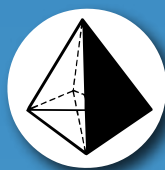


# Nitrosamine Standards



**AccuStandard®**

# Nitrosamines in Food and Pharmaceuticals

As a "Process Contaminant", N-nitrosamines form as a byproduct during the manufacturing of food and pharmaceuticals. Due to its known carcinogenic and genotoxic characteristics, selective analysis for different Nitrosamines is important to reduce consumer's exposure to these toxic contaminants.

## FDA Method - Nitrosamine Impurities in Drugs

FDA-001S

100 µg/mL each in Methanol

1 mL

8 comps.

N-Nitrosodimethylamine    N-Nitroso-*n*-ethyl-2-propanamine    N-Nitrosodi-*n*-propylamine    N-Nitrosodi-*n*-butylamine  
 N-Nitrosodiethylamine    N-Nitrosodiisopropylamine    N-Nitroso-*n*-methylaniline    N-Nitroso-*n*-methyl-4-aminobutyric acid

## Nitrosamine Compounds

Compound	CAS No.	Conc. (µg/mL)	Matrix	Cat. No.	Unit
N-Nitroso fluoxetine	150494-06-7	100	MeOH	NAS-016S	1 mL
N-Nitrosodicyclohexylamine	947-92-2	100	MeOH	NAS-017S	1 mL
N-Nitroso- <i>n</i> -methyl-4-aminobutyric acid	61445-55-4	100	MeOH	NAS-018S	1 mL
N-Nitroso-ditertbutylamine	63819-70-5	100	MeOH	NAS-019S	1 mL
N-Nitrosodiethanolamine (NDELA)	1116-54-7	100	MeOH	NAS-020S	1 mL
1-Cyclopentyl-4-nitrosopiperazine (CPNP)	61379-66-6	100	MeOH	NAS-021S	1 mL
1-Methyl-4-nitrosopiperazine (MNP)	16339-07-4	100	MeOH	NAS-022S	1 mL
N-Nitrosodiisopropylamine (NDIPA)	601-77-4	100	MeOH	NAS-023S	1 mL
N-Nitroso- <i>n</i> -ethyl-2-propanamine (NEIPA)	16339-04-1	100	MeOH	NAS-024S	1 mL
N-Nitrosodiisobutylamine (NDIBA)	997-95-5	100	MeOH	NAS-025S	1 mL
N-Nitrososarcosine (NSAR)	13256-22-9	100	MeOH	NAS-026S	1 mL
N-Nitroso- <i>n</i> -methylaniline (NMPA)	614-00-6	100	MeOH	NAS-027S	1 mL
N-Nitrosodibenzylamine	5336-53-8	100	MeOH	NAS-028S	1 mL
N-Nitrosodiisopropanolamine (NDIPLA)	53609-64-6	100	MeOH	NAS-029S	1 mL
N'-Nitrosornicotine (NNN)	80508-23-2	100	MeOH	NAS-030S	1 mL
N-Methyl- <i>n</i> -nitroso-2-propanamine (NMIPA)	30533-08-5	100	MeOH	NAS-031S	1 mL
N-Nitroso- <i>n</i> -methylbutylamine (MBNA)	7068-83-9	100	MeOH	NAS-033S	1 mL
N,N'-bis(2-hydroxybenzylidene)-1,2-propanediamine	94-91-7	100	MeOH	NAS-034S	1 mL
N-Nitroso-1-(2-methoxyphenyl)piperazine	2219339-64-5	100	MeOH	NAS-035S	1 mL
4-Nitrosopiperazine-1-ethanol	48121-20-6	100	MeOH	NAS-036S	1 mL
N-Nitrosodi- <i>n</i> -propylamine-d <sub>14</sub>	93951-96-3	100	MeOH	NAS-D-001S	1 mL
N-Nitrosodiethylamine-d <sub>10</sub>	1219794-54-3	100	MeOH	NAS-D-003S	1 mL
N-Nitrosodi- <i>n</i> -butylamine-d <sub>18</sub>	1219798-82-9	100	MeOH	NAS-D-002S	1 mL
N-Nitrosodimethylamine-d <sub>6</sub>	17829-05-9	100	MeOH	NAS-D-004S	1 mL
N-Nitrosodiethanolamine-d <sub>8</sub>	1173019-53-8	100	MeOH	NAS-D-020S	1 mL
N'-Nitrosornicotine-d <sub>4</sub>	66148-19-4	100	MeOH	NAS-D-030S	1 mL
N-Nitrosodi- <i>n</i> -butylamine (NDBA)	924-16-3	100	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-147	1 mL
		2000	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-147-20X	1 mL
		500	Water	M-8015B-5031-20	1 mL
N-Nitrosodiethylamine (NDEA)	55-18-5	100	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-148	1 mL
		2000	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-148-20X	1 mL
		5000	MeOH	AS-E0334	1 mL
N-Nitrosodimethylamine (NDMA)	62-75-9	100	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-149	1 mL
		1000	MeOH	APP-9-149-M-10X	1 mL
N-Nitrosodiphenylamine	86-30-6	100	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-150	1 mL
		1000	MeOH	APP-9-150-M-10X	1 mL
		5000	MeOH	AS-E0060	1 mL
N-Nitrosodi- <i>n</i> -propylamine (NDPA)	621-64-7	100	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-151	1 mL
		2500	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-151-25X	1 mL
		5000	MeOH	AS-E0061	1 mL
N-Nitrosomethylethylamine	10595-95-6	100	CH <sub>2</sub> Cl <sub>2</sub>	APP-9-152	1 mL
		1000	MeOH	AS-E0974	1 mL

