

MATERIAL SAFETY DATA SHEET

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Version 1.7

Section 1 - Product and Company Information

Product Name	MERCURY(II) CHLORIDE, 99.5+%, A.C.S. REAGENT
Product Number	215465
Brand	SIAL
Company	Sigma-Aldrich
Address	3050 Spruce Street SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
MERCURIC CHLORIDE	7487-94-7	Yes

Formula	HgCl ₂
Synonyms	Abavit B * Bichloride of mercury * Bichlorure de mercure (French) * Calochlor * Chlorid rtutnaty (Czech) * Chlorure mercurique (French) * Cloruro di mercurio (Italian) * Corrosive mercury chloride * Corrosive sublimate * Dichloromercury * Fungchex * Mercuric bichloride * Mercury bichloride * Mercury(2+) chloride * Mercury dichloride * Mercury perchloride * NCI-C60173 * Perchloride of mercury * Quecksilber chlorid (German) * Sulem * Sulema (Russian) * Sublimat (Czech) * Sublimate * TL 898
RTECS Number:	OV9100000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment.
Causes burns. Toxic: danger of serious damage to health by
prolonged exposure in contact with skin and if swallowed. Very
toxic in contact with skin and if swallowed. Very toxic to aquatic
organisms, may cause long-term adverse effects in the aquatic
environment.

Readily absorbed through skin. Target organ(s): Kidneys. Nerves.

HMIS RATING

HEALTH: 4*

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 4

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 immediately.

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

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

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. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

SPECIAL REQUIREMENTS

Light sensitive. Moisture sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

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

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 N100 (US) or type P3 (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 contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	0.025 MG(HG)/M3
Remarks: Skin			
USA	MSHA Standard-air	TWA	0.05 MG(HG)/M3
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	Ceiling	co0.1 MG/M3 (SK)

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	271.5 AMU	
pH	N/A	
BP/BP Range	302 °C	760 mmHg
MP/MP Range	277 °C	
Freezing Point	N/A	
Vapor Pressure	1.3 mmHg	236 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	5.44 g/cm3	
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	
Surface Tension	N/A	

Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Light. Moisture.

Materials to Avoid: Strong oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Mercury/mercury oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be fatal if absorbed through skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be fatal if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Kidneys. Nerves. G.I. System.

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Prolonged exposure can cause: Stomach pains, vomiting, diarrhea.

CONDITIONS AGGRAVATED BY EXPOSURE

May cause nervous system disturbances.

TOXICITY DATA

Oral

Man

143 mg/kg

LDLO

Remarks: Kidney, Ureter, Bladder: Changes in tubules (including acute renal failure, acute tubular necrosis). Blood: Changes in leukocyte (WBC) count. Behavioral: Excitement.

Oral
Man
86 mg/kg

LDLO

Remarks: Gastrointestinal:Ulceration or bleeding from stomach.
Gastrointestinal:Necrotic changes. Vascular:Change in plasma or
blood volume.

Oral
Human
29 mg/kg

LDLO

Remarks: Gastrointestinal:Ulceration or bleeding from large
intestine. Gastrointestinal:Nausea or vomiting.
Gastrointestinal:Ulceration or bleeding from duodenum.

Oral
Rat
1 mg/kg
LD50

Skin
Rat
41 mg/kg
LD50

Intraperitoneal
Rat
3210 UG/KG
LD50

Remarks: Kidney, Ureter, Bladder:Changes in tubules (including
acute renal failure, acute tubular necrosis).

Subcutaneous
Rat
14 MG/KG
LD50

Intravenous
Rat
1272 UG/KG
LD50

Oral
Mouse
6 mg/kg
LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Behavioral:Muscle weakness.

Intraperitoneal
Mouse
3900 UG/KG
LD50

Subcutaneous
Mouse
4500 UG/KG
LD50

Intravenous

Mouse
4992 UG/KG
LD50

Intramuscular
Rabbit
7300 UG/KG
LD50

Oral
Quail
36 mg/kg
LD50
Remarks: Behavioral:Ataxia. Behavioral:Tremor.

Intramuscular
Quail
34 MG/KG
LD50
Remarks: Behavioral:Ataxia. Behavioral:Tremor.

Intramuscular
Frog
7579 UG/KG
LD50
Remarks: Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Other transferases. Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Phosphatases. Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Dehydrogenases.

IRRITATION DATA

Skin
Rabbit
500 mg
24H
Remarks: Severe irritation effect

Eyes
Rabbit
0.05 mg
24H
Remarks: Severe irritation effect

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.

IARC CARCINOGEN LIST

Rating: Group 3

ACGIH CARCINOGEN LIST

Rating: A4

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 120 MG/KG

Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: 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: 2470 UG/KG
Route of Application: Oral
Exposure Time: (7D PREG)
Result: Effects on Embryo or Fetus: Cytological changes (including somatic cell genetic material).

