

SECTION 1. IDENTIFICATION OF SUBSTANCE AND CONTACT INFORMATION

PRODUCT NAME: FATAL-PLUS® POWDER

PRODUCT DESCRIPTION: Fatal-Plus is a euthanasia solution suitable for all animals, regardless of species. It is administered by intravenous injection.

MANUFACTURER: Vortech Pharmaceuticals, Ltd.

ADDRESS: 6851 Chase Road
Dearborn MI 48126

PHONE NUMBER: (800) 521-4686
(313) 584-4088

OTHER NUMBER: Poison Control Center : 1-800-222-1222

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This product is a controlled substance. The main health hazard associated with overexposure during normal occupational use and handling is irritation of contaminated tissues. This product may be toxic if swallowed or inhaled. This product is not flammable. When involved in a fire, this material may decompose and produce irritating vapors and toxic compounds (including e.g. carbon oxides, nitrogen oxides, and sodium oxides). This product is not reactive. Large quantities released to the aquatic and terrestrial environment may have an adverse effect.

Routes of Entry

By eye contact, skin contact, ingestion or inhalation

Carcinogenic Status

This product is NOT considered carcinogenic by NTP, IARC, and OSHA.

Target Organs

This product affects the, eyes, skin, respiratory tract, gastrointestinal tract, liver and cardiovascular, central nervous and reproductive systems.

Health Effects – Eyes

This product may cause eye irritation, if contact occurs.

Health Effects – Skin

This product may cause skin irritation after prolonged and repeated contact occurs.

Health Effects – Ingestion

Ingestion of this product may cause adverse gastrointestinal, cardiovascular, liver, central nervous system and reproductive effects. Symptoms include: drowsiness, headache, mental depression, dizziness, confusion, lack of

muscular control, impaired judgement and sedation. In cases of severe overdoses, this product may cause respiratory and cardiovascular suppression, coma and death due to respiratory and circulatory failure.

Health Effects – Inhalation

This product may cause irritation to the respiratory tract if inhaled.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Use: Veterinary product
Chemical Formula: Barbituate
5-ethyl-5-(1-methylbutyl) barbituric acid, sodium acid

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
Pentobarbital Sodium	57-33-0	392 mg/ml

This MSDS is written to provide health and safety information to individuals who will be handling the final product formulation during research, manufacturing, and distribution. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate MSDS for each ingredient.

SECTION 4. FIRST AID MEASURES

Eyes

If this product comes into contact with the eyes, immediately wash the affected eye with water for at least fifteen minutes or until the irritation ceases. If irritation continues, seek medical attention.

Skin

If this product comes into contact with the skin, wash the affected area thoroughly with soap and water. If redness or soreness continues, seek medical attention.

Ingestion

If this product is ingested, **DO NOT** induce vomiting, unless directed to do so by a physician and **DO NOT** attempt to give anything by mouth to a seizing, drowsy or unconscious person. Seek medical attention **IMMEDIATELY**.

Inhalation

If this product is inhaled, move to an area of fresh air. If irritation occurs or persist, consult a physician. If person has any trouble breathing, get medical attention **IMMEDIATELY** or if person has stopped breathing administer CPR.

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing Media

Use extinguishing media appropriate for surrounding materials, carbon dioxide (CO₂), powder or water.

Unusual Fire and Explosion Hazards

None known

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus (SCBA)

SECTION 6. ACCIDENTAL RELEASE MEASURES

Wear appropriate protective clothing. Wipe up and transfer into suitable containers for recovery or disposal. This product **MUST NOT** enter drains or waterways. Notify authorities if spill has entered water ways or sewer system or has contaminated soil or vegetation. The product must be disposed of in accordance with federal, state and local regulations for DEA Schedule II controlled substances.

SECTION 7. HANDLING AND STORAGE

This product must be stored in original containers and in a cool dry place. The product must be stored in accordance with federal, state and local regulations for DEA Schedule II controlled substances. Avoid contact with skin, eyes and clothing. Wash hands thoroughly after dispensing and before eating, or drinking.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Pentobarbital Sodium:

ACGIH: TLV 10 mg/m³ TWA 8h

OSHA: PEL 5 mg/m³, respirable fraction

OSHA: PEL 15 mg/m³, total dust

Respiratory Protection: A respirator is not required for routine use of this product.

