



## Product Specification

### $\beta$ -NICOTINAMIDE ADENINE DINUCLEOTIDE FOR BIOCHEMISTRY

<b>PRODUCT CODE</b>	168715
<b>SYNONYMS</b>	( $\beta$ -NAD,DPN) (NAD free acid)
<b>C.I. NO.</b>	--
<b>CASR NO.</b>	(53-84-9)
<b>ATOMIC OR MOLECULAR FORMULA</b>	$C_{21}H_{27}N_7O_{14}P_2$
<b>ATOMIC OR MOLECULAR WEIGHT</b>	663.44
<b>PROPERTIES</b>	Very hygroscopic. Freely soluble in water without residue.



PARAMETER	LIMIT
Description	Colourless to slightly yellowish lyophilized substance.
Solubility	20% solution in water is clear, colourless to slightly yellowish.
Minimum Assay (UV)	98.0%
$\beta$ -NAD (enzyme. at 340 nm)	Min. 94.5%
$\epsilon = 6.3 [1 \times \text{mmol}^{-1} \times \text{cm}^{-1}]$	
NAD (absorbance at 260nm;	Min. 94.5%
$\epsilon = 17.6 [1 \times \text{mmol}^{-1} \times \text{cm}^{-1}]$	
NAD (HPLC, by area)	Min. 95.0 %
Reaction rates (LDH) based on NAD-II, acid	95 – 105 %
Absorbance Ratio	
A250/A260	0.84 - 0.85
A280/A260	0.20 - 0.24

#### MAXIMUM LIMIT OF IMPURITIES

Water (by K/F)	3.5%
Acetone (GC)	0.1 %
AMP (enzyme)	0.1%
Ethanol (GC)	0.004%
Isopropanol (GC)	0.15%
Iron (Fe)	0.0025%
Methanol	0.15%

**Note(s) : Assay (if applicable) method mentioned.**

#### WARNING

**Hazard statements :** Not hazardous. No hazards.

**Precautionary statements**

**Prevention : -----**

**Response : ---**

**Disposal :** The chemical should be mixed combustible solvent and burnt in a chemical incinerator equipped with burner and scrubber.

IMDG Code :

UN No. :

IATA :

**Hazard Pictogram(s) :**