

## Material Safety Data Sheet

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Version 1.2

According to 91/155/EEC

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1 - Product and Company Information

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Product Name	(+/-)-ATENOLOL
Product Number	A139
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
(+/-)-ATENOLOL	29122-68-7	249-451-7	None

Formula	C14H22N2O3
Molecular Weight	266.3 AMU
Synonyms	Atenolol * Benzeneacetamide, 4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)- (9CI) * 1-p-Carbamoylmethylphenoxy-3-isopropylamino-2-pro panol * Duraatenolol * 2-(p-(2-Hydroxy-3-(isopropylamino)propoxy)phenyl) acetamide * 4-(2-Hydroxy-3-((1-methylethyl)amino)propoxy)benz eneacetamide * ICI 66082 * Normiten * Tenormin * Tenormine (French)

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3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Not hazardous according to Directive 67/548/EC.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,  
call a physician.

## AFTER SKIN CONTACT

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

## AFTER EYE CONTACT

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.

#### AFTER INGESTION

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

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

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

#### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

#### 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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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed.

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Wear dust mask.

Hand Protection: Protective gloves.

Eye Protection: Chemical safety goggles.

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### 9 - Physical and Chemical Properties

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Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	N/A	
Flammability	N/A	

Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

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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## 11 - Toxicological Information

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RTECS NUMBER: AC3600000

### ACUTE TOXICITY

LD50  
Oral  
Rat  
> 2000 mg/kg

LD50  
Subcutaneous  
Rat  
>600 MG/KG

LD50  
Intravenous  
Rat  
77 MG/KG

Remarks: Behavioral:Convulsions or effect on seizure threshold.  
Lungs, Thorax, or Respiration:Other changes.

LD50  
Oral  
Mouse  
2000 mg/kg  
Remarks: Behavioral:Somnolence (general depressed activity).  
Lungs, Thorax, or Respiration:Dyspnea.

LD50  
Intraperitoneal  
Mouse  
134 MG/KG

LD50  
Subcutaneous  
Mouse  
>400 MG/KG

LD50  
Intravenous  
Mouse  
57 MG/KG  
Remarks: Peripheral Nerve and Sensation: Flaccid paralysis  
without anesthesia (usually neuromuscular blockage).

LD50  
Intravenous  
Rabbit  
50 MG/KG

#### SIGNS AND SYMPTOMS OF EXPOSURE

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

#### 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.

#### CHRONIC EXPOSURE - TERATOGEN

Species: Rat  
Dose: 2200 MG/KG  
Route of Application: Oral  
Exposure Time: (7-17D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death,  
e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.  
Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rabbit  
Dose: 5200 MG/KG  
Route of Application: Oral  
Exposure Time: (6-18D PREG)  
Result: Effects on Embryo or Fetus: Fetal death.

Species: Rabbit  
Dose: 260 MG/KG  
Route of Application: Oral  
Exposure Time: (6-18D PREG)  
Result: Specific Developmental Abnormalities: Musculoskeletal  
system.

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Woman  
Dose: 16 MG/KG

Route of Application: Oral  
Exposure Time: (5D POST)  
Result: Effects on Newborn: Other postnatal measures or effects.

Species: Woman  
Dose: 630 MG/KG  
Route of Application: Oral  
Exposure Time: (90W PRE)  
Result: Maternal Effects: Menstrual cycle changes or disorders.  
Maternal Effects: Breasts, lactation (prior to or during pregnancy). Maternal Effects: Other effects.

Species: Woman  
Dose: 434 MG/KG  
Route of Application: Oral  
Exposure Time: (5-36W PREG)  
Result: Tumorigenic Effects: Uterine tumors.

Species: Rat  
Dose: 22 GM/KG  
Route of Application: Oral  
Exposure Time: (7-17D PREG)  
Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).

Species: Rat  
Dose: 1200 MG/KG  
Route of Application: Oral  
Exposure Time: (17-22D PREG)  
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rat  
Dose: 2 GM/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).  
Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).

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## 12 - Ecological Information

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No data available.

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## 13 - Disposal Considerations

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### SUBSTANCE DISPOSAL

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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## 14 - Transport Information

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### RID/ADR

Non-hazardous for road transport.

### IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

S-PHRASES: 22 24/25

Do not breathe dust. Avoid contact with skin and eyes.

Not hazardous according to Directive 67/548/EC.

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## 16 - Other Information

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### 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.

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