Species: Rat
Dose: 276 NG/M3/24H
Route of Application: Inhalation
Exposure Time: (1-22D PREG)
Result: Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow).

Species: Rat
Dose: 80 MG/KG
Route of Application: Subcutaneous
Exposure Time: (13-22D PREG/10D POST)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day 4). Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rat
Dose: 1069 UG/KG
Route of Application: Intravenous
Exposure Time: (10D PREG)
Result: Specific Developmental Abnormalities: Central nervous system.

Species: Rat
Dose: 1069 UG/KG
Route of Application: Intravenous
Exposure Time: (14D PREG)
Result: Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow).

Species: Mouse
Dose: 230 UG/M3/4H
Route of Application: Inhalation
Exposure Time: (9-12D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse
Dose: 2030 UG/KG
Route of Application: Intravenous
Exposure Time: (1D PREG)
Result: Effects on Embryo or Fetus: Cytological changes (including somatic cell genetic material).

Species: Mouse
Dose: 3384 UG/KG
Route of Application: Intravenous
Exposure Time: (1D PREG)
Result: Specific Developmental Abnormalities: Other

developmental abnormalities.

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 5 UMOL/L
Cell Type: lymphocyte
Mutation test: Micronucleus test

Species: Human
Dose: 2 UMOL/L
Cell Type: lymphocyte
Mutation test: Other mutation test systems

Species: Human
Dose: 10 MG/L
Cell Type: HeLa cell
Mutation test: Cytogenetic analysis

Species: Human
Dose: 2 UMOL/L
Cell Type: lymphocyte
Mutation test: Cytogenetic analysis

Species: Rat
Dose: 500 UMOL/L
Cell Type: Ascites tumor
Mutation test: DNA damage

Species: Rat
Dose: 5 UMOL/L
Cell Type: Embryo
Mutation test: DNA damage

Species: Rat
Route: Subcutaneous
Dose: 8 MG/KG
Mutation test: DNA inhibition

Species: Rat
Route: Subcutaneous
Dose: 8 MG/KG
Mutation test: Other mutation test systems

Species: Rat
Route: Oral
Dose: 250 NG/KG
Mutation test: Dominant lethal test

Species: Rat
Route: Unreported
Dose: 2500 UG/KG
Mutation test: Dominant lethal test

Species: Mouse
Route: Intraperitoneal
Dose: 1 MG/KG
Mutation test: DNA inhibition

Species: Mouse
Dose: 50 UMOL/L
Cell Type: Other cell types

Mutation test: DNA inhibition

Species: Mouse
Dose: 10 UMOL/L
Cell Type: sperm
Mutation test: DNA inhibition

Species: Mouse
Dose: 6 MG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Mouse
Dose: 100 UMOL/L
Cell Type: lymphocyte
Mutation test: DNA damage

Species: Mouse
Dose: 50 NMOL/L
Cell Type: Embryo
Mutation test: DNA damage

Species: Mouse
Dose: 1 UMOL/L
Cell Type: Other cell types
Mutation test: Unscheduled DNA synthesis

Species: Mouse
Dose: 10 UMOL/L
Cell Type: Other cell types
Mutation test: DNA inhibition

Species: Mouse
Dose: 100 NMOL/L
Cell Type: lymphocyte
Mutation test: DNA inhibition

Species: Mouse
Dose: 10 UMOL/L
Cell Type: lymphocyte
Mutation test: Other mutation test systems

Species: Mouse
Route: Oral
Dose: 3 MG/KG
Mutation test: Other mutation test systems

Species: Mouse
Route: Oral
Dose: 3 MG/KG
Mutation test: Cytogenetic analysis

Species: Mouse
Route: Intraperitoneal
Dose: 2 MG/KG
Mutation test: Dominant lethal test

Species: Mouse
Dose: 400 UG/L
Cell Type: lymphocyte
Mutation test: Mutation in mammalian somatic cells.

Species: Mouse
Route: Intraperitoneal
Dose: 2 MG/KG
Mutation test: Heritable translocation test

Species: Hamster
Dose: 50 UMOL/L
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Hamster
Dose: 10 UMOL/L
Cell Type: lung
Mutation test: DNA damage

Species: Hamster
Dose: 2500 NMOL/L
Exposure Time: 1H
Cell Type: ovary
Mutation test: DNA damage

Species: Hamster
Dose: 25 UMOL/L
Exposure Time: 1H
Cell Type: ovary
Mutation test: DNA damage

Species: Hamster
Dose: 40 UMOL/L
Cell Type: ovary
Mutation test: DNA inhibition

Species: Hamster
Dose: 2700 UG/L
Cell Type: ovary
Mutation test: Other mutation test systems

