

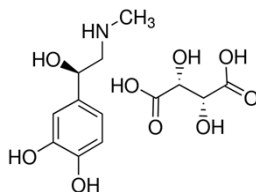
## CAS No: 51-42-3 MSDS

## MATERIAL SAFETY DATA SHEET (MSDS)

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## 1.1. Product identifier

Product form	: Substance
Trade name	: Adrenaline Bitartrate 98% AR
CAS No	: 51-42-3
Product code	: 00735
Chemical structure	:



Synonyms	: (-)-Epinephrine (+)-bitartrate salt
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## 1.2. Relevant identified uses of the substance or mixture and uses advised against

## 1.2.1. Relevant identified uses

Use of the substance/mixture	: Laboratory chemicals, Manufacture of substances
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## 1.2.2. Uses advised against

No additional information available

## 1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai - INDIA  
T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

## 1.4. Emergency telephone number

Emergency number	: + 91 22 6663 6663 (9:00am - 6:00 pm)
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## SECTION 2: Hazards identification

## 2.1. Classification of the substance or mixture

## Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 1	H300
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

Full text of classification categories and H statements : see section 16

### Classification according to Directive 67/548/EEC or 1999/45/EC

T+; R26

T+; R28

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS06

Signal word (CLP) : Danger

Hazard statements (CLP) : H300 - Fatal if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

Precautionary statements (CLP) : P261 - Avoid breathing vapours, dust, fume, gas  
P264 - Wash hands, forearms and face thoroughly after handling  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P301+P310 - IF SWALLOWED: Immediately call a doctor

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : ADRENALINE BITARTRATE AR

CAS No : 51-42-3

Full text of R- and H-phrases: see section 16

### 3.2. Mixture

Not applicable

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : Fatal if swallowed.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.
- Unsuitable extinguishing media : Do not use extinguishing media containing water.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe vapours. Avoid dust formation.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection : Protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : Wear respiratory protection

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Colour : White powder.  
Odour : No data available  
Odour threshold : No data available  
pH : 4 at 20 g/l  
Relative evaporation rate (butylacetate=1) : No data available  
Melting point : 147 °C  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability (solid, gas) : No data available  
Vapour pressure : No data available  
Relative vapour density at 20 °C : No data available  
Relative density : No data available  
Solubility : Water: Soluble in cold water  
Log Pow : No data available

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Direct sunlight.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Oral: Fatal if swallowed.
Skin corrosion/irritation	: Causes skin irritation. pH: 4 at 20 g/l
Serious eye damage/irritation	: Causes serious eye irritation. pH: 4 at 20 g/l
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

Potential adverse human health effects and symptoms : Fatal if swallowed.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to ...

Ecology - waste materials : Hazardous waste due to toxicity.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR) : 2811

UN-No. (IMDG) : 2811

UN-No.(IATA) : 2811

UN-No.(ADN) : 2811

UN-No. (RID) : 2811

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : TOXIC SOLID, ORGANIC, N.O.S.

Proper Shipping Name (IMDG) : TOXIC SOLID, ORGANIC, N.O.S.

Proper Shipping Name (IATA) : TOXIC SOLID, ORGANIC, N.O.S.

Proper Shipping Name (ADN) : TOXIC SOLID, ORGANIC, N.O.S.

Proper Shipping Name (RID) : TOXIC SOLID, ORGANIC, N.O.S.

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

Transport document description (ADR)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III, (E)
Transport document description (IMDG)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III
Transport document description (IATA)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III
Transport document description (ADN)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III
Transport document description (RID)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 6.1

Danger labels (ADR) : 6.1



#### IMDG

Transport hazard class(es) (IMDG) : 6.1

Danger labels (IMDG) : 6.1



#### IATA

Transport hazard class(es) (IATA) : 6.1

Hazard labels (IATA) : 6.1



#### ADN

Transport hazard class(es) (ADN) : 6.1

Danger labels (ADN) : 6.1



#### RID

Transport hazard class(es) (RID) : 6.1

Danger labels (RID) : 6.1



# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

### 14.4. Packing group

Packing group (ADR)	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III
Packing group (ADN)	: III
Packing group (RID)	: III

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: T2
Special provision (ADR)	: 274, 614
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAH, L4BH
Tank special provisions (ADR)	: TU15, TE19
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Bulk (ADR)	: VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9
Hazard identification number (Kemler No.)	: 60
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2X

#### - Transport by sea

Special provision (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-A



# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

Stowage category (IMDG) : A  
MFAG-No : 154

### - Air transport

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y645  
PCA limited quantity max net quantity (IATA) : 10kg  
PCA packing instructions (IATA) : 670  
PCA max net quantity (IATA) : 100kg  
CAO packing instructions (IATA) : 677  
CAO max net quantity (IATA) : 200kg  
Special provision (IATA) : A3, A5  
ERG code (IATA) : 6L

### - Inland waterway transport

Classification code (ADN) : T2  
Special provisions (ADN) : 274, 614, 802  
Limited quantities (ADN) : 5 kg  
Excepted quantities (ADN) : E1  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP  
Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : T2  
Special provision (RID) : 274, 614  
Limited quantities (RID) : 5kg  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P002, IBC08, LP02, R001  
Special packing provisions (RID) : B3  
Mixed packing provisions (RID) : MP10  
Portable tank and bulk container instructions (RID) : T1  
Portable tank and bulk container special provisions (RID) : TP33  
Tank codes for RID tanks (RID) : SGAH, L4BH  
Special provisions for RID tanks (RID) : TU15  
Transport category (RID) : 2  
Special provisions for carriage – Bulk (RID) : VC1, VC2, AP7  
Special provisions for carriage – Loading and unloading (RID) : CW13, CW28, CW31  
Colis express (express parcels) (RID) : CE11  
Hazard identification number (RID) : 60

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Adrenaline Bitartrate 98% AR is not on the REACH Candidate List

Adrenaline Bitartrate 98% AR is not on the REACH Annex XIV List

# Adrenaline Bitartrate 98% AR

## Safety Data Sheet

### 15.1.2. National regulations

#### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 3, strongly hazardous to water (Classification according to VwVwS, Annex 2; WGK No 865)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 1 (Oral)	Acute toxicity (oral), Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H300	Fatal if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
R26	Very toxic by inhalation
R28	Very toxic if swallowed
T+	Very toxic

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*