

RHODAMINE 560

Synonym: 2-(6-amino-3-imino-3H-xanthen-9-yl)-benzoic acid, monohydrochloride; 2-(6-amino-3-imino-3H-xanthen-9-yl)-benzoic acid, monochloride or perchlorate; Rhodamine 110

Catalog No.: 05600 (chloride); 05601 (perchlorate)

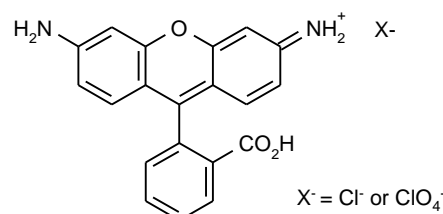
CAS No.: 13558-31-1 (05600); Not available for the perchlorate

Chemical Formula: C₂₀H₁₄N₂O₃.HCl (05600); C₂₀H₁₄N₂O₃.HClO₄ (05601)

MW: 366.80 (05600); 430.80 (05601)

Appearance: Red crystalline solid (05600); Brick red crystalline solid (05601)

Structure:

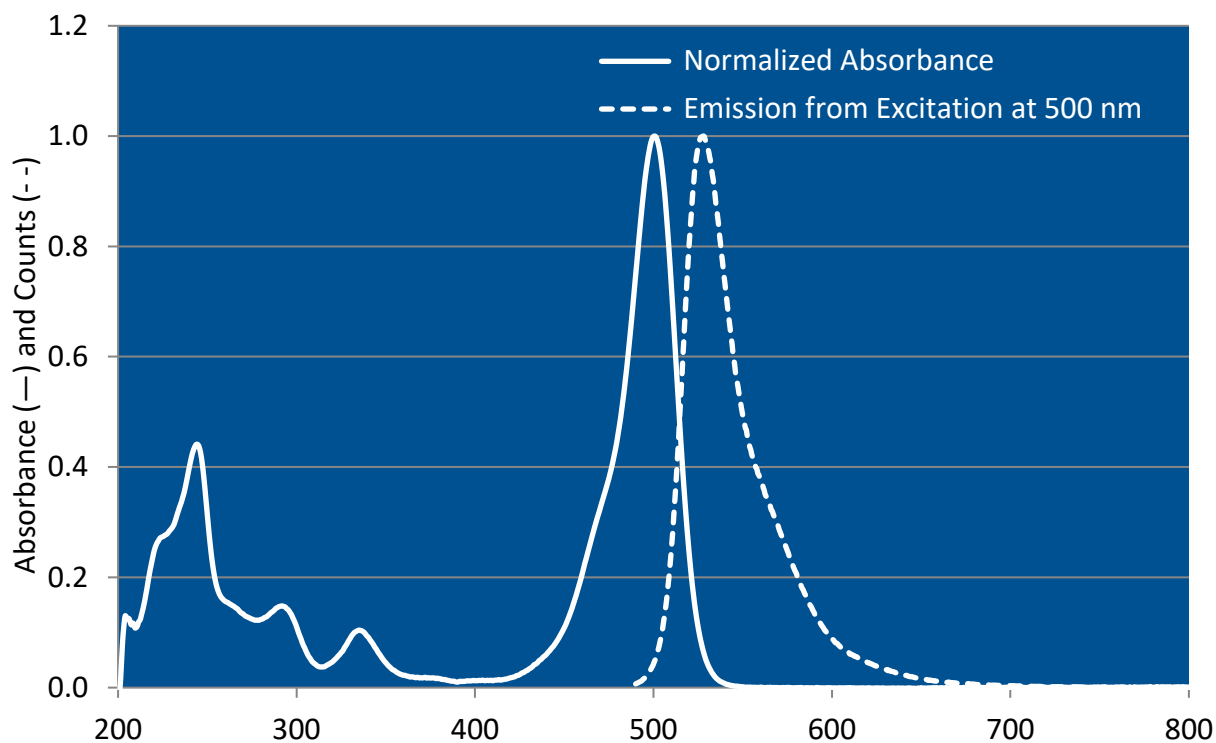


Max. Lasing Wavelength (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
554	530-580	FL ⁶⁹	Methanol	4 x 10 ⁻⁵	506 ^m	532 ^e
560		FL ²⁷	Ethanol(basic)			
565	544-589	FL ³	Methanol	5 x 10 ⁻⁵		
567	546-587	FL ³	Ethanol	5 x 10 ⁻⁵		
570		FL ²⁷	Ethanol(acidic)			
555	542-578	XeCl(308) ¹¹⁰	Methanol	3 x 10 ⁻³		
	555-580	Nd:YAG(532) ¹²¹	Ethanol			
563	541-583	Nd:YAG(532) ⁵³	Methanol			
570	550-590	N ₂ (337) ¹⁸³	Methanol	52mg/20ml		
540	529-585	Ar(Blue/Green) ¹²³	LO/EG,3/1 + COT			
567	535-600	Ar(458-514) ²⁰⁶	EG/MeOH,19/1	2 x 10 ^{-3*}		
569	533-600	Ar or Kr(Blue/green) ⁶⁸	EG	80% pump absorption		
570	540-600	Ar(458,514) ¹⁷	EG	1.25 x 10 ⁻³		
572	536-602	Ar(cw) ¹⁴	EG			
541	529-570	Cu(511) ¹⁵³	Methanol	2.7 x 10 ⁻⁴		
550	528-574	Cu(511) ¹⁷⁵	Methanol	2.5 x 10 ⁻⁴		

