

The world's highest radiation-resistant lubricants  
 supporting decommissioning of the nuclear reactor  
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**Abstract**

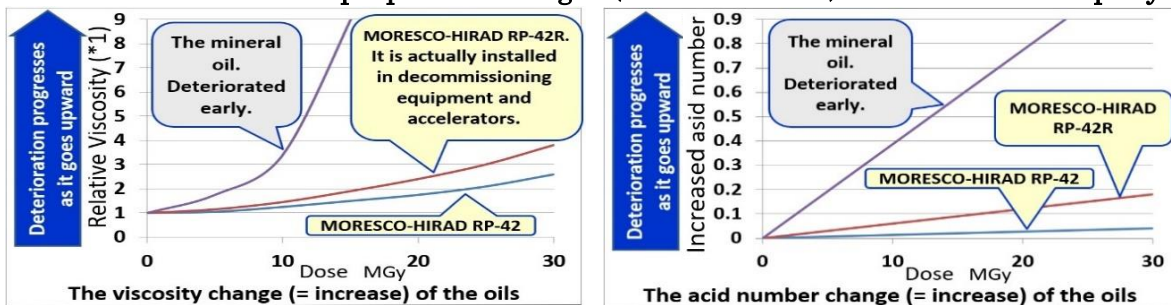
Excellent radiation-resistant lubricants are essential for equipment in high-dose areas. The lubricants, "MORESCO-HIRAD"s showed the world's highest radiation resistance, not only against a  $\gamma$  ray but also a neutron-dominated mixed ray. Accordingly, it has been comprehensively installed in the debris retrieval devices.

**1. Introduction**

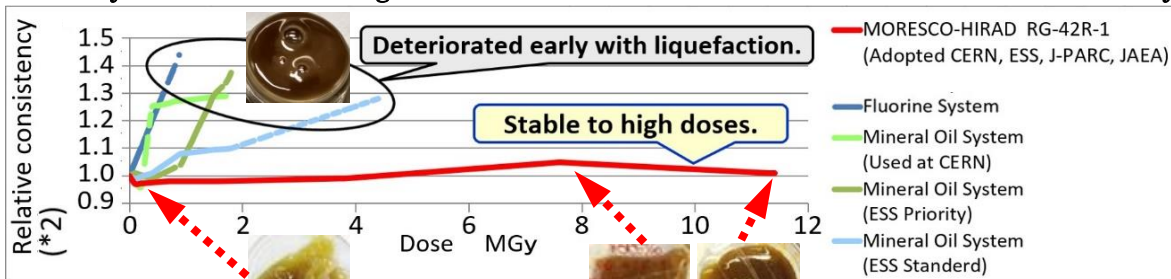
It is shown below as the changes in each lubricant's properties depending on the doses that the obtained data from the concerted studies with JAEA or the European accelerator projects. A lubricant having less change in its properties even at a high dose has an excellent resistance.

**2. The irradiation-evaluations and the findings for the lubricants**

**2-1. With JAEA ~ The properties changes (= deterioration) of the oils with a  $\gamma$ -ray**



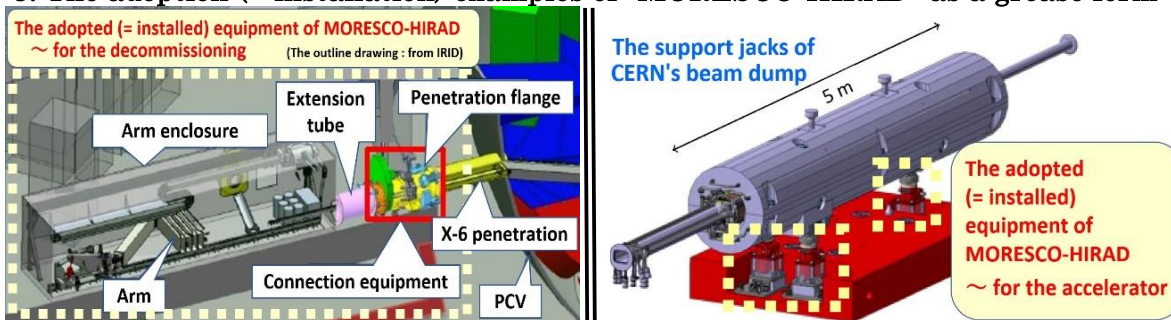
**2-2. With the European accelerator projects, CERN & ESS ~ The greases' consistency (=hardness) changes (= deterioration) with a neutron-dominated mixed ray**



(\* The appearances of RG-42R-1 for each dose )

(\*1) and (\*2) is calculated with each sample's respectively value at the time of non-irradiation as "1".

**3. The adoption (= installation) examples of "MORESCO-HIRAD" as a grease form**



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