PART 1 (COUNCIL DECISION 2002/813/EC)

SUMMARY NOTIFICATION INFORMATION FORMAT FOR THE RELEASE OF GENETICALLY MODIFIED ORGANISMS OTHER THAN HIGHER PLANTS IN ACCORDANCE WITH ARTICLE 11 OF DIRECTIVE 2001/18/EC

In order to tick one or several possibilities, please use crosses (meaning x or X) into the space provided as (.)

A. General information

1. Details of notification

(a)	Member State of notification	Netherlands
(b)	Notification number	B/NL/05/02
(c)	Date of acknowledgement of notification	16/06/2005
(d)	Title of the project	Exploring the health effects due to air pollution by exposure of transgenic mice and rats at location
(e)	Proposed period of release	From 01/09/2005 until 31/12/2015

2. Notifier
Name of institution or company: Rijksinstituut voor Volksgezondheid en Milieu

3. GMO characterisation

(a) Indicate whether the GMO is a:

viroid		(.)
RNA virus		(.)
DNA virus		(.)
bacterium		(.)
fungus		(.)
animal		
-	mammals	(x)
-	insect	(.)
-	fish	(.)
-	other animal	(.)

specify phylum, class rodents

(b) Identity of the GMO (genus and species)
Mus musculus and rattus norvegicus

(c) Genetic stability – according to Annex IIIa, II, A(10)
The genetic modifications have been integrated stably in the chromosomes of the animals by homologous recombination or microinjection and subsequent integration.

4. Is the same GMO release planned elsewhere in the Community (in conformity with Article 6(1)), by the same notifier?

Yes (.) No (**X**)

If yes, insert the country code(s) …

5. Has the same GMO been notified for release elsewhere in the Community by the same notifier?

Yes (.) No (**X**)

If yes:

- Member State of notification …
- Notification number B/../../…

Please use the following country codes:
Austria AT; Belgium BE; Germany DE; Denmark DK; Spain ES; Finland FI; France FR; United Kingdom GB; Greece GR; Ireland IE; Iceland IS; Italy IT; Luxembourg LU; Netherlands NL; Norway NO; Portugal PT; Sweden SE

6. Has the same GMO been notified for release or placing on the market outside the Community by the same or other notifier?

Yes (.) No (**X**)

If yes:

- Member State of notification …
- Notification number B/../../…

7. Summary of the potential environmental impact of the release of the GMOs.
There will be NO release of animals in the environment. When in case of calamities an animal will end up in the environment, there will be a low impact on the environment. Due to the genetic modification the animals are more sensitive to stress, caused for example by air pollution. This increased sensitivity will not lead to an increased persistency of the animals in the environment.

B. Information relating to the recipient or parental organism from which the GMO is derived

1. Recipient or parental organism characterisation:

(a) Indicate whether the recipient or parental organism is a:
(select one only)

viroid (.)
RNA virus (.)
DNA virus (.)
bacterium (.)
fungus (.)
animal
- mammals (x)
- insect (.)
- fish (.)
- other animal (.)

(specify phylum, class) rodents

other, specify …

2. Name

(i)	order and/or higher taxon (for animals)	rodents
(ii)	genus	mus and rattus
(iii)	species	musculus and norvegicus
(iv)	subspecies	…
(v)	strain	C57BL/6 and Fischer F334
(vi)	pathovar (biotype, ecotype, race, etc.)	…
(vii)	common name	mouse and rat

3. Geographical distribution of the organism

(a) Indigenous to, or otherwise established in, the country where the notification is made:
Yes (x) No (.) Not known (.)

(b) Indigenous to, or otherwise established in, other EC countries:

(i) Yes (x)

If yes, indicate the type of ecosystem in which it is found:

Atlantic	..
Mediteranean	x
Boreal	x
Alpine	x
Continental	x
Macaronesian	x

(ii) No (.)
(iii) Not known (.)

(c) Is it frequently used in the country where the notification is made?
Yes (x) No (.)

(d) Is it frequently kept in the country where the notification is made?
Yes (x) No (.)

4. Natural habitat of the organism

(a) If the organism is a microorganism

water	(.)
soil, free-living	(.)
soil in association with plant-root systems	(.)
in association with plant leaf/stem systems	(.)
other, specify …	

(b) If the organism is an animal: natural habitat or usual agroecosystem:
Everywhere where people are

5. (a) Detection techniques
…

(b) Identification techniques

…

6. Is the recipient organism classified under existing Community rules relating to the protection of human health and/or the environment?

Yes (.) No (x)

If yes, specify

…

7. Is the recipient organism significantly pathogenic or harmful in any other way (including its extracellular products), either living or dead?

Yes (.) No (x) Not known (.)

