

# 31<sup>ST</sup> MATERIALS SCIENCE AND ENGINEERING CONFERENCE: ADVANCEMENT & INNOVATIONS

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## Naval vest

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Life vests are the most reliable suits during water emergencies, such as boating, swimming (in case of non-swimmers), etc. But I have found some deadly errors in common life vests. To overcome this problem, I have observed the problems of common life vests and made the naval vest without any problem. My objective was to make new generation multipurpose and more efficient life vest. After my research, I have found a special polymer. I have used this special material in my innovation. This is expanded polyethylene which is made of petroleum. It is a hydrocarbon  $\{(C_2H_4)_n\}$ . The density of this polyethylene is very less, even less than water. The capillarity of this material is nil. That is why it does not absorb water even after being in it for a long time. For these specialties it is more suitable for naval vest than any other material. To make this vest, this material is dressed up with non-permeable synthetic nylon cloth. Additionally I have attached one pair of hand gloves made of synthetic nylon cloth over the vest. Now I can claim that this vest will create its own space among people and it will contribute something valuable in the field of sustainable development by saving lives of mankind.

### The novelty in present naval vest

- Floats on water even after receiving damage.
- Includes hand gloves with no space between two fingers, so that the sufferer will be able to swim in huge waves with ease.
- Cost effective and affordable.
- Easy to carry.
- Use of eco-friendly materials for a sustainable globe.

### Materials used

- Expanded polyethylene (EPE Foam)
- Synthetic nylon clothes
- Thread
- Glue

### Biography

Kaustav B. Arya was Former child scientist of national children's science congress-2017. He is Member of American Physical Society and currently undergoing research in different innovations in material science associated with Institute of Advanced Study In Science and Technology, India.

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