# **N-Acetyl-L-Cysteine**

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N-ACETYL-L-CYSTEINE Help on accessing alternative formats, such as Portable Document Format (PDF), Microsoft Word and PowerPoint (PPT) files, can be obtained in the alternate format help section. (PDF Version - 78 KB) 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 June 3, 2019 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) Proper name(s) Preparation L-alpha-Acetamido-beta-mercaptopropionic acid N-Acetyl-L-cysteine N-Acetyl-L-cysteine N-Acetyl-L-cysteine Synthetic References: Proper names: ChemID 2012, Merck 2012; Common name: ChemID 2012; Source ingredient: NHPID 2019. 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 any age category listed in this monograph for the specified route of administration are listed in the Compendium of Monographs Guidance Document. Use(s) or Purpose(s) Source of/Provides antioxidants (Zembron-Lacny et al. 2009; Zembron-Lacney et al. 2007; Peake and Suzuki 2004; Huupponen et al. 1995). Dose(s) Subpopulation(s) Adults 18 years and older Quantity(ies) Not to exceed 600 milligrams of N-Acetyl-L-cysteine, per day (Zembron-Lacny et al. 2009; Zembron-Lacney et al. 2007; Peake and Suzuki 2004; Huupponen et al. 1995). Direction(s) for use Take with meals (Quig 1998). Duration(s) of Use No statement required Risk Information Caution(s) and warning(s) Consult a health care practitioner/health care provider/health care professional/doctor/physician prior to use if you are pregnant, breastfeeding or have kidney stones (Fauci et al. 1998; Mårtensson et al. 1990). Contraindication(s) Do not use this product if you are taking antibiotics or nitroglycerin (Repchinsky 2008; Cederlund and Mårdh 1993; Parry and Neu 1977; Ardissino et al. 1997). Known adverse reaction(s) No statement required. 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. References Cited Ardissino D, Merlini PA, Savonitto S, Demicheli G, Zanini P, Bertocchi F, Falcone C, Ghio S, Marinoni G, Montemartini C, Mussini A. Effect of transdermal nitroglycerin or N- acetylcysteine, or both, in the long-term treatment of unstable angina pectoris. Journal of the American College of Cardiology 1997;29(5):941-947. Cederlund H, Mårdh PA. Antibacterial activities of non-antibiotic drugs. Journal of Antimicrobial Chemotherapy 1993;32:355-365. ChemID 2012: United States National Library of Medicine. ChemIDplus advanced [Internet]. Acetylcysteine. RN: 616-91-1. 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2004;10:129-141. Quig D. Cysteine metabolism and metal toxicity. Alternative Medicine Review 1998;3(4):262-270. Repchinsky C, editor. Compendium of Pharmaceuticals and Specialties. The Canadian Drug Reference for Health Professionals. Ottawa (ON): Canadian Pharmacists Association; 2008. Zembron-Lacny A, Slowinska-Lisowska M, Szygula Z, Witkowski K, Szyszka K. The comparison of antioxidant and hematological properties of N-acetylcysteine and ?-lipoic acid in physically active males. Physiological Research 2009;58:855-861. Zembron-Lacny A, Szyszka K, Szygula Z. Effect of cysteine derivatives administration in healthy men exposed to intense resistance exercise by evaluation of pro-antioxidant ratio. The Journal of Physiological Sciences 2007;57(6):343-348. References Reviewed De Flora S, Grassi C, Carati L. Attenuation of influenza-like symptomatology and improvement of cell-mediated immunity with long-term N-acetylcysteine treatment. European Respiratory Journal 1997;10(7):1535-1541. Grandjean EM, Berthet P, Ruffmann R, Leuenberger P. Efficacy of oral long-term N- acetylcysteine in chronic bronchopulmonary disease: a meta-analysis of published double-blind, placebo-controlled clinical trials. Clinical Therapeutics 2000;22(2):209-221. Stey C, Steurer J, Bachmann S, Medici TC, Tramer MR.The effect of oral N-acetylcysteine in chronic bronchitis: a quantitative systematic review. European Respiratory Journal 2000;16(2):253-262. Report a problem on this page Date modified: 2019-03-01

### **MEDICINAL INGREDIENT(S)**

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.

## **DOSAGE FORM(S)**

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

#### RISK INFORMATION

Caution(s) and warning(s) Consult a health care practitioner/health care provider/health care professional/doctor/physician prior to use if you are pregnant, breastfeeding or have kidney stones (Fauci et al. 1998; Mårtensson et al. 1990). Contraindication(s) Do not use this product if you are taking antibiotics or nitroglycerin (Repchinsky 2008; Cederlund and Mårdh 1993; Parry and Neu 1977; Ardissino et al. 1997). Known adverse reaction(s) No statement required.

#### **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.

## STORAGE CONDITION(S)

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.

## **REFERENCES**

Route of Administration Oral

Proper name(s)	Common name(s)	Source material(s)	
Proper name(s)	Preparation		
L-alpha-Acetamido-beta-mercaptopropionic	a <b>lsidAtetyletyletystyiste</b> ine	N-Acetyl-L-cysteine	Synthetic