If yes:

(a) to which of the following organisms:

humans (.)
animals (.)
plants (.)
other (.)

(b) give the relevant information specified under Annex III A, point II. (A)(11)(d) of Directive 2001/18/EC

…

8. Information concerning reproduction

(a) Generation time in natural ecosystems:
Mouse: 5 to 10 litter per year (each 3 to 12 young)
Rat: 3 to 6 litter per year (on average 10 young)

(b) Generation time in the ecosystem where the release will take place:
No release will take place due to the prescribed risk management measures.

(c) Way of reproduction: Sexual x Asexual ..

(c) Factors affecting reproduction:

…

9. Survivability

(a) ability to form structures enhancing survival or dormancy:

(i)	endospores	(.)
(ii)	cysts	(.)
(iii)	sclerotia	(.)
(iv)	asexual spores (fungi)	(.)
(v)	sexual spores (funghi)	(.)
(vi)	eggs	(.)
(vii)	pupae	(x)
(viii)	larvae	(.)
(ix)	other, specify …	

(b) relevant factors affecting survivability:
laboratory animals are not used to natural environment, animals are more sensitive to stress, some animals have white colour

10. (a) Ways of dissemination
the animals are not released in the environment but will stay in the Mobile Ambient Particle Concentrator Exposure Laboratorium (MAPCEL)

(b) Factors affecting dissemination
…

11. Previous genetic modifications of the recipient or parental organism already notified for release in the country where the notification is made (give notification numbers)
…, B/../../…

C. **Information relating to the genetic modification**

1. Type of the genetic modification

(i)	insertion of genetic material	(x in case of rat)
(ii)	deletion of genetic material	(x in case of most mice)
(iii)	base substitution	(.)
(iv)	cell fusion	(.)
(v)	others, specify …	

2. Intended outcome of the genetic modification
resulting in a sensitive model for external stress

3. (a) Has a vector been used in the process of modification?
Yes (x) No (.)

If no, go straight to question 5.

(b) If yes, is the vector wholly or partially present in the modified organism?
Yes (.) No (x)

If no, go straight to question 5.

4. If the answer to 3(b) is yes, supply the following information

(a) Type of vector

plasmid	(.)
bacteriophage	(.)
virus	(.)
cosmid	(.)
transposable element	(.)
other, specify …	

(b) Identity of the vector
…

(c) Host range of the vector
…

(d) Presence in the vector of sequences giving a selectable or identifiable phenotype
Yes (.) No (.)

antibiotic resistance (.)
other, specify …

Indication of which antibiotic resistance gene is inserted
…

(e) Constituent fragments of the vector
…

(f) Method for introducing the vector into the recipient organism
(i) transformation ()
(ii) electroporation ()
(iii) macroinjection (.)
(iv) microinjection ()
(v) infection (.)
(vi) other, specify …

5. If the answer to question B.3(a) and (b) is no, what was the method used in the process of modification?
(i) transformation (.)
(ii) microinjection (x)
(iii) microencapsulation (.)
(iv) macroinjection (.)
(v) other, specify Electroporation

6. Composition of the insert
(a) Composition of the insert
rat: Ren-2 results in elevated blood pressure levels
mice: ApoE knock-out resulting in increased atherosclerosis
iNOS knock-out resulting in blood pressure deficiency
SOD knock-out resulting in increased sensitivity to free oxygen radicals
CSB knock-out resulting in an impaired capacity to repair DNA damage
HO-1 knock-out resulting in increased sensitivity to free oxygen radicals
HO-1/luc functions as a chemoluminescence reporter for oxidative stress

(b) Source of each constituent part of the insert
mouse

(c) Intended function of each constituent part of the insert in the GMO
see answer 6 (a)

(d) Location of the insert in the host organism
- on a free plasmid (.)

- integrated in the chromosome (x)
- other, specify …

(e) Does the insert contain parts whose product or function are not known?
Yes (.) No (x)
If yes, specify …

D. Information on the organism(s) from which the insert is derived

1. Indicate whether it is a:

viroid (.)
RNA virus (.)
DNA virus (.)
bacterium (.)
fungus (.)
animal
- mammals (x)
- insect (.)
- fish (.)
- other animal (.)
(specify phylum, class) …

other, specify …

2. Complete name

(i)	order and/or higher taxon (for animals)	rodent
(ii)	family name for plants	…
(iii)	genus	mus
(iv)	species	musculus
(v)	subspecies	…
(vi)	strain	…
(vii)	cultivar/breeding line	…
(viii)	pathovar	…
(ix)	common name	…

3. Is the organism significantly pathogenic or harmful in any other way (including its extracellular products), either living or dead?
Yes (.) No (x) Not known (.)
If yes, specify the following:

(b) to which of the following organisms:
humans (.)
animals (.)
plants (.)
other ..

