

Comments concerning the various forms of the Rhodamine dyes offered by Exciton.

1. Some chloride salts of rhodamine dyes are more reactive toward metal components in a laser system, such as aluminum or brass. This is especially true of Rhodamine 560 Chloride. If the laser system consists of stainless steel and plastic, either salt form can be used.
2. In the case of Rhodamine 560 (110), the perchlorate form of the dye is much more stable and is the preferred dye.
3. The other major difference is solubility. Generally, the chloride form is more soluble and easier to use. In cases where the chloride salt cannot be used because of its reactivity toward components in the laser system, the tetrafluoroborate is recommended since it is generally more soluble than the perchlorate.

<u>Dye</u>	<u>Solubility (grams/liter)</u>		
	<u>Methanol</u>	<u>Ethylene Glycol</u>	<u>Ethanol</u>
Rhodamine 560 (110) Chloride	31	55	15
Rhodamine 560 Perchlorate	22	33	4.9
Rhodamine 590 (6G) Chloride	665	>44	45
Rhodamine 590 Tetrafluoroborate*	19	3.8	2.4
Rhodamine 590 Perchlorate	5	>0.8	0.74
Rhodamine 610 (B) Chloride	107	~71	23
Rhodamine 610 Tetrafluoroborate	70	19	10
Rhodamine 610 Perchlorate	27	10.5	6.7
Rhodamine 640 Perchlorate	10	~5.5	2.4

* in cases where the chloride salt cannot be used, the tetrafluoroborate is recommended over the perchlorate since its solubility is generally better