## ASTM Method D8456 - Nitrosamines in Water

ASTM D8456 is designed to test for N-nitrosamines in groundwater, surface water, wastewater influents, and wastewater effluents.

### Nitrosamines in Water

D-8456

2 µg/mL each in Water:Methanol (98:2)

1 mL

13 comps.

N-Nitrosodimethylamine  
 N-Nitrosomorpholine  
 N-Nitroso-*n*-methyl-4-aminobutyric acid  
 N-Nitrosopyrrolidine  
 N-Nitrosoethylmethylamine  
 N-Nitrosodiethylamine  
 N-Nitrosopiperidine

N-Nitroso-*n*-ethyl-2-propanamine  
 N-Nitrosodiisopropylamine  
 N-Nitrosodi-*n*-propylamine  
 N-Nitrosodi-*n*-butylamine  
 N-Nitroso-*n*-methylaniline  
 N-Nitrosodiphenylamine

### Nitrosamines in Water (IS)

D-8456-IS

2 µg/mL each in Water:Methanol (98:2)

1 mL

2 comps.

N-Nitrosodimethylamine-d<sub>6</sub>  
 N-Nitrosodiethylamine-d<sub>10</sub>

# Nitrosamine USEPA Methods

The USEPA has developed multiple test methods for the determination of Nitrosamines in drinking water, underground water and municipal and industrial wastewater. Monitoring contaminants such as NDMA, NDEA and other emerging nitrosamines is important for both regulation compliance as well as reducing exposure to these toxins.

## EPA Method 521 - Nitrosamines in Drinking Water by SPE and Capillary Column GC

### Analyte Stock Solution

M-521  
200 µg/mL each in CH<sub>2</sub>Cl<sub>2</sub>  
N-Nitrosodimethylamine  
N-Nitrosomethylethylamine  
N-Nitrosodiethylamine  
N-Nitrosodi-*n*-propylamine

1 x 1 mL  
7 comps.

N-Nitrosodi-*n*-butylamine  
N-Nitrosopyrrolidine  
N-Nitrosopiperidine

### Internal Standard Stock Solution

M-521-IS  
M-521-IS-PAK  
1.0 mg/mL in CH<sub>2</sub>Cl<sub>2</sub>  
N-Nitrosodi-*n*-propylamine-d<sub>14</sub>

1 x 1 mL  
SAVE 5 x 1 mL

### Surrogate Standard Stock Solution

M-521-SS  
M-521-SS-PAK  
1.0 mg/mL in CH<sub>2</sub>Cl<sub>2</sub>  
N-Nitrosodimethylamine-d<sub>6</sub>

1 x 1 mL  
SAVE 5 x 1 mL

## Method 607 - Nitrosamines in Wastewater by GC/NPD

### Nitrosamine Mix

M-607  
M-607-PAK  
At stated conc. (mg/mL) in MeOH  
N-Nitrosodimethylamine 0.2  
N-Nitrosodiphenylamine 0.4

1 x 1 mL  
SAVE 5 x 1 mL  
3 comps.

N-Nitrosodi-*n*-propylamine 0.2

## Method 8070A - Detection of Nitrosamines by NPD / Reductive Hall or TEA

### Nitrosamines

M-8070  
M-8070-PAK  
2.0 mg/mL each in MeOH  
N-Nitrosodimethylamine  
N-Nitrosodiphenylamine

1 x 1 mL  
SAVE 5 x 1 mL  
3 comps.

N-Nitrosodi-*n*-propylamine

### Nitrosamines Alternate Mix

M-8270-03-ASL  
2.0 mg/mL each in CH<sub>2</sub>Cl<sub>2</sub>  
N-Nitrosodi-*n*-butylamine  
N-Nitrosodiethylamine  
N-Nitrosodimethylamine

1 x 1 mL  
9 comps.

