SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.30

Section 1 - Product and Company Information

Product Name FETAL BOVINE SERUM, QUALIFIED
Product Number F6178
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
FETAL BOVINE SERUM	None	No		

Formula
Synonyms

Section 3 - Hazards Identification

HMIS Rating
Health: 0 Flammability: 0 Reactivity: 0

NFPA Rating
Health: 0 Flammability: 0 Reactivity: 0

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 breathing becomes difficult, call a physician.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

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

Methods for Cleaning Up
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store at -20°C

Section 8 - Exposure Controls / PPE

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

Personal Protective Equipment
Hand
Protective gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Liquid

Molecular Weight: N/A

pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A

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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	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous Decomposition Products
Nature of decomposition products not known.

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
May be harmful if swallowed.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

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: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

United States Regulatory Information
SARA Listed: No

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: 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 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

Accumulation

Bioaccumulation Potential

No indication of bioaccumulation.

Acute Ecotoxicity Tests

Test Type

LC50 Fish

Species

Onchorhynchus mykiss (Rainbow trout)

Time:	**Value:**
96.0 h	18,500 mg/l

Test Type

LC50 Fish

Species

Leuciscus idus

Time:	**Value:**
48.0 h	> 10,000 mg/l

Test Type

EC50 Daphnia

Species

Daphnia magna

Time:	**Value:**
24.0 h	74,000 mg/l

Additional Results/Data from Relevent Scientific Experiments

Avoid contamination of the environment

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Section 15 - Regulatory Information

EU Directives Classification

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

US Classification and Label Text

Indication of Danger
Harmful.
Risk Statements
Harmful if swallowed. Irritating to eyes.
Safety Statements
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Statements

Target organ(s): Nerves. Kidneys.

United States Regulatory Information

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

TSCA Inventory Item: Yes

Canada Regulatory Information

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Remarks: Behavioral:Convulsions or effect on seizure threshold.
Behavioral:Coma.
Gastrointestinal:Hypermotility, diarrhea.

Oral - Human: 398 mg/kg (LDLO)
Remarks: Behavioral:Headache.
Gastrointestinal:Nausea or vomiting.
Liver:Other changes.

Oral - Rat: 4700 mg/kg (LD50)

Intraperitoneal - Rat: 5010 MG/KG (LD50)

Subcutaneous - Rat: 2800 MG/KG (LD50)

Intravenous - Rat: 3260 MG/KG (LD50)

Oral - Mouse: 5500 mg/kg (LD50)

Intraperitoneal - Mouse: 5614 MG/KG (LD50)
Remarks: Lungs, Thorax, or Respiration:Chronic pulmonary edema.
Kidney, Ureter, Bladder:Changes in both tubules and glomeruli.
Blood:Changes in spleen.

Intravenous - Mouse: 3 GM/KG (LD50)

Oral - Dog: 5500 mg/kg (LD50)
Remarks: Kidney, Ureter, Bladder:Other changes.

Oral - Cat: 1650 mg/kg (LD50)
Remarks: Kidney, Ureter, Bladder:Other changes.

Skin - Rabbit: 9530 UL/KG (LD50)

Oral - Guinea pig: 6610 mg/kg (LD50)
Remarks: Behavioral:Somnolence (general depressed activity).
Gastrointestinal:Other changes.
Kidney, Ureter, Bladder:Other changes.

Irritation Data

Eyes - Rat: 12 mg/m3 3D

Skin - Rabbit: 555 mg
Remarks: Open irritation test

Eyes - Rabbit: 500 mg 24H
Remarks: Mild irritation effect

Eyes - Rabbit: 100 mg 1H
Remarks: Mild irritation effect

Eyes - Rabbit: 12 mg/m3 3D

Eyes - Rabbit: 1,440 mg 6H
Remarks: Moderate irritation effect

Chronic Exposure - Carcinogen
Result: This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

NTP Carcinogen List

Rating	Species	Route
No evidence.	Mouse	Feed

ACGIH Carcinogen List

Rating
A4

Chronic Exposure - Teratogen

Species	Dose	Route of Application	Exposure Time
	Result:Laboratory experiments have shown teratogenic effects.		
Rat	50 GM/KG	Oral	(6-15D PREG)
	Result:Specific Developmental Abnormalities: Skin and skin appendages. Specific Developmental Abnormalities: Musculoskeletal system.		

	Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow).		
Rat	8580 MG/KG	Oral	(6-15D PREG)
	Result:Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.		
Rat	12500 MG/KG	Oral	(6-15D PREG)
	Result:Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.		
Mouse	7500 MG/KG	Oral	(6-15D PREG)
	Result:Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.		
Mouse	7500 MG/KG	Oral	(6-15D PREG)
	Result:Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.		

Chronic Exposure - Mutagen

Species	Dose		Cell Type	Mutation test
Human	320 MMOL/L		lymphocyte	DNA inhibition
Rat	1200 MG/KG	Oral		Cytogenetic analysis
Mouse	100 MMOL/L		lymphocyte	Mutation in mammalian somatic cells.

Chronic Exposure - Reproductive Hazard

Species	Dose	Route of Application	Exposure Time
	Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.		
Rat	25 GM/KG	Oral	(6-15D PREG)
	Result: Maternal Effects: Uterus, cervix, vagina. 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).		
Rat	50 GM/KG	Oral	(6-15D PREG)
	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).		
Rat	2500 MG/M3/6H	Inhalation	(6-15D PREG)
	Result: Maternal Effects: Other effects. Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Other developmental abnormalities.		
Mouse	84 GM/KG	Oral	(1-21D PREG/21D POST)
	Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Delayed effects.		
Mouse	88720 MG/KG	Oral	(7-14D PREG)
	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Newborn: Stillbirth. Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).		
Mouse	15 GM/KG	Oral	(6-15D PREG)
	Result: Maternal Effects: Uterus, cervix, vagina. Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Fertility: Other measures of fertility		
Mouse	1000 MG/M3/6H	Inhalation	(6-15D PREG)
	Result: Maternal Effects: Uterus, cervix, vagina. Maternal Effects: Other effects. Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).		
Mouse	1000 MG/M3/6H	Inhalation	(6-15D 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 Newborn: Sex ratio.		
Mouse	2100 MG/M3/6H	Inhalation	(6-15D PREG)
	Result: Maternal Effects: Other effects. Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).		
Mouse	2100 MG/M3/6H	Inhalation	(6-15D 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). Specific Developmental Abnormalities: Musculoskeletal system.		
Rabbit	28 GM/KG	Oral	(6-19D PREG)
	Result: Maternal Effects: Other effects.		

Section 12 - Ecological Information

Physical Properties Affecting Ecotoxicity
COD:
1.29 %
BOD:
BOD after 5 Days:
0.78 %

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