

ABSTRAK

PT Petrokimia Kayaku adalah salah satu perusahaan pestisida dan produk hayati terkemuka di Indonesia yang berkedudukan di Gresik, Jawa Timur. Perusahaan mampu memproduksi berbagai macam formulasi pestisida seperti *soluble liquid* (SL), *suspension concentrate* (SC). Sebagai produsen produk pestisida, PT Petrokimia Kayaku berusaha untuk selalu meningkatkan keunggulan kompetitif agar dapat bersaing dengan kompetitornya.

Penelitian ini menggunakan pendekatan kualitatif deskriptif dan bertujuan memberikan analisis penyebab kecacatan pada lini *packing* tutup dan botol plastik dengan metode *Six Sigma* dengan memberikan rekomendasi berdasarkan hasil penggunaan *defect per million opportunities* (DPMO) untuk meneliti tingkat kinerja perusahaan dalam mengelola tingkat kecacatan dan menghasilkan produk pestisida ke tingkat cacat nol (*zero defect*).

Dari hasil penelitian diperoleh ada tiga jenis kecacatan (CTQ) pada tutup yaitu tutup botol retak atau pecah, ring patah, dan aluminium foil tidak mau menempel pada tutup menunjukkan nilai DPMO sebesar 7.154 dan nilai sigma 3,95. Selanjutnya, terdapat dua jenis kecacatan (CTQ) pada botol plastik yaitu botol penyok dan bibir botol plastik terlalu tebal atau tipis dengan nilai DPMO sebesar 3.824 dan nilai sigma 4,17. Perusahaan diberikan usulan perbaikan yang tepat dengan menggunakan matriks *Theory of Inventive Problem Solving* (TRIZ) sebagai upaya meminimalkan kecacatan tersebut.

Kata kunci : *Defect, Critical to quality (CTQ), Nilai kapabilitas sigma, Defect per million opportunity (DPMO), Six Sigma, Theory of inventive problem Solving (TRIZ)*

ABSTRACT

PT Petrokimia Kayaku is one of the leading pesticide and biological product companies in Indonesia based in Gresik, East Java. The company is able to producing various kinds of pesticide formulations such as soluble liquid (SL), suspension concentrate (SC). As a manufacturer of pesticide products, PT Petrokimia Kayaku always tries to increase competitive advantage in order to compete with the competitors.

This study uses a descriptive qualitative approach and study focuses on providing an analysis of the causes of defect in the bottles cap and plastik bottles with the Six sigma method by providing recommendations based on the results of the use of defect per million opportunities (DPMO) to examine the level of company performance in managing disability levels and producing pesticide products to zero defect rates (zero defect).

From the research results, there were three types of defect (CTQ) on the lid, namely the bottle cap was cracked or broken, the ring was broken, and the aluminium foil did not stick to the lid showing a DPMO value of 7.154 and a sigma value of 3,95. Furthermore, there are two types of defects (CTQ) in plastic bottles, namely a dented bottle and a lip of a plastic bottle that is too thick or thin with DPMO value of 3.824 and a sigma value of 4,17. The company is given the right improvement proposal using the matrix *Theory of Inventive Problem Solving* (TRIZ) as an effort to minimize the defects.

Keywords : *Defect, Critical to quality (CTQ), Value of capability sigma, Defect per million opportunity (DPMO), Six Sigma, Theory of inventive problem Solving (TRIZ)*