N-Nitrosodiphenylamine  
N-Nitrosodi-*n*-propylamine  
N-Nitrosomethylethylamine

N-Nitrosomorpholine  
N-Nitrosopiperidine  
N-Nitrosopyrrolidine

## Method 8270 - Nitrosamines in Aqueous Matrices by Capillary Column GC-MS

### Semi-Volatile by Capillary Column GC/MS Mix 1

M-8270-01  
2 mg/mL each in CH<sub>2</sub>Cl<sub>2</sub>  
Aniline  
Benzyl alcohol  
bis(2-Chloroethyl) ether  
bis(2-Chloroisopropyl) ether  
2-Chlorophenol  
1,2-Dichlorobenzene  
1,3-Dichlorobenzene  
1,4-Dichlorobenzene  
Ethylmethanesulfonate  
Hexachloroethane  
Methylmethanesulfonate  
o-Cresol  
p-Cresol  
N-Nitrosodimethylamine  
N-Nitrosodi-*n*-propylamine  
Phenol  
2-Picoline

1 x 1 mL  
17 comps.

### Semi-Volatile by Capillary Column GC/MS Mix 2

M-8270-02  
2 mg/mL each in CH<sub>2</sub>Cl<sub>2</sub>  
Acetophenone  
Benzoic acid  
bis(2-Chloroethoxy)methane  
4-Chloroaniline  
4-Chloro-3-methylphenol  
2,4-Dichlorophenol  
2,6-Dichlorophenol  
α,α-Dimethylphenethylamine  
2,4-Dimethylphenol  
Hexachlorobutadiene  
Isophorone  
2-Methylnaphthalene  
Naphthalene  
Nitrobenzene  
2-Nitrophenol  
N-Nitroso-di-*n*-butylamine  
N-Nitrosopiperidine  
1,2,4-Trichlorobenzene

1 x 1 mL  
18 comps.

### Semi-Volatile by Capillary Column GC/MS Mix 2 Rev.

M-8270-02-R1  
2 mg/mL each in CH<sub>2</sub>Cl<sub>2</sub>  
Acetophenone  
Benzoic acid  
bis(2-Chloroethoxy)methane  
4-Chloroaniline  
4-Chloro-3-methylphenol  
2,4-Dichlorophenol  
2,6-Dichlorophenol  
2,4-Dimethylphenol  
Hexachlorobutadiene  
Isophorone  
2-Methylnaphthalene  
Naphthalene  
Nitrobenzene  
2-Nitrophenol  
N-Nitrosodi-*n*-butylamine  
N-Nitrosopiperidine  
1,2,4-Trichlorobenzene

1 x 1 mL  
17 comps.

<https://www.accustandard.com/nitrosamine-standards>



# Nitrosamine EU and Chinese Methods

## EU Method EN 7112 - Nitrosamines in Toys Reference Standard

EN 7112 was published to provide test method specifications to help reduce N-Nitrosamines (N-NAs) exposure for children by quantifying traces of these dangerous toxins in toys such as finger paint and balloons.

### EN-7112

1000 µg/mL each in MeOH

1 x 1 mL

13 comps.

N-Nitrosodi- <i>n</i> -butylamine	N-Nitroso- <i>n</i> -ethylaniline
N-Nitrosodiethylamine	<i>n</i> -Nitrosodibenzylamine
N-Nitrosodimethylamine	N-Nitrosodiisopropylamine
N-Nitrosodi- <i>n</i> -propylamine	N-Nitrosodiethanolamine
N-Nitrosomorpholine	N-Nitroso- <i>n,n</i> -di(3,5,5-trimethylhexyl)amine
N-Nitrosopiperidine	N-Nitrosodiisobutylamine
N-Nitroso- <i>n</i> -methylaniline	

## Chinese GB/T 24153 and HJ 809 Nitrosamine Methods

### GB/T 24153 Nitrosamines Standard

GBS-003S

100 µg/mL each in MeOH

1 mL

12 comps.

N-Nitrosodimethylamine	N-Nitrosomorpholine
N-Nitrosodiethylamine	N-Nitroso- <i>n</i> -methylaniline
N-Nitrosodi- <i>n</i> -propylamine	N-Nitroso- <i>n</i> -ethylaniline
N-Nitrosodi- <i>n</i> -butylamine	N-Nitrosodibenzylamine
N-Nitrosopiperidine	N-Nitrosoethylmethylamine
N-Nitrosopyrrolidine	N-Nitrosodiphenylamine

### HJ 809 Nitrosamines Standard

GBS-004S

2000 µg/mL each in MeOH

1 mL

9 comps.

N-Nitrosoethylmethylamine	N-Nitrosodiphenylamine
N-Nitrosodi- <i>n</i> -butylamine	N-Nitrosomorpholine
N-Nitrosodi- <i>n</i> -propylamine	N-Nitrosopiperidine
N-Nitrosodiethylamine	N-Nitrosopyrrolidine
N-Nitrosodimethylamine	



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