

**OPTIMASI PRODUKSI MINYAK IKAN LEMURU (*Sardinella longiceps*)  
TERPAPAR PLASMA *NON-THERMAL*, KARAKTERISASI DAN UJI TOKSISITASNYA  
DENGAN METODE *BRINE SHRIMP LETHALITY TEST* (BSLT)**

**ABSTRAK**

Telah dilakukan penelitian tentang optimasi produksi minyak ikan lemuru (*sardinella longiceps*) terpapar plasma *non-thermal*, karakterisasi dan uji toksisitasnya terhadap larva *Artemia salina leach*. Isolasi minyak ikan dilakukan dengan metode ekstraksi *soxhlet* menggunakan pelarut kloroform dengan variasi waktu paparan plasma 0, 10, 20, 30 dan 40 menit pada tekanan atmosfer. Produksi optimum minyak ikan terjadi pada paparan plasma 20 menit sebesar 38,45 % (b/b) dengan karakter densitas sebesar 1,186 g mL<sup>-1</sup>, viskositas 0,649 Nsm<sup>-2</sup>, bilangan penyabunan 248,303 dan LC<sub>50</sub> 28,766 ppm. Hasil analisis GC-MS menunjukkan komposisi asam lemak mayor penyusun minyak ikan adalah asam miristat, asam palmitoleat, asam palmitat, asam oktadek-10-enoat dan asam isostearat. Adanya paparan plasma meningkatkan produksi minyak ikan.

*Kata kunci : lemuru, plasma, minyak ikan, asam lemak*

**OPTIMIZATION OF LEMURU FISH OIL (*Sardinella longiceps*) PRODUCT  
EXPOSED BY *NON-THERMAL* PLASMA, CHARACTERIZATION AND  
TOXICITY TEST BY *BRINE SHRIMP LETHALITY TEST* (BSLT) METHOD**

**ABSTRACT**

It has been done research of the product optimization of lemuru fish oil (*sardinella longiceps*) after exposure with non thermal plasma, characterization and toxicity test against *Artemia salina leach* larvae. Isolation of fish oil was conducted by soxhlet extraction method using chloroform with the variation plasma exposure for 0, 10, 20, 30 and 40 minutes at atmospheric pressure. Optimum production of the oil had been reached on plasma exposure of 20 minutes, that was of 38.45 % (w/w) with density of 1.186 g mL<sup>-1</sup>, viscosity of 0.649 Nsm<sup>-2</sup>, saponification number and LC<sub>50</sub> were 248.303 and 28.766 respectively. The data of GC-MS showed composition of major constituent of fatty acids were miristic acid, palmitoleic acid, palmitic acid, 10-octadecenoic acid and isostearic acid. The plasma exposure increased the fish oil production.

*Key words : lemuru, plasma, fish oil, fatty acid*