

## SAFETY DATA SHEET

Version 4.10  
 Revision Date 11/23/2015  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	: L-Arginine		
Product Number	: W381918		
Brand	: Aldrich		
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

##### WHMIS Classification

Not Rated

##### GHS Classification

Acute aquatic toxicity (Category 2)

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

Pictogram	none
Signal word	none
Hazard statement(s)	
H401	Toxic to aquatic life.
Precautionary statement(s)	
P273	Avoid release to the environment.
P501	Dispose of contents/ container to an approved waste disposal plant.

##### HMIS Classification

Health hazard:	0
Flammability:	0
Physical hazards:	0

##### Potential Health Effects

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

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : (S)-2-Amino-5-guanidinopentanoic acid

Formula : C<sub>6</sub>H<sub>14</sub>N<sub>4</sub>O<sub>2</sub>  
Molecular weight : 174.20 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>L-Arginine</b>			
74-79-3	200-811-1	-	<=100%

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#### 4. FIRST AID MEASURES

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### 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.

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#### 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 (NO<sub>x</sub>)

##### Explosion data - sensitivity to mechanical impact

No data available

##### Explosion data - sensitivity to static discharge

No data available

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#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions

Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

##### 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.

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#### 7. HANDLING AND STORAGE

##### Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

##### Conditions for safe storage

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

Keep in a dry place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. 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: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (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

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., 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 10.5 - 12 at 87 g/l at 25 °C (77 °F)

Melting point/freezing point Melting point/range: 222 °C (432 °F)

Boiling point No data available

Flash point No data available

Flammability (solid, gas) The product is not flammable. - Flammability (solids)

Ignition temperature No data available

Auto-ignition temperature	The substance or mixture is not classified as self heating.
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	No data available
Water solubility	87.1 g/l at 20 °C (68 °F) - completely soluble
Partition coefficient: n-octanol/water	log Pow: -4.199 at 20 °C (68 °F)
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Other decomposition products - No data available

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

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - Rat - male and female - > 5,110 mg/kg

#### Inhalation LC50

No data available

#### Dermal LD50

No data available

#### Other information on acute toxicity

No data available

### 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

Genotoxicity in vitro - reverse mutation assay - *S. typhimurium* - with and without metabolic activation - negative

### 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. May cause respiratory tract irritation.
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### Signs and Symptoms of Exposure

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

### Synergistic effects

No data available

### Additional Information

Repeated dose toxicity - Rat - female - Oral - No observed adverse effect level - 3,565.1 mg/kg

RTECS: CF1934200

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## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish	semi-static test LC50 - Brachydanio rerio (zebrafish) - 2.8 mg/l - 96 h Method: OECD Test Guideline 203
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### Persistence and degradability

Biodegradability	aerobic Result: 60 % - Readily biodegradable Method: OECD Test Guideline 301C
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### Bioaccumulative potential

No data available

### 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.

Toxic to aquatic life.

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**13. DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****WHMIS Classification**

Not Rated

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.

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**16. OTHER INFORMATION****Further information**

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