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SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 09/07/2007
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Version 1.60

Section 1 - Product and Company Information

Product Name	5-Fluorouracil, minimum 99% TLC		
Product Number	F6627		
Brand	Sigma Chemical		
Company Address	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS, MO 63103 US		
City, State, Zip, Country			
Technical Phone:	800-325-5832	Emergency Phone:	314-776-6555
Fax:	800-325-5052		

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
5-FLUOROURACIL	51-21-8	Yes	200-085-6	

Formula C4H3FN2O2
Synonyms Adrucil, Arumel, Eflluderm (free base), Efudex, 5-Fluoracil (German), 5-Fluor-2,4-dihydroxypyrimidin (Czech), Fluoroblastin, Fluoroplex, 5-Fluoropyrimidine-2,4-dione, 5-Fluoro-2,4-pyrimidinedione, 5-Fluoro-2,4(1H,3H)-pyrimidinedione, 5-Fluor-2,4-pyrimidindiol (Czech), 5-Fluor-2,4(1H,3H)-pyrimidindion (Czech), Fluorouracil, 5-Fluorouracil, 5-Fluoruracil (German), Fluracil, Fluracilum, Fluril, FU, 5-FU, NSC-19893, 2,4(1H,3H)-Pyrimidinedione, 5-fluoro-, Queroplex, Ro 2-9757, Timazin, U-8953, Ulup

Section 3 - Hazards Identification

Emergency Overview
 Toxic (USA) Harmful (EU).
 Harmful if swallowed.
 Photosensitizer. Target organ(s): Heart. Bone marrow. Calif. Prop. 65 developmental hazard.

HMIS Rating
 Health: 3* Flammability: 0 Reactivity: 0

NFPA Rating
 Health: 3 Flammability: 0 Reactivity: 0

*additional chronic hazards present.
 For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
 If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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

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

Eye Exposure
 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.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
 Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
 Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
 Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure 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.

Section 7 - Handling and Storage

Handling
User Exposure
 Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
 Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls
 Mechanical exhaust required. Safety shower and eye bath.

Personal Protective Equipment
Respiratory
 Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand
 Compatible chemical-resistant gloves.
Eye
 Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color	Form
Physical State Solid	White	Fine crystals

Molecular Weight: 130.08 AMU

pH	N/A
BP/BP Range	N/A
MP/MP Range	282 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A

Explosion Limits N/A

Flammability N/A
Autoignition Temp N/A
Solubility

Solvent: 50 mg/ml NH₄OH 1 M
Other Solvents: DMSO.

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable.
Stable.

Materials to Avoid

Strong oxidizing agents, Strong bases.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen fluoride.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

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

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

Harmful if swallowed.

Sensitization

Sensitization

Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburnlike responses to edematous, vesiculated lesions, or bullae

Target Organ(s) or System(s)

Heart. Bone marrow. Immune system. Blood.

Signs and Symptoms of Exposure

May cause nausea, vomiting, anorexia, diarrhea, stomatitis, fever, malaise, weakness, headache, depression, skin rash, erythema, bone marrow depression, bleeding syndrome, and renal impairment. Deaths have occurred.

RTECS Number: YR0350000

Toxicity Data

Oral - Rat: 230 mg/kg (LD50)

Intraperitoneal - Rat: 70 MG/KG (LD50)

Remarks: Gastrointestinal:Hypermotility, diarrhea.
Gastrointestinal:Nausea or vomiting.

Subcutaneous - Rat: 217 MG/KG (LD50)

Intravenous - Rat: 245 MG/KG (LD50)

Remarks: Gastrointestinal:Hypermotility, diarrhea.
Gastrointestinal:Nausea or vomiting.

Intramuscular - Rat: 240 MG/KG (LD50)

Parenteral - Rat: 500 MG/KG (LD50)

Rectal - Rat: 884 MG/KG (LD50)

Remarks: Gastrointestinal:Hypermotility, diarrhea.
Gastrointestinal:Other changes.

Oral - Mouse: 115 mg/kg (LD50)

Intraperitoneal - Mouse: 100 MG/KG (LD50)

Intraperitoneal - Mouse: 100 MG/KG (LD50)

Subcutaneous - Mouse: 169 MG/KG (LD50)

Intravenous - Mouse: 81 MG/KG (LD50)

Intracerebral - Mouse: 41600 UG/KG (LD50)

Remarks: Peripheral Nerve and Sensation:Sensory change involving peripheral nerve.
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Ptosis.
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other.

