

## NATURAL HEALTH PRODUCT

### L-ARGININE

This monograph is intended to serve as a guide to industry for the preparation of Product Licence Applications (PLAs) and labels for natural health product market authorization. It is not intended to be a comprehensive review of the medicinal ingredient.

#### Notes

- ▶ Text in parentheses is additional optional information which can be included on the PLA and product label at the applicant's discretion.
- ▶ The solidus (/) indicates that the terms and/or statements are synonymous. Either term or statement may be selected by the applicant.

#### Date

August 28, 2018

#### Proper name(s), Common name(s), Source material(s)

Table 1. Proper name(s), Common name(s), Source material(s)

Proper name(s)	Common name(s)	Source material(s)	
		Common name(s)	Preparation(s)
<ul style="list-style-type: none"> <li>▶ (S)-2-Amino-5-[(aminoiminomethyl)amino] pentanoic acid</li> <li>▶ L-Arginine</li> </ul>	L-Arginine	<ul style="list-style-type: none"> <li>▶ DL-Arginine</li> <li>▶ L-Arginine</li> <li>▶ L-Arginine alpha-ketoglutarate</li> <li>▶ L-Arginine ketoisocaproic acid</li> <li>▶ L-Arginine monohydrochloride</li> </ul>	Synthetic

References: Proper names: NIH 2018, O'Neil et al. 2018; Common name: NIH 2018, O'Neil et al. 2018; Source materials: NIH 2018, BP 2009, USP 32 2009, Ph. Eur. 2007.

#### Route of administration

Oral

#### Dosage form(s)

This monograph excludes foods or food-like dosage forms as indicated in the Compendium of Monographs Guidance Document.



Acceptable dosage forms for the age category listed in this monograph and specified route of administration are indicated in the Compendium of Monographs Guidance Document.

### Use(s) or Purpose(s)

- ▶ May help support a modest improvement in exercise capacity in individuals with stable cardiovascular diseases (CVD) (Doutreleau et al. 2010; Doutreleau et al. 2006; Lim et al. 2004; Palloshi et al. 2004; Bode- Böger et al. 2003; Lekakis et al. 2002; Sydow et al. 2002; Nagaya et al. 2001; Bednarz et al. 2000; Hambrecht et al. 2000; Tangphao et al. 1999; Lerman et al. 1998; Clarkson et al. 1996; Rector et al. 1996).
- ▶ L-Arginine is (a non-essential amino acid) involved in protein synthesis (Shils et al. 2006; IOM 2005; Groff and Gropper 2000).

### Dose(s)

#### Subpopulation(s)

Adults 18 years and older

#### Quantity(ies)

*Improvement in exercise capacity in individuals with stable CVD*

6 - 21 grams of L-Arginine, per day; Not to exceed 8 grams per single dose (Doutreleau et al. 2010; Shao and Hathcock 2008; Doutreleau et al. 2006; Evans et al. 2004; Lim et al. 2004; Palloshi et al. 2004; Bode-Bogër et al. 2003; Bednarz et al. 2000; Hambrecht et al. 2000; Lerman et al. 1998; Adams et al. 1997; Ceremuzyński et al. 1997; Clarkson et al. 1996; Rector et al. 1996).

*Protein synthesis*

0.21 - 21 grams of L-Arginine, per day; Not to exceed 8 grams per single dose (Shao and Hathcock 2008; IOM 2005; Evans et al. 2004; Bode-Bogër et al. 2003; Sydow et al. 2002).

#### Direction(s) for use

No statement required.

### Duration(s) of use

*Products providing more than 0.42 and up to 9 g of L-Arginine, per day*

Consult a health care practitioner/health care provider/health care professional/doctor/ physician



for use beyond 6 weeks if you suffer from a cardiovascular disease (Shao and Hathcock 2008; Sydow et al. 2002; Hambrecht et al. 2000; Clarkson et al. 1996; Rector et al. 1996).

*Products providing more than 9 g and up to 14 g of L-Arginine, per day*

- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician for use beyond 6 weeks if you suffer from a cardiovascular disease (Shao and Hathcock 2008; Sydow et al. 2002; Hambrecht et al. 2000; Clarkson et al. 1996; Rector et al. 1996).
- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician for use beyond 6 months (Alexander et al. 2005; De Nicola et al. 1999).

*Products providing more than 14 g of L-Arginine, per day*

- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician for use beyond 6 weeks if you suffer from a cardiovascular disease (Shao and Hathcock 2008; Sydow et al. 2002; Hambrecht et al. 2000; Clarkson et al. 1996; Rector et al. 1996).
- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician for use beyond 12 weeks (Tangphao et al. 1999).

## **Risk information**

### **Caution(s) and warning(s)**

*All products*

Consult a health care practitioner/health care provider/health care professional/doctor/physician prior to use if you are pregnant or breastfeeding.

*Products providing more than 0.42 g of L-Arginine, per day*

- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician prior to use if you suffer from cardiovascular disease and are attempting an increase in physical activity or if your cardiovascular condition worsens (Doutreleau et al. 2010; Doutreleau et al. 2006; Schulman et al. 2006; Goldman and Ausiello 2004; Nagaya et al. 2001; Bednarz et al. 2000; Ceremużyński et al. 1997; Rector et al. 1996).
- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician prior to use if you are taking medication for cardiovascular diseases, erectile dysfunction, and/or blood thinners (Huynh et al. 2002; Parker et al. 2002; Siani et al. 2000; Adams et al. 1995).

### **Contraindication(s)**

*Products providing more than 0.42 g of L-Arginine, per day*



Do not use this product if you have had a heart attack/myocardial infarction (Schulman et al. 2006).

### **Known adverse reaction(s)**

*Products providing more than 0.42 g of L-Arginine, per day*

Some people may experience gastrointestinal discomfort (such as diarrhea) (Grimble 2007; Evans et al. 2004; IOM 2005; Clarkson et al. 1996).

### **Non-medicinal ingredients**

Must be chosen from the current Natural Health Products Ingredients Database (NHPID) and must meet the limitations outlined in the database.

### **Storage conditions**

No statement required.

### **Specifications**

- ▶ The finished product specifications must be established in accordance with the requirements described in the Natural and Non-prescription Health Products Directorate (NNHPD) Quality of Natural Health Products Guide.
- ▶ The medicinal ingredient must comply with the requirements outlined in the NHPID.

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