

Safe working with animal tissue

1. Introduction

This work instruction is based on the Decree Animal By Products (VO 1069/2009), the-execution decree 142/2011 and a number of articles from the Health and Safety decree.

Animal by-products are: animal cells, tissues, organs and other parts of animals that are not meant for human consumption, as well as body fluids like blood. Depending on their possible risks these products are categorized in Category 1 to 3, in which 1 is the highest risk. (see appendix 1).

The UT has a permit from the Ministry of VWS for the use of category 1, 2 and 3 products. The supervising authority is the Dutch Food and Commodity Authority (*Nederlandse Voedsel en Warenautoriteit* (NVWA)). The authorization number for the UT is 208600.

2. Transport, storage and registration of animal by-products

1. Transport takes place in a sealed leak-proof container. During transport and storage a label "for research and diagnostics" must be applied on the packaging.
2. Archive within the department the form filled in and signed by the sender and transporter, accompanying commercial document and the delivery receipt for a minimum of 2 years.
3. Store the material in a cool place or freezer, that is provided with indication (see appendix 1) of the category in the framework of the Decree Animal By-Products and keep a clear administration, which is also clear for a third party (f.i. the Inspection); consisting of at least: date of receipt of the material, type of material, category and amount (see example in appendix 2).
4. Animal material from laboratory animals is stored with the corresponding DEC number.

3. Working with animal by-products

In the Working Conditions Decree, chapter4 (dangerous compounds and biological agents) it is postulated which measures an employer should take when the employees are exposed to biological material. Risks needs to be listed and evaluated; employees needs to receive instructions with respect to risks, safe working techniques and use of personal protective equipment.

Make a Risk Assessment before starting the activities into the area of the specific animal material.

This is described in the UT guideline 'gericht werken met biologische agentia en genetisch gemodificeerde organismen'.

General handling regulations for handling animal by-products are listed below:

general

- a. The work space is to be kept clean and tidy;
- b. Eating, drinking and smoking, carrying food or drink, applying cosmetics or putting in contact lenses and storing food and drink in the work space is prohibited. Avoid hand- face contact.
- c. Using a pipette with the mouth is prohibited;
- d. Personal possessions, like coat, sweater, or bag must be put away outside the workspace;
- e. After contamination the contaminated surfaces are to be disinfected immediately;

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- f. Wearing personal protective gear including gloves, safety goggles etc. is not always necessary from a microbiological perspective. However, it is compulsory for chemical reasons (use of disinfectants, solvents). If one's skin is not in optimal condition or when the experiment does so require, disposable gloves should be worn.
- g. For the internal transport of preparations a Bio-Transport carriage system is used. This is a locked system (using clips), break-resistant, transparent and can be autoclaved/sterilised. Before transport from the laboratory and after use it is to be disinfected in the laboratory.

during work




- h. During the work the doors and windows of the work space must be closed;
- i. During all activities the creation and circulation of aerosols must be avoided, for example by waiting several minutes with the opening of tubes until the aerosols have been settled down, leaving the graft needles to dry before flaming, and draining the pipette against the lining of a tube instead of using force by pressing the pipette; If aerosol forming is to be expected work in a microbiological safety cabinet (MVK). If this is not possible, use a breathing mask with FFP2L-filter and safety goggles.
- j. Fitting working clothes are to be worn. It is prohibited to wear these working clothes outside the work space. Each space has its own set of laboratory coats. Lab coats belonging to a work space are not to be worn outside this space or taken to another space;
- k. Always centrifugate in closed tubes. If an open centrifuge tube is needed, use a closed bucket and open it in a safety cabinet. In case of damage of the tubes, open the rotor in a safety cabinet and after cleaning disinfect with an appropriate disinfectant.
- l. The use of hypodermic needles and syringes is forbidden unless this is absolutely necessary for the experiment. Only when the use of hypodermic needles is necessary, keep the following rules in mind:
 - Only use disposable hypodermic needles and syringes;
 - The syringe must be filled carefully so that no air bubbles occur;
 - When emptying the syringe, the point of the needle must be held in the liquid;
 - After use, the needles and syringes must be placed directly into a sharps bin for disposal;
 - Do not replace the needle in the plastic protective sheath.

ending the activities

- m. The work surfaces are disinfected at the end of the work and at the end of each working day;
- n. Upon leaving of the work space, hands should be washed using soap;

waste and contaminated material

- o. All biological waste is collected in blue SZA (specific hospital waste) drums that can be locked and inactivated before being disposed of. This means storing followed by offering for combustion; For animal by-products there is a special category (see 6.3 in scheme waste products posing special risks).

| 6 Afvalstoffen met buitengewone risico's (Waste products posing special risks) | | | | |
|---|-------|--|--|-------------|
| 6.1 | V4310 | Specifiek ziekenhuisafval (EURAL MENS) |  | VRIJ |
| 6.2 | V4310 | SZA, Genetisch gemodificeerd organismen |  | VRIJ |
| 6.3 | V4310 | Specifiek ziekenhuisafval (EURAL 18.02.02 mbt dieren) |  | VRIJ |

4. Accidents and incidents

Personal contamination

In case of a prick incident, that exposes you tot animal material, firstly block the finger and rinse under water tap then disinfect with betadine iodine or 0,5% chloorhexidine in 70% ethanol. Contact immediately the occupational health officer (088-2726312) to discuss the follow-up.

