Australian Government
Department of Agriculture, Fisheries and Forestry

Transmissible Spongiform Encephalopathy (TSE) risk categories of tissues and fluids

Adapted from:	The European Medicines Agency (EMA) *Note for guidance on minimising the risk of transmitting animal spongiform encephalopathy agents via human and veterinary medicinal products* (EMA/410/01 Rev. 3) and the *World Health Organisation (WHO) Guidelines on Tissue Infectivity Distribution in Transmissible Spongiform Encephalopathies* (WHO, 2006).
Note:	Unless otherwise specified, the following list applies to tissues from species naturally susceptible to TSEs. Tissues not listed may be assessed by the department on a case-by-case basis.
Note:	Due to extreme tissue tropism of chronic wasting disease in deer, all non-neural tissues will only be considered by the department on a case-by-case basis.

Category A (High infectivity)

Brain, spinal cord, eye, retina, optic nerve, trigeminal ganglia, spinal ganglia, pituitary gland$^{\alpha}$, dura mater$^{\alpha}$, pineal gland, [skull, vertebral column]$^{\eta}$, distal ileum$^{\delta}$

Category B (Lower infectivity)

Ileum (proximal), lymph nodes, proximal colon, spleen$^{\iota}$, tonsil, cerebrospinal fluid, adrenal gland, distal colon, stomach, nasal mucosa, peripheral nerves, liver, lung$^{\beta}$, pancreas, thymus, esophagus, placenta, kidney(sheep)$^{\varphi}$, salivary gland, blood, blood vessels, bone marrow, mammary gland (sheep/goat), milk (sheep/goat), uterus$^{\phi}$.

Category C (No detectable infectivity)

Faeces, heart, mammary gland (bovine), milk (bovine)$^{\kappa}$, ovary, saliva, seminal vesicle, skeletal muscle$^{\varepsilon}$, kidney (bovine), testis, thyroid, foetal tissue$^{\phi}$, bile, bone, cartilaginous tissue, connective tissue, hair, skin, urine, semen (bovine), embryo (bovine), tongue, tendon, trachea, adipose tissue.

α Pituitary glands and dura mater can be considered Category A because iatrogenic CJD in humans has been associated with their use.
β Lungs should be considered in Category A if the slaughtering method induces through the stunning or pithing method a transfer of brain material through the blood stream into the lung.
χ There is some, albeit inconclusive, evidence that circulating peripheral blood cells may transmit vCJD under experimental conditions.
δ Distal ileum is considered a specified BSE risk material in the WOAH Terrestrial Animal Health Code.
ε Accumulation of the disease-causing prion isoform in skeletal muscle was demonstrated following intramuscular inoculation of mice with scrapie infected tissue.
ϕ There is a higher likelihood of contamination when removing certain organs at slaughter compared to surgical or laboratory extraction. This is especially the case with the placenta and
uterus therefore should be considered the same category as placenta (i.e. Category B) unless taken from non-pregnant animals.
η Skull is entire head, excluding tongue and any other tissue specified in another category.
ι Ovine and caprine spleens may be Category A because of the finding of BSE agent in experimentally infected sheep.
φ Classified as a lower infectivity tissue because infectivity and/or PrPsc have been found in human CJC (vCJD or other).
κ Excludes colostrum. While bovine milk has been demonstrated to have no detectable infectivity, the little data there is on bovine colostrum is inconclusive.
[ ] Tissue not listed in the EMEA or WHO list.