Species: Hamster
Route: Subcutaneous
Dose: 6400 UG/KG
Mutation test: Cytogenetic analysis

Species: Hamster
Dose: 1100 NMOL/L
Cell Type: ovary
Mutation test: Sister chromatid exchange

Species: Hamster
Route: Intraperitoneal
Dose: 1 MG/KG
Mutation test: Sister chromatid exchange

Species: Chicken
Dose: 3 UMOL/L
Cell Type: Other cell types
Mutation test: DNA damage

Species: Mammal
Dose: 33 PPH
Cell Type: lymphocyte
Mutation test: DNA damage

Species: Cattle, Horse
Dose: 10 UMOL/L
Cell Type: kidney
Mutation test: DNA inhibition

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Woman
Dose: 50 UG/KG
Route of Application: Oral
Exposure Time: (10W PREG)
Result: Effects on Fertility: Abortion.

Species: Rat
Dose: 126 MG/KG
Route of Application: Oral
Exposure Time: (84D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Species: Rat
Dose: 240 MG/KG
Route of Application: Oral
Exposure Time: (6-15D 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.

Species: Rat
Dose: 919 MG/KG
Route of Application: Oral
Exposure Time: (12W MALE/2W PRE)
Result: Paternal Effects: Testes, epididymis, sperm duct.
Paternal Effects: Prostate, seminal vesicle, Cowper's gland, accessory glands. Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Species: Rat
Dose: 2720 NG/M3/24H
Route of Application: Inhalation
Exposure Time: (1-22D 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.

Species: Rat
Dose: 19540 NG/M3/24H
Route of Application: Inhalation
Exposure Time: (1-22D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Species: Rat
Dose: 60 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (30D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat

Dose: 4500 UG/KG

Route of Application: Intraperitoneal

Exposure Time: (90D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Paternal Effects: Other effects on male.

Species: Rat

Dose: 4500 UG/KG

Route of Application: Intraperitoneal

Exposure Time: (90D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat

Dose: 5430 UG/KG

Route of Application: Subcutaneous

Exposure Time: (1D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat

Dose: 21719 UG/KG

Route of Application: Intratesticular

Exposure Time: (1D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Species: Mouse

Dose: 25 MG/KG

Route of Application: Oral

Exposure Time: (40D MALE/16D PRE-3W POST)

Result: Effects on Fertility: Other measures of fertility
Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).

Species: Mouse

Dose: 49 MG/KG

Route of Application: Oral

Exposure Time: (40D MALE/16D PRE-3W POST)

Result: Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Fertility: Other measures of fertility
Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).

Species: Mouse

Dose: 230 UG/M3/4H

Route of Application: Inhalation

Exposure Time: (9-12D PREG)

Result: Effects on Embryo or Fetus: Fetal death. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Mouse

Dose: 30 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (30D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Mouse
Dose: 5430 UG/KG
Route of Application: Subcutaneous
Exposure Time: (30D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Mouse
Dose: 1353 UG/KG
Route of Application: Intravenous
Exposure Time: (5D PREG)
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).

Species: Mouse
Dose: 2706 UG/KG
Route of Application: Intravenous
Exposure Time: (12D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Guinea pig
Dose: 60 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (30D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Hamster
Dose: 30 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (30D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Hamster
Dose: 8660 UG/KG
Route of Application: Subcutaneous
Exposure Time: (1D PRE)
Result: Maternal Effects: Oogenesis.

Species: Hamster
Dose: 24 MG/KG
Route of Application: Subcutaneous
Exposure Time: (3D PRE)
Result: Effects on Fertility: Other measures of fertility

Species: Hamster
Dose: 34648 UG/KG
Route of Application: Subcutaneous
Exposure Time: (1D PRE)
Result: Maternal Effects: Oogenesis.

Species: Hamster
Dose: 8 MG/KG
Route of Application: Parenteral
Exposure Time: (1D PRE)
Result: Maternal Effects: Uterus, cervix, vagina.

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: Mercuric chloride
UN#: 1624
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Mercuric chloride
IATA UN Number: 1624
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T+-N
Indication of Danger: Very toxic. Dangerous for the environment.
R: 28-34-48/24/25-50/53
Risk Statements: Very toxic if swallowed. Causes burns. Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 36/37/39-45-60-61
Safety Statements: 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). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Highly Toxic (USA) Very Toxic (EU).
Dangerous for the environment.
Risk Statements: Causes burns. Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed. Very toxic in contact with skin and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
US Statements: Readily absorbed through skin. Target organ(s):

Kidneys. Nerves.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

NOTES: This product is subject to SARA section 313 reporting requirements.

TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

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: Yes

NDSL: No

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 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. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.