1. In case of an injury, call the emergency assistance team (BHV) at 2222, so first aid can be given quickly and adequately.
2. Rinse contaminated eyes for 10 minutes with the help of the eye rinse facility present.
3. In case animal by-products gets into the mouth, rinse the mouth straight away with water or physiological salt.
4. Disinfect the skin of contaminated people with 0,5% chloorhexidine in 70% ethanol or betadine iodine.
5. Fill in a registrationform ([ongevalformulier.](#)) for accidents, incident and unsafe situations.

Decontamination after spilling of potentially contaminated material

1. Soak up spillage with a tissue (wear nitrile gloves) and dispose of in the waste barrel for micro biological contaminated waste. After that cover the space with a 0.1% chlorine solution from a organic chloride connection or another adequate disinfectants and leave this to soak for 10 minutes. Soak up everything with a tissue and dispose also in the waste barrel for biological contaminated material. After that clean the contaminated surface with water and soap.
2. When there is an incident with breakage of tubes or other glassware use tweezers to pick up and dispose of the shards in the waste barrel for contaminated biological waste.
3. Have the contaminated materials that can be re-used autoclaved.

Annexe 1 Animal by-products



Article 8

Category 1 material

Category 1 material shall comprise the following animal by-products:

(a) entire bodies and all body parts, including hides and skins, of the following animals:

(i) animals suspected of being infected by a TSE in accordance with Regulation (EC) No 999/2001 or in which the presence of a TSE has been officially confirmed;

(ii) animals killed in the context of TSE eradication measures;

(iii) animals other than farmed and wild animals, including in particular pet animals, zoo animals and circus animals;

(iv) animals used for experiments as defined by Article 2(d) of Directive 86/609/EEC without prejudice to Article 3(2) of Regulation (EC) No 1831/2003;

(v) wild animals, when suspected of being infected with diseases communicable to humans or animals;

(b) the following material:

(i) specified risk material;

(ii) entire bodies or parts of dead animals containing specified risk material at the time of disposal;

(c) animal by-products derived from animals which have been submitted to illegal treatment as defined in Article 1(2)(d) of Directive 96/22/EC or Article 2(b) of Directive 96/23/EC;

(d) animal by-products containing residues of other substances and environmental contaminants listed in Group B(3) of Annex I to Directive 96/23/EC, if such residues exceed the permitted level laid down by Community legislation or, in the absence thereof, by national legislation;

(e) animal by-products collected during the treatment of waste water required by implementing rules adopted under point (c) of the first paragraph of Article 27:

(i) from establishments or plants processing Category 1 material; or

(ii) from other establishments or plants where specified risk material is being removed;

(f) catering waste from means of transport operating internationally;

(g) mixtures of Category 1 material with either Category 2 material or Category 3 material or both.



Article 9

Category 2 material

Category 2 material shall comprise the following animal by-products:

(a) manure, non-mineralised guano and digestive tract content;

(b) animal by-products collected during the treatment of waste water required by implementing rules adopted under point (c) of the first paragraph of Article 27:

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- (i) from establishments or plants processing Category 2 material; or
- (ii) from slaughterhouses other than those covered by Article 8(e);
- (c) animal by-products containing residues of authorised substances or contaminants exceeding the permitted levels as referred to in Article 15(3) of Directive 96/23/EC;
- (d) products of animal origin which have been declared unfit for human consumption due to the presence of foreign bodies in those products;
- (e) products of animal origin, other than Category 1 material, that are:
 - (i) imported or introduced from a third country and fail to comply with Community veterinary legislation for their import or introduction into the Community except where Community legislation allows their import or introduction subject to specific restrictions or their return to the third country; or
 - (ii) dispatched to another Member State and fail to comply with requirements laid down or authorised by Community legislation except where they are returned with the authorisation of the competent authority of the Member State of origin;
- (f) animals and parts of animals, other than those referred to in Article 8 or Article 10,
 - (i) that died other than by being slaughtered or killed for human consumption, including animals killed for disease control purposes;
 - (ii) foetuses;
 - (iii) oocytes, embryos and semen which are not destined for breeding purposes; and
 - (iv) dead-in-shell poultry;
- (g) mixtures of Category 2 material with Category 3 material;
- (h) animal by-products other than Category 1 material or Category 3 material.



