

## MATERIAL SAFETY DATA SHEET

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Version 1.5

## Section 1 - Product and Company Information

Product Name	SALBUTAMOL FREE BASE
Product Number	S8260
Brand	SIGMA
Company	Sigma-Aldrich Canada, Ltd
Address	2149 Winston Park Drive Oakville ON L6H 6J8 CA
Technical Phone:	9058299500
Fax:	9058299292
Emergency Phone:	800-424-9300

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
SALBUTAMOL	18559-94-9	No
Formula	C13H21NO3	
Synonyms	Aerolin * AH 3365 * Albuterol * 1,3-Benzenedimethanol, alpha-1-(((1,1-dimethylethyl)amino)methyl)-4-hydroxy- * 2-(tert-Butylamino)-1-(4-hydroxy-3-hydroxymethylphenyl)ethanol * alpha'-((tert-Butylamino)methyl)-4-hydroxy-m-xylene-alpha,alpha'-diol * 4-Hydroxy-3-hydroxymethyl-alpha-((tert-butylamino)methyl)benzyl alcohol * Proventil * Salbutamol * Sultanol * Ventolin * m-Xylene-alpha,alpha'-diol, alpha-1-((tert-butylamino)methyl)-4-hydroxy-	
RTECS Number:	ZE4400000	

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Harmful.

Harmful if swallowed.

Target organ(s): Smooth muscle.

## HMIS RATING

HEALTH: 1\*

FLAMMABILITY: 0

REACTIVITY: 0

## NFPA RATING

HEALTH: 1

FLAMMABILITY: 0

REACTIVITY: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

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## Section 4 - First Aid Measures

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### 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.

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## Section 5 - Fire Fighting Measures

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### 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.

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## Section 6 - Accidental Release Measures

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### 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.

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## Section 7 - Handling and Storage

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### HANDLING

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

### STORAGE

Suitable: Keep tightly closed.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

### 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 dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

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## Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	239.3 AMU	
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	
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

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Conditions of Instability: Light sensitive.

Materials to Avoid: Strong oxidizing agents.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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### Section 11 - Toxicological Information

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#### 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.

#### TARGET ORGAN(S) OR SYSTEM(S)

Smooth muscle.

#### SIGNS AND SYMPTOMS OF EXPOSURE

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

Salbutamol may cause fine tremor of skeletal muscle (particularly the hands), palpitations, and muscle cramps.

Slight tachycardia, tenseness, headaches, and peripheral vasodilatation have been reported after large doses.

#### TOXICITY DATA

Oral

Rat

660 mg/kg

LD50

Intraperitoneal

Rat

295 mg/kg

LD50

Subcutaneous

Rat

>2500 MG/KG

LD50

Intravenous

Rat

57100 UG/KG

LD50

Oral

Mouse

2707 mg/kg

LD50

Remarks: Autonomic Nervous System:Other (direct) parasympathomimetic. Behavioral:Convulsions or effect on seizure threshold. Behavioral:Muscle weakness.

Intraperitoneal

Mouse

167 MG/KG

LD50

Subcutaneous  
Mouse  
737 MG/KG  
LD50

Intravenous  
Mouse  
48700 UG/KG  
LD50

#### CHRONIC EXPOSURE - TERATOGEN

Result: May cause congenital malformation in the fetus.

Species: Rat  
Dose: 3600 UG/KG  
Route of Application: Intravenous  
Exposure Time: (16-20D PREG)  
Result: Effects on Embryo or Fetus: Other effects to embryo.

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Woman  
Dose: 160 UG/KG  
Route of Application: Oral  
Exposure Time: (1D PRE)  
Result: Maternal Effects: Uterus, cervix, vagina.

Species: Mouse  
Dose: 2200 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (10-20D PREG)  
Result: Effects on Newborn: Other postnatal measures or effects.

Species: Mouse  
Dose: 2200 UG/KG  
Route of Application: Subcutaneous  
Exposure Time: (10-20D PREG)  
Result: Effects on Newborn: Biochemical and metabolic.

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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##### 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.

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#### Section 14 - Transport Information

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##### 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.

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn

Indication of Danger: Harmful.

R: 22

Risk Statements: Harmful if swallowed.

S: 36

Safety Statements: Wear suitable protective clothing.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.

Risk Statements: Harmful if swallowed.

Safety Statements: Wear suitable protective clothing.

US Statements: Target organ(s): Smooth muscle.

### 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

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## Section 16 - Other Information

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### 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 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.