

AISSPORTS SUPPLEMENT FRAMEWORK

N-ACETYL CYSTEINE [NAC] GROUP B



As a group B supplement, this supplement should only be used under the close supervision of your sports dietitian

N-Acetyl Cysteine (NAC) is an amino acid (protein) and powerful antioxidant. It contains compounds which can act to minimise exercise-induced stress on the body, to improve sprint performance and reduce exercise-related inflammation.



NAC is available in a capsule or powder form, but no batch-tested product is currently available in Australia.

BENEFITS OF NAC SUPPLEMENTATION



ANTI-OXIDANT
(BUFFERS FREE RADICAL COMPOUNDS
GENERATED DURING EXERCISE)



ANTI-INFLAMMATORY
(POTENTIALLY REDUCING MUSCLE
DAMAGE POST- EXERCISE)

WHEN TO CONSIDER NAC SUPPLEMENTATION?

- ✓ High intensity and repeat sprint performance
- ✓ High intensity training blocks or consecutive days competition/ tournaments
- ✓ Management of exercise induced inflammation

HOW TO USE



1200 mg NAC
daily



Starting 4 days prior to
competition

For repeat high
intensity efforts
also consume



1200 mg NAC



2 hrs prior
to event

Use of NAC for prolonged periods greater than 1 month is not recommended.



Anecdotally, NAC is best taken
with food to minimise risk of
gastrointestinal distress.



N-ACETYL CYSTEINE [NAC]

FOOD FIRST

- > NAC is only available in supplement form.
- > If you are exploring NAC supplementation to boost anti-oxidant status, try adding fruit-derived polyphenol rich fruits in your diet such as, blueberries, pomegranate, cherries, blackcurrants and black berries.
- > If you are consideration NAC supplementation to manage inflammation, try increasing the anti-inflammatory properties of your diet by including foods such as, salmon, sardines, tuna, mussels, other oily fish, and curcumin in the form of the spice, turmeric.

NAC HEALTH QUESTIONNAIRE

> Athletes should be educated on the potential side effects when using NAC and complete the questionnaire below daily to track and manage any occurrences.

	None	Mild	Moderate	Severe
Upset stomach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nausea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stomach or Intestinal gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metallic taste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Light-headedness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Redness of the eye, face or hand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Welts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONCERNS & CONSIDERATIONS



NAC is not recommended for extended daily use. Prolonged supplementation with antioxidant supplements like NAC may inhibit training adaptations.



If side effects do occur, quercetin may be an effective alternative for consideration during periods of intensified training or altitude camps. (See [fruit-derived polyphenols infographic](#)).



An increased dietary intake of antioxidant rich foods should be the first step to improving the oxidant - antioxidant balance in athletes.



Ergogenic aids such as [sodium bicarbonate](#) and [caffeine](#) might be considered as alternatives if NAC is being used for acute performance benefits.



Several unwanted side effects have been reported from NAC use, including upset stomach, nausea, metallic taste, light-headedness, redness of eyes, or welts.



Consider a dose relative to body weight for athletes who are below 50 kg or above 80 kg.



All supplements have a doping risk of some kind. Some supplements are riskier than others. Athletes should only use batch-tested supplements. The Sport Integrity Australia app provides a list of more than 400 batch-tested products. (www.sportintegrity.gov.au/what-we-do/supplements-sport).

While batch-tested products have the lowest risk of a product containing prohibited substances, they cannot offer you a guarantee. Before engaging in supplement use, you should refer to the specific supplement policies of your sport or institute and seek professional advice from an accredited sports dietitian (www.sportsdietitians.com.au). Athletes are reminded that they are responsible for all substances that enter their body under the 'strict liability' rules of the World Anti-Doping Code.