

FT-CA7461



**interchim**®

INTERFINE CHEMICALS   ANALYTICAL SCIENCES   BIOCHROMATOGRAPHY   LIFE SCIENCES

☎ +33 4 70 03 73 06   ✉ interbiotech@interchim.com   🌐 www.interchim.com

## NDSB (Non Detergent SulfoBetaines)

### Products Description

NDSB are non denaturing solubilization agents (but not considered detergents sensu stricto) that have found new applications in protein biochemistry and proteomics research:

- Crystallization formulations of proteins, peptides and nucleic acids
- extraction, solubilization, electrophoresis

Cat.Number	Product name	MW (g·mol <sup>-1</sup> )	Structure
CA7461, 5g CA7462, 10g	<b>NDSB-195</b>	195.3	Dimethylethylammonium-1-propanesulfonate; CAS:[160255-06-1]
BX3721, 5g BX3723, 100g	<b>NDSB-201</b>	201.2	3-(1-Pyridino)-1-propane sulfonate, PPS; CAS:[15471-17-7]; EC:[ 239-491-3 ]
DT9820, 1g DT9821, 5g DT9822, 10g	<b>NDSB-211</b>	211.3	Dimethyl-2(-Hydroxyethyl)-(3-Sulfopropyl)-ammonium, Inner Salt; CAS: [38880-58-9]; EC[254-176-0 ]
BN7891, 5g BN7982, 10	<b>NDSB-221</b>	221.3	3-(1-Methylpiperidinium)-1-propane Sulfonate; CAS:[160788-56-7];
BN4051, 5g BN4052, 10g	<b>NDSB-256</b>	257.4	Dimethylbenzylammonium propane sulfonate; PDA CAS:[ 81239-45-4]
Inquire	<b>NDSB-256-4T</b>	257.4	3-(4-tert-Butyl-1-pyridinio)-1-propanesulfonate CAS: 570412-84-9
WZ7530, 1g each , 5g each	<b>NDSB sampler set</b>		

**Storage:** Room temperature  $\zeta$

### Technical information

The NDSB are a group of zwitterionic compounds, containing a hydrophilic sulfobetaine group and a short hydrophobic group. NDSBs possess a good solubility in water, typically greater than 2M, and do not alter significantly the pH or viscosity of biological buffers. They can easily be removed by dialysis since they do not form micelles. This confer unique properties:

NDSB can:

- increase greatly the solubility (i.e. for lysozyme) [6](#)
- increase the yields of membrane, nuclear, and cytoskeletal-associated proteins
- prevent non-specific interactions of proteins.

FT-CA7461

- prevent aggregation, or not disrupt strongly aggregated proteins
- substitute for sodium chloride (i.e. for isolation of halophilic proteins)
- be useful additives for crystal growth [7](#), increasing its size or even allowing new crystal forms [6](#)

1. Goldberg, M.E., et al. 1995. Folding & Design 1, 21.
2. Vuillard, L., et al. 1995. Anal. Biochem. 230, 290.
3. Vuillard, L., et al. 1995. Biochem. J. 305, 337.
4. Vuillard, L., et al. 1994. FEBS Lett. 353, 294.
6. J.Cryst Growth (1996) vol 168 pp 150-154
7. Anal. Biochem. (1995) 230, 290

## Handling and Storage

Store at room temperature.

NDSB are hygroscopic. Protect from moisture.

## Applications

Thanks to their amphiphilicity, Non detergent sulfobetaines (NDSB) can reduce aggregation and aid in refolding proteins found in inclusion bodies and bacterial expression systems. With their short hydrophobic group, NDSBs cannot aggregate to form micelles, hence NDSBs are not considered detergents. NDSBs increase the extraction yield ( up to 30%) of membrane, nuclear and cyto-skeletal associated proteins. The short hydrophobic groups combined with the charge neutralization of the sulfobetaine group results in higher yields of membrane proteins. NDSB have been used in refolding and renaturation of chemically and thermally denatured proteins.

Typical useful NDSB concentration in protein sample is 0.5-1.0 M.

## Guidelines for use - Crystallisation

NDSB must be added before the precipitant.

If a previously successful crystallization or precipitation does not occur after addition of NDSB, do not be alarmed. NDSBs are solubilizing agents. Gradually increase the concentration of precipitant until crystals (or precipitate) appear.

NDSB are very soluble in water, typically greater than 2.0 M.

Formulated NDSB solution can be sterilized by filtration (0.22 micron) into a sterile container to prevent contamination. But NDSB may degrade in a matter of several weeks at room temperature in solution.

NDSB used at high concentrations (0.5-1 M) should not perturb the pH of properly buffered solutions. However, some pH drift is possible in poorly buffered systems (e.g. 10 mM Tris-HCl pH 7), so ensure at least 25 mM of buffer is present and that pH is within 0.5 pH unit of buffer pK.

## Safety

NDSB-201 [MSDS](#) GH507, Xn, H319

NDSB-211

## Related / associated products and documents

[Detergents & Extraction](#) []

See [BioSciences Innovations catalog](#) and [e-search tool](#).

## Ordering information

Catalog size quantities and prices may be found at <http://www.interchim.com>.

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06

**Disclaimer** : Materials from Uptima are sold **for research use only**, and are not intended for food, drug, household, or cosmetic use.

Uptima is not liable for any damage resulting from handling or contact with this product.

Rev.N06E-I08E