

Note on Radiopharmaceuticals Used for Equine PET Studies with MILE-PET®

August 23, 2022

Warning

All calculations shall be reviewed by a qualified professional possessing the knowledge of the national, state, and local radioactive material licensing regulations and practices.

Radiopharmaceuticals

Typically, the following radiopharmaceuticals and radioisotopes shall be listed on the radioactive materials license:

^{18}F – in the chemical form of ^{18}F -Sodium Fluoride	(^{18}F -NaF)	“Bone tracer”
^{18}F – in the chemical form of ^{18}F -Fluorodeoxyglucose	(^{18}F -FDG)	“Soft tissue tracer”

Typical injected amounts per study

^{18}F -NaF:	15-25mCi	555-925MBq
^{18}F -FDG:	20-25mCi	740-925MBq

Radioisotope License Limits (^{18}F -based radiopharmaceuticals):

^{18}F has a half-life of 109.8min, less than 2 hours. A calculation of appropriate limits shall be made by a qualified professional depending on the radiopharmaceutical delivery schedule, number of horses to be imaged, injected amounts, and other pertinent factors.

Quality Assurance (QA) Source

Germanium-68 (^{68}Ge) sealed cylinder source used for daily QA of MILE-PET® shall also be listed on the license:

Manufacturer:	Sanders Medical Physics, Inc., Knoxville TN, USA
Amount:	0.5mCi (18.5MBq)
Model:	Ge-68 PET-6C9/0.5

Suggested Radioisotope License Limits (Germanium-68 QA phantom):

Germanium-68 (Sealed Cylinder Source):	2mCi (74MBq)
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