
Script dual-use animatie

Do you know the difference between:

- dual-use,
- dual-use materials
- dual-use research,
- and dual-use research of concern?

And how export control relates to these terms?

This animation explains the terminology used for dual-use in the life sciences.

The term dual-use means that knowledge, information, methods, products, or technologies generated for peaceful and legitimate purposes may be misused for harmful purposes.

A dual-use example is a kitchen knife. that can be very helpful when cooking, but it can also be misused to injure someone.

Dual-use research refers to well-intended research that can also be misused, such as how to sharpen a knife. The physical material being studied is called dual-use material, in this case, the knife and the knife sharpener.

Life science research is essential for medical, biological, and agricultural developments. However, research activities intended for beneficial use could also be applied for harmful purposes.

An example of dual-use research in the life-sciences is certain gain-of-function research that aims to modify biological materials to acquire new phenotypic characteristics, such as increased transmissibility or drug resistance.

Research requiring only minor or no modifications to be misapplied for harmful purposes is called dual-use research of concern (DURC).

An example of DURC is the reconstruction of the flu virus causing the influenza pandemic in 1918. The study intended to obtain fundamental knowledge to advance medical sciences. However, the publication of the genetic sequence and the reconstruction method has the potential to facilitate misuse.

Knowledge, information, methods, products, or technologies with dual-use potential can be subject to a set of regulations overseeing the export of security sensitive items or knowledge. This is called export control.

Export control concerns both tangible goods and so-called intangible technology transfer and is controlled by national regulations, the EU export regime, and international agreements.

Just like dual use itself, export control applies not only to life sciences, but for example also to chemistry and radiology.

Identifying dual-use potential can be challenging and starts with awareness of the various terms.

For more information about dual-use, consult your biorisk management advisor or visit the Biosecurity Office website.