Oral - Dog: 30 mg/kg (LD50)

Remarks: Gastrointestinal:Nausea or vomiting.

Oral - Rabbit: 18.9 mg/kg (LD50)
 Remarks: Behavioral: Muscle weakness.
 Gastrointestinal: Hypermotility, diarrhea.
 Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Intravenous - Guinea pig: 25 MG/KG (LD50)
 Remarks: Vascular: BP elevation not characterized in autonomic section.

Irritation Data

Skin - Human: 84 mg 3W

Chronic Exposure - Carcinogen

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Mouse - Intraperitoneal: 1500 MG/KG 50W 1

Result: Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Blood: Tumors.

IARC Carcinogen List

Rating
 Group 3

Chronic Exposure - Teratogen

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Woman	240 MG/KG	Intravenous	(11-14W PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.			
Rat	35 MG/KG	Oral	(7-13D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.			
Rat	30 MG/KG	Intraperitoneal	(12D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Gastrointestinal system.			
Rat	30 MG/KG	Intraperitoneal	(12D PREG)
Result: Specific Developmental Abnormalities: Homeostasis			
Rat	20 MG/KG	Subcutaneous	(14D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).			
Rat	30 MG/KG	Subcutaneous	(14D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.			
Rat	330 MG/KG	Intravenous	(7-17D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.			
Mouse	175 MG/KG	Oral	(7-13D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.			
Mouse	50 MG/KG	Intraperitoneal	(13D PREG)
Result: Effects on Embryo or Fetus: Cytological changes (including somatic cell genetic material).			
Mouse	20 MG/KG	Intraperitoneal	(10D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue).			
Mouse	10 MG/KG	Intraperitoneal	(10D PREG)
Result: Specific Developmental Abnormalities: Eye, ear. Specific Developmental Abnormalities: Musculoskeletal system.			
Hamster	24 MG/KG	Intramuscular	(9D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Craniofacial (including nose and tongue).			
Hamster	56 MG/KG	Intramuscular	(11D PREG)
Result: Specific Developmental Abnormalities: Homeostasis			

Chronic Exposure - Mutagen

<u>Species</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Mutation test</u>
Result: Laboratory experiments have shown mutagenic effects.			

Human	13 MG/L			Other cell types	DNA damage
Human	13 MG/L			Other cell types	DNA damage
Human	1 MMOL/L			Other cell types	DNA damage
Human	1 MMOL/L			Other cell types	DNA damage
Human	5 UMOL/L		6H	Other cell types	Other mutation test systems
Human	5 UMOL/L		6H	Other cell types	Other mutation test systems
Human	2600 NMOL/L			leukocyte	DNA
Human	2600 NMOL/L			leukocyte	DNA
Human	2600 NMOL/L			leukocyte	Other mutation test systems
Human	2600 NMOL/L			leukocyte	Other mutation test systems
Human	20 MG/L			Other cell types	Unscheduled DNA synthesis
Human	20 MG/L			Other cell types	Unscheduled DNA synthesis
Human	1 MMOL/L			Other cell types	Unscheduled DNA synthesis
Human	1 MMOL/L			Other cell types	Unscheduled DNA synthesis
Human	1 MMOL/L			Other cell types	Other mutation test systems
Human	1 MMOL/L			Other cell types	Other mutation test systems
Human	1 MMOL/L			Other cell types	Other mutation test systems
Human	200 MG/L			Other cell types	DNA inhibition
Human	200 MG/L			Other cell types	DNA inhibition
Human	1 UMOL/L			Other cell types	DNA inhibition
Human	1 UMOL/L			Other cell types	DNA inhibition
Human	1 UMOL/L			Other cell types	DNA inhibition
Human	1 UMOL/L			Other cell types	Other mutation test systems
Human	1 UMOL/L			Other cell types	Other mutation test systems
Human	1 UMOL/L			Other cell types	Other mutation test systems
Human	1 MG/L			ovary	DNA inhibition
Human	1 MG/L			ovary	DNA inhibition
Human	1 PPH	Skin			Other mutation test systems
Human	1 PPH	Skin			Other mutation test systems
Human	1 MG/L			Other cell types	Other mutation test systems
Human	1 MG/L			Other cell types	Other mutation test systems
Human	50 MG/L			HeLa cell	Other mutation test systems
Human	50 MG/L			HeLa cell	Other mutation test systems
Human	7 MG/KG			S. typhimurium	Body fluid assay
Human	7 MG/KG			S. typhimurium	Body fluid assay
Human	100 PMOL/L			lymphocyte	Sister chromatid exchange
Human	100 PMOL/L			lymphocyte	Sister chromatid exchange
Rat	250 MG/KG	Intraperitoneal			Micronucleus test
Rat	250 MG/KG	Intraperitoneal			Micronucleus test
Rat	50 MG/KG	Intraperitoneal			Cytogenetic analysis
Rat	50 MG/KG	Intraperitoneal			Cytogenetic analysis
Mouse	12500 UG/KG	Intraperitoneal			Micronucleus test
Mouse	12500 UG/KG	Intraperitoneal			Micronucleus test
Mouse	26018 UG/KG	Intraperitoneal			Micronucleus test
Mouse	26018 UG/KG	Intraperitoneal			Micronucleus test
Mouse	10 UMOL/L		24H	Embryo	Morphological transformation.
Mouse	10 UMOL/L		24H	Embryo	Morphological transformation.
Mouse	20 UMOL/L			Bone marrow	DNA damage
Mouse	20 UMOL/L			Bone marrow	DNA damage
Mouse	19 UMOL/L			Bone marrow	Other mutation test systems
Mouse	19 UMOL/L			Bone marrow	Other mutation test systems
Mouse	66 UMOL/L			lymphocyte	Other mutation test systems
Mouse	66 UMOL/L			lymphocyte	Other mutation test systems
Mouse	500 UMOL/KG	Intraperitoneal			Other mutation test systems
Mouse	500 UMOL/KG	Intraperitoneal			Other mutation test systems
Mouse	40 MG/KG	Intravenous			Unscheduled DNA synthesis
Mouse	40 MG/KG	Intravenous			Unscheduled DNA synthesis
Mouse	40 MG/KG	Oral			Unscheduled DNA synthesis

