

## SAFETY DATA SHEET

Version 3.12  
Revision Date 01/14/2015  
Print Date 04/08/2018

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Dopamine hydrochloride	
Product Number	:	H8502	
Brand	:	Sigma	
Product Use	:	For laboratory research purposes.	
Supplier	:	Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA	Manufacturer : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 9058299500	
Fax	:	+1 9058299292	
Emergency Phone # (For both supplier and manufacturer)	:	+1-703-527-3887 (CHEMTREC)	
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956	

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### Target Organs

Cardiovascular system., Nerves. Cardiovascular system., Nerves.

##### WHMIS Classification

Not Rated

Moderate respiratory irritant

##### GHS Classification

Acute toxicity, Oral (Category 4)  
Acute aquatic toxicity (Category 1)  
Chronic aquatic toxicity (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273

Avoid release to the environment.

P501

Dispose of contents/ container to an approved waste disposal plant.

##### HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

##### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.
<b>Ingestion</b>	Harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	: 3,4-Dihydroxyphenethylaminehydrochloride 4-(2-Aminoethyl)-1,2-benzenediolhydrochloride 2-(3,4-Dihydroxyphenyl)ethylaminehydrochloride 3-Hydroxytyramine hydrochloride
Formula	: C <sub>8</sub> H <sub>11</sub> NO <sub>2</sub> · HCl
Molecular weight	: 189.64 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Dopamine hydrochloride</b>			
62-31-7	200-527-8	-	<=100%

### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas

#### Explosion data - sensitivity to mechanical impact

No data available

#### Explosion data - sensitivity to static discharge

No data available

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

---

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage

Protect against light. Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature 2 - 8 °C

Keep in a dry place. Keep in a dry place.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374  
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form                      powder

Colour white

### Safety data

pH	3.0 - 5.5 at 40.0 g/l at 20 °C (68 °F)
Melting point/freezing point	Melting point/range: 248 - 250 °C (478 - 482 °F)
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	No data available
Water solubility	No data available
Partition coefficient: n-octanol/water	log Pow: -2.58 at 25 °C (77 °F)
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

---

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

Light.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas

Other decomposition products - No data available

---

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - Rat - 1,870 mg/kg

#### Inhalation LC50

LC50 Inhalation - Rat - 4 h - > 5.0 mg/l

#### Dermal LD50

No data available

#### Other information on acute toxicity

LD50 Intravenous - Rat - 4.8 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes.  
Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea.

**Skin corrosion/irritation**

Skin - Rabbit - No skin irritation - OECD Test Guideline 404

**Serious eye damage/eye irritation**

Eyes - Rabbit - No eye irritation - OECD Test Guideline 405

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**

No data available

**Teratogenicity**

No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

No data available

**Aspiration hazard**

No data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	Harmful if swallowed.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

**Signs and Symptoms of Exposure**

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

**Synergistic effects**

No data available

**Additional Information**

RTECS: UX1092000

---

**12. ECOLOGICAL INFORMATION**

**Toxicity**

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - 2,200.0 - 4,600.0 mg/l - 96.0 h Method: DIN 38412
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 24.5 mg/l - 48 h Method: OECD Test Guideline 202

Toxicity to algae static test EC50 - Algae - < 1 mg/l - 72 h  
Method: OECD Test Guideline 201

**Persistence and degradability**

Biodegradability Biotic/Aerobic  
Result: 60 - 70 % - According to the results of tests of biodegradability this product is not readily biodegradable.  
Method: Directive 67/548/EEC Annex V, C.4.C.

**Bioaccumulative potential**

Bioaccumulation is unlikely.

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

---

**13. DISPOSAL CONSIDERATIONS**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

---

**14. TRANSPORT INFORMATION**

**DOT (US)**

UN number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Dopamine hydrochloride)  
Reportable Quantity (RQ):  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dopamine hydrochloride)  
Marine pollutant: Marine pollutant

**IATA**

UN number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Dopamine hydrochloride)

---

**15. REGULATORY INFORMATION**

**WHMIS Classification**

Not Rated Moderate respiratory irritant

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

---

**16. OTHER INFORMATION**

**Text of H-code(s) and R-phrase(s) mentioned in Section 3**

**Further information**

Copyright 2015 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

---