

**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 Exl. 5996	

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>
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

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

Test Type
LC50 Fish
Species
Leuciscus idus
Time: 48.0 h **Value:** > 10,000 mg/l

Test Type
EC50 Daphnia
Species
Daphnia magna
Time: 24.0 h **Value:** 74,000 mg/l

Additional Results/Data from Relevant 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

Demolimis: 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 (LD50)
 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.

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

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

Chronic Exposure - Reproductive Hazard

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
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 %