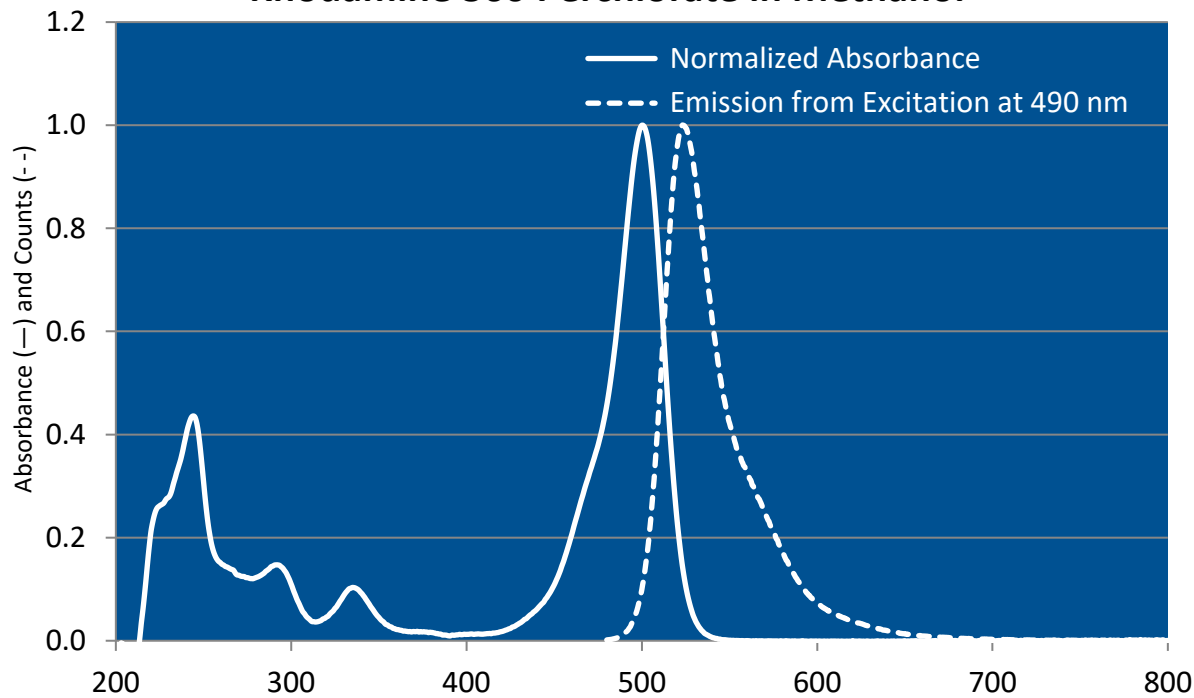
* This represents a maximum value. Concentration should be adjusted to 80-85% absorption of the pump light.

LO = Ammonyx LO; EG=Ethylene Glycol; MeOH = methanol; COT = cyclooctatetraene; e=ethanol; m=methanol

Rhodamine 560 Chloride in Methanol



Rhodamine 560 Perchlorate in Methanol



The information presented above is believed to be accurate but is not a specification. The customer is fully responsible for determining the suitability of this product for use in their application. Exciton, Inc. does not represent that the information is sufficient or complete for any specific application.

Quantum Yields and Lifetimes

Absorbance (nm)	Emission (nm)	Quantum Yield (max = 1.0)	Solvent	Lifetime (ns)	References, Notes
	524	0.92	Basic Ethanol		R-8 Fluorescent quantum yield relative to QSH (ff 0.55) at 25 degrees C; 1.85x10 ⁻⁷ M

REFERENCES:

3. Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
14. CW Laser Emission Spanning the Visible Spectrum, J.M. Yarborough, *Appl. Phys. Lett.*, 24(12), 629 (1974). a. With Rhodamine 6G
17. Spectra-Physics, 1250 W. Middlefield Road, Mountain View, CA 94039
27. What's Ahead in Laser Dyes, K.H. Drexhage, *Laser Focus*, 9(3), 35 (1973)
53. Continuum, 3150 Central Expressway, Santa Clara, CA 95051, formerly, Quantel International
68. Coherent Inc., 3210 Porter Dr., Palo Alto, CA 94304
69. Candela Laser Corporation, 530 Boston Post Road, Wayland, MA 01778-1833
110. Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3
121. High-Power Tunable Dual Frequency Laser System, J.P. Sage and Y. Aubry, *Optics Commun.*, 42(6), 428 (1982)
123. Powerful Single-Frequency Ring Dye Laser Spanning the Visible Spectrum, T.F. Johnston, Jr., R.H. Brady and W. Proffitt, *Appl. Optics*, 21(13), 2307 (1982)
153. Cooper LaserSonics, Inc. 5674 Sonoma Drive, Pleasanton, CA 94566
175. CVL-Pumped Dye Laser For Spectroscopic Application, M. Broyer, J. Chevaleyre, G. Delacretaz and L. Wöste, *App. Phys. B*, 35, 31 (1984)
183. Thermo Laser Science, 26 Landsdowne Street, Cambridge, MA 02139
206. Coherent Inc., 3210 Porter Dr., Palo Alto, CA 94304; (599 Composite Tuning Curves, 1992; The concentration shown represents a maximum value. The final concentration should be adjusted to obtain 80-85% absorption of the pump light.)
- R-8. Fluorescence Quantum Yields of Some Rhodamine Dyes, R.F. Kubin and A.N. Fletcher, *J. of Luminescence* 27, 455 (1982), [https://doi.org/10.1016/0022-2313\(82\)90045-X](https://doi.org/10.1016/0022-2313(82)90045-X)

For a current list of biology, biological stain, or biochemistry references for Rhodamine 560 from PubMed, click on the following link:

[Rhodamine 560 or Rhodamine 110](#) (all references in PubMed use the name Rhodamine 110)