Mouse	40 MG/KG	Oral		Unscheduled DNA synthesis
Mouse	40 MG/L		Ascites tumor	Unscheduled DNA synthesis
Mouse	40 MG/L		Ascites tumor	Unscheduled DNA synthesis
Mouse	40 MG/L		Ascites tumor	Other mutation test systems
Mouse	40 MG/L		Ascites tumor	Other mutation test systems
Mouse	50 MG/KG	Intraperitoneal		Unscheduled DNA synthesis
Mouse	50 MG/KG	Intraperitoneal		Unscheduled DNA synthesis
Mouse	3 MG/L		leukocyte	DNA inhibition
Mouse	3 MG/L		leukocyte	DNA inhibition
Mouse	100 MG/KG		leukocyte	DNA inhibition
Mouse	100 MG/KG		leukocyte	DNA inhibition
Mouse	55 UMOL/L		leukocyte	Other mutation test systems
Mouse	55 UMOL/L		leukocyte	Other mutation test systems
Mouse	500 UG/L		lymphocyte	DNA inhibition
Mouse	500 UG/L		lymphocyte	DNA inhibition
Mouse	50 MG/KG	Intraperitoneal		DNA inhibition
Mouse	50 MG/KG	Intraperitoneal		DNA inhibition
Mouse	40 MG/KG	Oral		Other mutation test systems
Mouse	40 MG/KG	Oral		Other mutation test systems
Mouse	100 NMOL/L		Embryo	DNA inhibition
Mouse	100 NMOL/L		Embryo	DNA inhibition
Mouse	1800 NMOL/L		Bone marrow	DNA inhibition
Mouse	1800 NMOL/L		Bone marrow	DNA inhibition
Mouse	7500 UMOL/L		Ascites tumor	DNA inhibition
Mouse	7500 UMOL/L		Ascites tumor	DNA inhibition
Mouse	1 UG/L		Other cell types	DNA inhibition
Mouse	1 UG/L		Other cell types	DNA inhibition
Mouse	50 MG/KG	Oral		Cytogenetic analysis
Mouse	50 MG/KG	Oral		Cytogenetic analysis
Mouse	20 MG/KG	Intraperitoneal		Cytogenetic analysis
Mouse	20 MG/KG	Intraperitoneal		Cytogenetic analysis
Mouse	250 MG/KG		Ascites tumor	Cytogenetic analysis
Mouse	250 MG/KG		Ascites tumor	Cytogenetic analysis
Mouse	50 MG/KG	Intraperitoneal	sperm	
Mouse	50 MG/KG	Intraperitoneal	sperm	
Mouse	50 MG/KG	Intravenous	sperm	
Mouse	50 MG/KG	Intravenous	sperm	
Hamster	41 MG/KG	Intraperitoneal		Micronucleus test
Hamster	41 MG/KG	Intraperitoneal		Micronucleus test
Hamster	41 MG/KG	Intraperitoneal		Cytogenetic analysis
Hamster	41 MG/KG	Intraperitoneal		Cytogenetic analysis
Hamster	1900 UG/L		lung	Cytogenetic analysis
Hamster	1900 UG/L		lung	Cytogenetic analysis
Mammal	100 UMOL/L		Other cell types	DNA inhibition
Mammal	100 UMOL/L		Other cell types	DNA inhibition
				Histidine reversion (Ames)

