



## A Study on Skin Decontamination Cream For Formulation Development And Evaluation

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**Abstract:** The expanding usage of radioactive materials in the fields of research, medicine, nuclear power plants, and industry has raised the risk of unintentional exposure to radioactive elements in the environment. Terrorist groups' deliberate use of radioisotopes might result in the exposure or contamination of a significant proportion of the population. A self-contained decontamination formulation is essential because of the risk of accidental contamination, and it must be used as quickly as possible in order to prevent further contamination. Formulation development and assessment calls for skin decontamination cream, and the current effort is aimed at improving and developing that product further.

• **Index Terms - Cream, decontamination factor, Intact/Broken Skin, NRE, Formulation of cream**

### 1.1 Introduction

The skin covers the biggest area of the body's organs. A huge physical barrier, the skin protects the body from temperature, chemical, mechanical, and microbial influences [1]. The body's physiological condition, however, may be affected by any or all of these variables [2]. As the ozone layer in the stratosphere thins due to human activity, harmful UV radiation can reach the earth's surface. Skin disorders and ageing, including melanoma and other malignancies, were also induced by the increased UV exposure. There is a lot of UVA and UVB radiation on the Earth's surface, and they can have biological effects. In the stratosphere, UVC is absorbed by ozone, which prevents it from reaching the Earth's surface. Because the skin is a mirror of an individual's physical appearance, taking care of it perfectly is extremely important owing to the skin's repeated exposure to UV radiation. Because human skin is such a sensitive organ, UV radiation easily affects it. UV light absorbed by proteins, lipids, DNA, RNA, aromatic amino acids melanin, water, like tryptophan and tyrosine; transurocanic acid; and other chromophores in the skin. By applying cosmetic items to the skin, it protects it from external and endogenous toxic elements while also enhancing its beauty and attractiveness [3]. Cosmetic goods not only enhance the look of the skin on the outside, but they also extend the life of good health by preventing skin diseases. The skin care formulations nurture the skin's health, texture, and integrity by hydrating, preserving skin elasticity by reducing type I collagen, and providing photoprotection, among other things. These cosmetic qualities are attributable to the presence of synthetic or natural components in skin care formulations, which assist to decrease the appearance of free radicals in the skin and maintain skin properties over time. The greatest option for reducing skin problems such as skin wrinkling rough skin texture is cosmetic goods and, skin ageing.