * Phenobarbital sodium * Phenobarbital sodium salt * Phenobarbitone sodium * Phenobarbitone sodium salt * Phenyl-aethyl-barbitursaeure natrium (German) * Phenylethylbarbituric acid, sodium salt * 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-phenyl-, monosodium salt (9CI) * Sodium 5-ethyl-5-phenylbarbiturate * Sodium luminal * Sodium phenobarbital * Sodium phenobarbitone * Sodium phenylethylbarbiturate * Sodium phenylethylmalonylurea * Sol

phenobarbital * Sol phenobarbitone * Soluble phenobarbital * Soluble phenobarbitone

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Toxic if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.

4 - First Aid Measures

AFTER INHALATION
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS
Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING
Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS
Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance Physical State: Solid

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents, Alkali metals, Ammonia, Peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS EXOTHERMIC REACTIONS
Hazardous Exothermic Reactions: Will not occur

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: CQ7000000

ACUTE TOXICITY

LD50
Oral
Rat
150 mg/kg

LD50
Intraperitoneal
Rat
152 MG/KG

LD50
Subcutaneous
Rat
195 MG/KG

LD50
Intravenous
Rat
83 MG/KG

LD50
Oral
Mouse
200 mg/kg

LD50
Intraperitoneal
Mouse
123 MG/KG

LD50
Subcutaneous
Mouse
180 MG/KG

LD50
Intravenous
Mouse
226 MG/KG

LD50
Oral
Cat
175 mg/kg
Remarks: Behavioral:General anesthetic. Behavioral:Excitement. Behavioral:Ataxia.

LD50
Oral
Rabbit
150 mg/kg

LD50

Intraperitoneal
Rabbit
150 MG/KG

LD50
Intravenous
Rabbit
40 MG/KG

SENSITIZATION
Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: Toxic if swallowed.

TARGET ORGAN INFORMATION
Nerves. Liver. Heart.

CHRONIC EXPOSURE - CARCINOGEN
Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Rat
Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors. Blood:Lymphomas including Hodgkin's disease.

Rat
Route of Application: Oral
Exposure Time: 33W
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors.

CHRONIC EXPOSURE - MUTAGEN

Rat
38 MG/KG
Oral
Unscheduled DNA synthesis

Mouse
140 MG/KG
Intraperitoneal
DNA damage

Mouse
50 MG/KG
Oral
Other mutation test systems

Mouse

20 GM/KG
Intraperitoneal
DNA inhibition

Mouse
5 MMOL/L
Cell Type: lymphocyte
Mutation in mammalian somatic cells.

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 3623 MG/KG
Route of Application: Oral
Exposure Time: (1-21D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Homeostasis

Species: Rat
Dose: 256 MG/KG
Route of Application: Oral
Exposure Time: (7-14D PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities.

Species: Mouse
Dose: 660 MG/KG
Route of Application: Oral
Exposure Time: (6-16D PREG)
Result: Specific Developmental Abnormalities: Central nervous system.

Species: Mouse
Dose: 1650 MG/KG
Route of Application: Oral
Exposure Time: (6-16D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Mouse
Dose: 10320 MG/KG
Route of Application: Oral
Exposure Time: (3W PRE/1-22D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Urogenital system.

Species: Mouse
Dose: 5160 MG/KG
Route of Application: Oral
Exposure Time: (3W PRE/1-22D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Domestic Animals
Dose: 4 MG/KG
Route of Application: Intravenous
Exposure Time: (18W PREG)
Result: Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow). Specific

Developmental Abnormalities: Respiratory system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD
Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Rat
Dose: 3623 MG/KG
Route of Application: Oral
Exposure Time: (1-21D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 624 MG/KG
Route of Application: Oral
Exposure Time: (7-14D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 160 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (9-21D PREG)
Result: Effects on Newborn: Biochemical and metabolic.

Species: Rat
Dose: 40800 UG/KG
Route of Application: Intraperitoneal
Exposure Time: (1D PRE)
Result: Effects on Fertility: Other measures of fertility

Species: Rat
Dose: 2100 MG/KG
Route of Application: Subcutaneous
Exposure Time: (3W MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat
Dose: 520 MG/KG
Route of Application: Subcutaneous
Exposure Time: (9-21D PREG)
Result: Maternal Effects: Parturition. Effects on Newborn: Behavioral.

Species: Rat
Dose: 1040 MG/KG
Route of Application: Subcutaneous
Exposure Time: (9-21D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rat
Dose: 520 MG/KG
Route of Application: Subcutaneous
Exposure Time: (9-21D PREG)
Result: Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Behavioral.

Species: Rat
Dose: 640 MG/KG
Route of Application: Subcutaneous
Exposure Time: (5-20D PREG)
Result: Effects on Newborn: Delayed effects.

Species: Rat
Dose: 40 MG/KG
Route of Application: Intramuscular
Exposure Time: (18-20D PREG/5D POST)
Result: Effects on Newborn: Biochemical and metabolic.

Species: Mouse
Dose: 120 MG/KG
Route of Application: Subcutaneous
Exposure Time: (16-21D PREG)
Result: Effects on Newborn: Behavioral.

Species: Mouse
Dose: 240 MG/KG
Route of Application: Subcutaneous
Exposure Time: (16-21D PREG)
Result: Effects on Newborn: Biochemical and metabolic.

Species: Mouse
Dose: 200 MG/KG
Route of Application: Subcutaneous
Exposure Time: (4-8D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Mouse
Dose: 200 MG/KG
Route of Application: Subcutaneous
Exposure Time: (6-21D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Hamster
Dose: 120 MG/KG
Route of Application: Subcutaneous
Exposure Time: (9-14D PREG)
Result: Paternal Effects: Other effects on male. Maternal Effects: Menstrual cycle changes or disorders. Maternal Effects: Other effects.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL
Contact the Drug Enforcement Administration concerning the disposal of controlled substances. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR
UN#: 2811
Class: 6.1
PG: III
Proper Shipping Name: Toxic solid, organic, n.o.s.

IMDG
UN#: 2811
Class: 6.1
PG: III
Proper Shipping Name: Toxic solid, organic, n.o.s.
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA
UN#: 2811
Class: 6.1
PG: III
Proper Shipping Name: Toxic solid, organic, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES
INDICATION OF DANGER: T
Toxic.
R-PHRASES: 25 40 43
Toxic if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.
S-PHRASES: 22 36/37/39 45
Do not breathe dust. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 - Other Information

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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