Article 10

Category 3 material

Category 3 material shall comprise the following animal by-products:

- (a) carcasses and parts of animals slaughtered or, in the case of game, bodies or parts of animals killed, and which are fit for human consumption in accordance with Community legislation, but are not intended for human consumption for commercial reasons;
- (b) carcasses and the following parts originating either from animals that have been slaughtered in a slaughterhouse and were considered fit for slaughter for human consumption following an ante-mortem inspection or bodies and the following parts of animals from game killed for human consumption in accordance with Community legislation:
 - (i) carcasses or bodies and parts of animals which are rejected as unfit for human consumption in accordance with Community legislation, but which did not show any signs of disease communicable to humans or animals;
 - (ii) heads of poultry;
 - (iii) hides and skins, including trimmings and splitting thereof, horns and feet, including the phalanges and the carpus and metacarpus bones, tarsus and metatarsus bones, of:
 - animals, other than ruminants requiring TSE testing, and
 - ruminants which have been tested with a negative result in accordance with Article 6(1) of Regulation (EC) No 999/2001;

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(iv) pig bristles;

(v) feathers;

(c) animal by-products from poultry and lagomorphs slaughtered on the farm as referred to in Article 1(3)(d) of Regulation (EC) No 853/2004, which did not show any signs of disease communicable to humans or animals;

(d) blood of animals which did not show any signs of disease communicable through blood to humans or animals obtained from the following animals that have been slaughtered in a slaughterhouse after having been considered fit for slaughter for human consumption following an ante-mortem inspection in accordance with Community legislation:

(i) animals other than ruminants requiring TSE testing; and

(ii) ruminants which have been tested with a negative result in accordance with Article 6(1) of Regulation (EC) No 999/2001;

(e) animal by-products arising from the production of products intended for human consumption, including degreased bones, greaves and centrifuge or separator sludge from milk processing;

(f) products of animal origin, or foodstuffs containing products of animal origin, which are no longer intended for human consumption for commercial reasons or due to problems of manufacturing or packaging defects or other defects from which no risk to public or animal health arise;

(g) petfood and feedingstuffs of animal origin, or feedingstuffs containing animal by-products or derived products, which are no longer intended for feeding for commercial reasons or due to problems of manufacturing or packaging defects or other defects from which no risk to public or animal health arises;

(h) blood, placenta, wool, feathers, hair, horns, hoof cuts and raw milk originating from live animals that did not show any signs of disease communicable through that product to humans or animals;

(i) aquatic animals, and parts of such animals, except sea mammals, which did not show any signs of disease communicable to humans or animals;

(j) animal by-products from aquatic animals originating from establishments or plants manufacturing products for human consumption;

(k) the following material originating from animals which did not show any signs of disease communicable through that material to humans or animals:

(i) shells from shellfish with soft tissue or flesh;

(ii) the following originating from terrestrial animals:

- hatchery by-products,

- eggs,

- egg by-products, including egg shells,

(iii) day-old chicks killed for commercial reasons;

(l) aquatic and terrestrial invertebrates other than species pathogenic to humans or animals;

(m) animals and parts thereof of the zoological orders of Rodentia and Lagomorpha, except Category 1 material as referred to in Article 8(a)(iii), (iv) and (v) and Category 2 material as referred to in Article 9(a) to (g);

(n) hides and skins, hooves, feathers, wool, horns, hair and fur originating from dead animals that did not show any signs of disease communicable through that product to humans or animals, other than those referred to in point (b) of this Article;

(o) adipose tissue from animals which did not show any signs of disease communicable through that material to humans or animals, which were slaughtered in a slaughterhouse and which were considered fit for slaughter for human consumption following an ante-mortem inspection in accordance with Community legislation;

(p) catering waste other than as referred to in Article 8(f).

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Annexe 2 Example form animal by-products(sending/receiving and elimination)

REGISTER DIERLIJK MATERIAAL

VERVOER/ONTVANGST I.K.V. VERORDENING EG-1069/2009

ALGEMEEN:

| | |
|--|---|
| Volgnummer (faculteit-vakgroep-nr), b.v. TNW-ECTM-001) | |
| Datum | |
| Projectnaam | |
| Verantwoordelijk onderzoeker | |
| Soort materiaal (categorie, omschrijving materiaal/diersoort) | Categorie: Omschrijving materiaal/diersoort: |
| Herkomst materiaal (naam+ erkenningsnummer) | |
| Hoeveelheid (volume, gewicht) | |
| Vervoerd door | |

VOOR ONTVANGST UNIVERSITEIT TWENTE, ERKENNINGSNR. 208600

| | |
|--------------------------------|--|
| In ontvangst genomen door | |
| Datum | |
| Huisvestende ruimte | |
| Einddatum (<i>optioneel</i>) | |

OPMERKINGEN*:

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**denk hierbij aan extra benodigdheden voor opslag, afspraken die gemaakt zijn of opvallende staat van het materiaal*

REGISTER DIERLIJK MATERIAAL

AFVOER (INTERN) I.K.V. VERORDENING EG-1069/2009

ALGEMEEN:

| | |
|------------------------------|--|
| Volgnummer | |
| Datum | |
| Projectnaam | |
| Verantwoordelijk onderzoeker | |

VOOR AFVOER:

| | |
|---|-----------|
| Volledige afvoer | Ja / Nee* |
| * Indien nee, beschrijf exact welk deel van het materiaal wél wordt afgevoerd | |
| Aanmelddatum afvoer** | |
| Afvoerdatum, tijd | |
| Is al het materiaal van bovengenoemd volgnummer afgevoerd | Ja / Nee |
| Einddatum (optioneel) | |

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