



# ORIENTAL YEAST CO., LTD

## OSAKA BIOCHEMICAL PLANT

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03/11/10

### SPECIFICATIONS

#### $\beta$ -NADP<sup>+</sup>-Na<sub>2</sub>

$\beta$ -Nicotinamide-adenine dinucleotide phosphate, oxidized form, disodium salt  
( $\beta$ -NADP<sup>+</sup>,  $\beta$ -TPN<sup>+</sup>, Coenzyme-II)

Formula: C<sub>21</sub>H<sub>28</sub>N<sub>7</sub>O<sub>17</sub>P<sub>3</sub>

Formula weight: 743.41 (as anhydrous free acid)  
841.42 (NADP<sup>+</sup>·Na<sub>2</sub>·3H<sub>2</sub>O)

Purity	≥ 93% when determined by enzymatic analysis with glucose-6-phosphate dehydrogenase at pH 7.5	
Sodium contents	6.0 ± 1.5% by atomic absorption spectrophotometry	
Water contents	< 8% by Karl Fischer method	
Spectral analysis		
1. ε at 260 nm and pH 7.5	(18.0 ± 0.8) × 10 <sup>3</sup> L · mole <sup>-1</sup> · cm <sup>-1</sup>	
2. ε when reduced with glucose-6-phosphate dehydrogenase at 340 nm and pH 7.5	(6.2 ± 0.3) × 10 <sup>3</sup> L · mole <sup>-1</sup> · cm <sup>-1</sup>	
3. Ratio at pH 7.5	A <sub>250</sub> / A <sub>260</sub>	0.83 ± 0.03
	A <sub>280</sub> / A <sub>260</sub>	0.21 ± 0.02
4. Ratio when reduced with glucose-6-phosphate dehydrogenase at pH 7.5	A <sub>340</sub> / A <sub>260</sub>	0.43 ± 0.02

for laboratory use only