Chronic Exposure - Reproductive Hazard

Species	Dose	Route of Application	Exposure Time
Woman	150 MG/KG	Intravenous	(20-31W PREG)
	Result: Effects on Newborn: Other neonatal measures or effects.		
Woman	150 MG/KG	Intravenous	(20-31W PREG)
	Result: Effects on Newborn: Other neonatal measures or effects.		
Rat	175 MG/KG	Oral	(7-13D PREG)
	Result: 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). Effects on Embryo or Fetus: Fetal death.		

Rat	175 MG/KG	Oral	(7-13D PREG)	Result: 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). Effects on Embryo or Fetus: Fetal death.
Rat	13500 UG/KG	Intraperitoneal	(9D 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: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.
Rat	15 MG/KG	Intraperitoneal	(9D 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: Fetal death. Specific Developmental Abnormalities: Other developmental abnormalities.
Rat	15 MG/KG	Intraperitoneal	(9D 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: Fetal death. Specific Developmental Abnormalities: Other developmental abnormalities.
Rat	20 MG/KG	Intraperitoneal	(9D 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: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Other developmental abnormalities.
Mouse	245 MG/KG	Oral	(7-13D PREG)	Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Embryo or Fetus: Fetal death.
Rat	20 MG/KG	Intraperitoneal	(9D 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: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Other developmental abnormalities.
Mouse	245 MG/KG	Oral	(7-13D PREG)	Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Embryo or Fetus: Fetal death.
Mouse	20 MG/KG	Intraperitoneal	(9D PREG)	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Other developmental abnormalities.
Mouse	30 MG/KG	Intraperitoneal	(9D PREG)	Result: Effects on Fertility: Abortion.
Mouse	20 MG/KG	Intraperitoneal	(9D PREG)	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Other developmental abnormalities.
Mouse	30 MG/KG	Intraperitoneal	(12D PREG)	Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Growth statistics (e.g., reduced weight gain).
Mouse	30 MG/KG	Intraperitoneal	(9D PREG)	Result: Effects on Fertility: Abortion.
Mouse	30 MG/KG	Intraperitoneal	(12D PREG)	Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Growth statistics (e.g., reduced weight gain).
Mouse	67 MG/KG	Intravenous	(1D MALE)	Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).
Mouse	67 MG/KG	Intravenous	(1D MALE)	Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).
Hamster	28 MG/KG	Intramuscular	(9D PREG)	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Musculoskeletal system.
Hamster	20 MG/KG	Intramuscular	(9D PREG)	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Hamster	28 MG/KG	Intramuscular	(9D PREG)	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Musculoskeletal system.
Hamster	20 MG/KG	Intramuscular	(9D PREG)	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Toxic solids, organic, n.o.s.
UN#: 2811
Class: 6.1
Packing Group: Packing Group III
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Toxic solid, organic, n.o.s.
IATA UN Number: 2811
Hazard Class: 6.1
Packing Group: III

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xn
Indication of Danger:
Harmful.
Risk Statements R: 22
Harmful if swallowed.

US Classification and Label Text

Indication of Danger:
Toxic (USA) Harmful (EU).
Risk Statements
Harmful if swallowed.
US Statements
Photosensitizer. Target organ(s): Heart, Bone marrow. Calif. Prop. 65 developmental hazard.

United States Regulatory Information

SARA Listed: Yes
Deminimis: 1 %
Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

United States - State Regulatory Information

California Prop - 65
This product is or contains chemical(s) known to the state of California to cause developmental toxicity.

Canada Regulatory Information

WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: Yes

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

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

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