
Review of Tom Perigrin's *Introductory Practical Pyrotechnics*

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As a pyrotechnist who has a rather public persona on the Internet, I am often called upon to recommend a book on the craft of fireworks to beginning pyrotechnicians. This was always a problem because the available literature was either too advanced or too dated to be really suitable. This gap in the literature was filled with the publication in 1996 of *Introductory Practical Pyrotechnics* by Tom Perigrin.

In this small book of 200 information-filled pages, Mr. Perigrin more than lives up to the promise of the book's name. Although he is a Professor of Chemistry at a leading University, he makes no presumptions on the readers background—this book is readily accessible to anyone who can read. The book was designed to be the lab manual for a practical course in pyrotechnic chemistry and proceeds through a series of very specific projects beginning with making Black Powder by the "CIA method", then progressing through a series of progressively more challenging projects up to the level of small aerial shells.

As the reader works through these projects they will acquire not only the knowledge of how to make fireworks devices, but also how to build much of their own tooling, and perhaps most important, how to incorporate appropriate safety measures into every step of their work. Given the inherently dangerous nature of pyrotechnic compositions, this strong emphasis on safety is more than welcome in an introductory text.

If Mr. Perigrin had stopped with only the practical projects portion of the book, he would have produced an extraordinarily useful addition to the pyrotechnic literature. Instead, he went on to add sections on basic pyrotechnic chemistry, properties of common pyrotechnic chemicals, a bibliography (including an excellent anti-bibliography of dangerous fringe texts), and several useful appendices.

The section on pyrotechnic chemistry is very well presented and demonstrates Mr. Perigrin's talent for presenting complex material very clearly, without intimidating those with a weak chemistry background. References are provided to more rigorous texts, along with a strong recommendation that they be consulted before the reader proceeds into experimental formulations.

The appendices are the part of the book that I keep coming back to. The first appendix "For-

mulations" gives 49 pyrotechnic formulations selected from the pyrotechnic literature based upon their safety, efficacy, and reliability. The formulations are all given in a very clear presentation, along with references to their original publications.

Appendices 2 and 3 give a concise reference to chemical nomenclature and chemical names and abbreviations which is very useful to those of us with a less than stellar chemistry education. Appendix 4 digests some of the most relevant parts of the BATF Orange Book [*ATF-Explosives Law and Regulations*, Bureau of Alcohol, Tobacco, and Firearms, Department of the Treasury, ATF P 5400.7 (6/90)] into a concise reference. Appendix 5 is a table of screen sizes, something that can be infuriatingly hard to find when you need it. I would suggest to Mr. Perigrin that a table of Black Powder granulations for the sporting and blasting grades would make an excellent Appendix 6.

In summary, Mr. Perigrin has done the world of amateur pyrotechnics an immeasurable service by providing this excellent introductory text. It makes a great gift for the aspiring pyrotechnician and is filled with choice nuggets of information for the more experienced pyrotechnician. It is highly recommended.