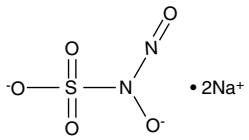
Product Information

Sulpho NONOate

Item No. 83300

Formal Name:	disodium (E)-1-sulfonatodiazen-1-ium-1,2-diolate
MF:	$N_2O_5S \bullet 2Na$
FW:	186.1
Purity:	≥90%
Stability:	≥1 year at -80°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 259 nm
Misc:	Moisture, light, and oxygen sensitive



Laboratory Procedures

For long term storage, keep Sulpho NONOate sealed under nitrogen at -80°C. It should be stable for at least one year. The crystals are sensitive to moisture and should be stored in an inert atmosphere.

Sulpho NONOate dissociates to sulfate and nitrous oxide in a pH-dependent manner following first order kinetics. The decomposition is also catalyzed by borate anion.[1] Alkaline solutions of NONOates (in 0.01 M NaOH) are very stable and can be stored at 0°C for 24 hours. Sulpho NONOate is highly soluble in water and relatively concentrated solutions can be prepared for further dilution. To initiate the release of nitrous oxide, add a portion of the stock alkaline solution of Sulpho NONOate to excess buffer of pH 7.0-7.4. The half-life of Sulpho NONOate is 7 minutes at 37°C in 0.1 M phosphate buffer (pH 7.4). The decomposition of the NONOate is nearly instantaneous at pH 5.[2]

The intact Sulpho NONOate has a characteristic UV absorbance with an absorbance maximum at 259 nm (ε = 8,500 $M^{-1}cm^{-1}$), permitting quantitation in aqueous solutions.[2] The concentration of the basic stock solution of Sulpho NONOate can be measured by UV if there is any uncertainty about the condition under which it was prepared or stored.

Unlike other NONOates, Sulpho NONOate produces nitrous oxide but no nitric oxide at physiological pH. Therefore, Sulpho NONOate may be used as a negative control in experiments using other nitric oxide releasing NONOates.[1-3]

References

1. Switkes, E.G., Dasch, G.A., and Ackermann, M.N. Kinetics of boric acid catalyzed decomposition of the *N*-nitrosohydroxylamine-*N*-sulfonate ion. *Inorg. Chem.* **12**, 1120-1123 (1973).
2. Maragos, C.M., Morley, D., Wink, D.A., *et al.* Complexes of •NO with nucleophiles as agents for the controlled biological release of nitric oxide. Vasorelaxant effects. *J. Med. Chem.* **34**, 3242-3247 (1991).
3. Maragos, C.M., Wang, J.M., Hrabie, J.A., *et al.* Nitric oxide/nucleophile complexes inhibit the *in vitro* proliferation of A375 melanoma cells via nitric oxide release. *Cancer Res.* **53**, 564-568 (1993).

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