PT. MERTEX is a company which manufactures fabric or textile goods. PT. MERTEX haven’t a place in accordance with the chemical quantity condition, consequently, that chemical substances put in a places that not be used as a chemical storage. So that needs to be designed a temporary storage chemical place. To solve the problem, in this research will be designed a toxic and hazardous chemicals storge at this company. The design was adapted from design standart of the industrial chemical storage. Designing start from to classified chemical compatibility with CRW software. After that, designed the building complements such as industrial vents, lightning protection instalation, and chemical labeling. Based on the chemical classification using CRW software, the chemical storage divided into 6 rooms with the total building area is 7.059.600 cm$^2$. The ventilation system needs 17 pieces exhaust fan APW-54 type which is have a speed of 60 000 ft$^3$/min for a total rooms. The lightning protection instalation require 7 pieces air terminal, 14 pieces down conductor, and 4 pieces rod type grounding electrode.