Eye Protection: Eye protection is not needed during normal use. In case of situations in which excessive splashes or dusts may be generated, wear splash goggles.

Hand Protection: In case of prolonged skin contact wear rubber gloves, either natural rubber, neoprene or nitrile gloves.

Body Protection: Use of lightweight cotton gown or other medical attire is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Powder, until water is added.
Color	White, until water is added then clear Blue
Odor	Unknown
pH	9.6-11.0
Boiling Point	Not Applicable
Specific Gravity (H₂O=1)	1.105
Vapor Pressure	Not Applicable
Solubility in Water	Soluble
Vapor Density	Not Applicable

Flash Point (PMCC)(°C/F)	Not Flammable
Melting Point (°C/F)	Not Applicable
Explosion Limits(%)	Not Applicable

SECTION 10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Incompatible Materials / Conditions to Avoid	Open flames and high temperatures.
Materials to Avoid	Oxidizing agents
Hazardous Polymerization	Will not occur
Hazardous Decomposition Products	Not determined

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Pentobarbital Sodium: Oral LD50 (rat) 118 mg/kg; (dog) 65 mg/kg

Specific Target Organ Systemic Toxicity (single and repeat)

Pentobarbital Sodium: Causes central nervous system effects similar to alcohol inebriation and adverse liver effects. Ingestion can cause respiratory and cardiovascular depression, coma and death.

Serious Eye Damage / Eye Irritation

No relevant studies provided.

Skin Corrosion/irritation

No relevant studies provided.

Respiratory or Skin Sensitization

No relevant studies identified.

Carcinogenicity

This product is NOT considered carcinogenic by NTP, IARC, and OSHA.

Mutagenicity / Genotoxicity

Pentobarbital (base) was positive in the mouse micronucleus assay, mouse cell DNA inhibition test, hamster cytogenetic assay, and in the hamster dominant test.

Reproductive / Developmental Toxicity

Pentobarbital Sodium: Pentobarbital (base) studies indicate that pentobarbital sodium may affect the developing fetus. Placental transfer in humans has been documented. Neonates from mothers exposed to therapeutic doses of barbiturates have shown blood coagulation disorders and drug withdrawal symptoms. Doses of 600-750 mg administered intravenously to mothers before delivery caused moderate to severe neonatal depression in 40% of the infants with a delay in normal respiration. Doses up to 300 mg showed no appreciable effects.

SECTION 12. ECOLOGICAL INFORMATION

There is no data for this product or its formulation. The information provided is for the individual ingredients within the product. This product is toxic to wildlife. Birds and mammals feeding on animals treated with this product may be killed.

Mobility

No relevant studies found.

Persistence/Degradability

No relevant studies found.

Bio-accumulation

No relevant studies found.

Ecotoxicity

Pentobarbital Sodium: 96-hr LC50 (fathead minnow) 49.5mg/L

SECTION 13. DISPOSAL CONSIDERATIONS

MATERIAL WASTE: Disposal must be in accordance with applicable federal, state and/ or local regulations concerning US DEA Schedule II controlled substances. Incineration is the preferred method of disposal, when appropriate.

EUTHANIZED ANIMALS: Animal carcasses must be properly disposed of by deep burial, incineration, or any other method in compliance with state and local laws, to prevent consumption of carcass material by scavenging wildlife.

EMPTY CONTAINER DISPOSAL: Empty containers must be triple rinsed prior to disposal and in accordance with applicable federal, state, and/or local regulations.

SECTION 14. TRANSPORTATION INFORMATION

This material is not subject to the transportation regulations of DOT, IATA, IMO, and the ADR.

SECTION 15. REGULATORY INFORMATION

U.S. STATE REGULATIONS

INGREDIENT	CA PROP 65	CARTK	NJRTK	CTRTK	MARTK	PARTK	MNRTK	MIRTK	RIRTK
Pentobarbital Sodium	D		3726						

SECTION 16. OTHER INFORMATION

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).