(b) are the donated sequences involved in any way to the pathogenic or harmful properties of the organism

Yes (.) No (x) Not known (.)

If yes, give the relevant information under Annex III A, point II(A)(11)(d):
…

4. Is the donor organism classified under existing Community rules relating to the protection of human health and the environment, such as Directive 90/679/EEC on the protection of workers from risks to exposure to biological agents at work?
Yes (.) No (x)
If yes, specify …

5. Do the donor and recipient organism exchange genetic material naturally?
Yes (.) No (x) Not known (.)

E. Information relating to the genetically modified organism

1. Genetic traits and phenotypic characteristics of the recipient or parental organism which have been changed as a result of the genetic modification

(a) is the GMO different from the recipient as far as survivability is concerned?
Yes (x) No (.) Not known (.)
Specify lower survivability

(b) is the GMO in any way different from the recipient as far as mode and/or rate of reproduction is concerned?
Yes (.) No (x) Unknown (.)
Specify …

(c) is the GMO in any way different from the recipient as far as dissemination is concerned?
Yes (.) No (x) Not known (.)
Specify …

(d) is the GMO in any way different from the recipient as far as pathogenicity is concerned?
Yes (.) No (x) Not known (.)
Specify …

2. Genetic stability of the genetically modified organism
?…

3. Is the GMO significantly pathogenic or harmful in any way (including its extracellular products), either living or dead?
Yes (.) No (x) Unknown (.)

(a) to which of the following organisms?

humans (.)
animals (.)
plants (.)
other …

(b) give the relevant information specified under Annex III A, point II(A)(11)(d) and II(C)(2)(i)
…

4. Description of identification and detection methods

(a) Techniques used to detect the GMO in the environment
not applicable. The experiments will be conducted in a confined mobile laboratory from which escape is only possible in case of calamities.

(b) Techniques used to identify the GMO
The transgenic animals may be identified by molecular techniques such as PCR and Southern analysis.

F. Information relating to the release

REMARK: The experiments will be conducted in a confined mobile laboratory from which escape is only possible in case of calamities. In that respect it does not concern an actual deliberate release!

1. Purpose of the release (including any significant potential environmental benefits that may be expected)
Not applicable GMO will not be released in the environment

2. Is the site of the release different from the natural habitat or from the ecosystem in which the recipient or parental organism is regularly used, kept or found?
Yes (.) No (.)
If yes, specify …

3. Information concerning the release and the surrounding area

(a) Geographical location (administrative region and where appropriate grid reference):
The experiments will be conducted in a confined mobile laboratory which may be placed on any location somewhere in the Netherlands.

(b) Size of the site (m^2): … m^2
(i) actual release site (m^2): … m^2
(ii) wider release site (m^2): … m^2

(c) Proximity to internationally recognised biotopes or protected areas (including drinking water reservoirs), which could be affected:
…

(d) Flora and fauna including crops, livestock and migratory species which may potentially interact with the GMO
…

4. Method and amount of release

(a) Quantities of GMOs to be released:
Per experiment 40 mice or 16 rats

(b) Duration of the operation:
Per experiment one (in some cases two) working day(s).

(c) Methods and procedures to avoid and/or minimise the spread of the GMOs beyond the site of the release
The experiments will be conducted in a confined mobile laboratory. The level of containment of this unit is functionally equivalent to classified laboratories for transgenic animals as is prescribed in Dutch legislation (GMO Decree which is the implementation of Directives 2001/18/EC and 90/219/EC)

5. Short description of average environmental conditions (weather, temperature, etc.)
…

6. Relevant data regarding previous releases carried out with the same GMO, if any, specially related to the potential environmental and human health impacts from the release.
…

G. Interactions of the GMO with the environment and potential impact on the environment, if significantly different from the recipient or parent organism

Not applicable GMO will not be actually released in the environment but will be kept in a confined mobile laboratory

1. Name of target organism (if applicable)

(i)	order and/or higher taxon (for animals)	…
(ii)	family name for plants	…
(iii)	genus	…
(iv)	species	…
(v)	subspecies	…
(vi)	strain	…
(vii)	cultivar/breeding line	…
(viii)	pathovar	…
(ix)	common name	…

2. Anticipated mechanism and result of interaction between the released GMOs and the target organism (if applicable)
…

3. Any other potentially significant interactions with other organisms in the environment
…

4. Is post-release selection such as increased competitiveness, increased invasiveness for the GMO likely to occur?
Yes (.) No (.) Not known (.)
Give details
…

5. Types of ecosystems to which the GMO could be disseminated from the site of release and in which it could become established
…

6. Complete name of non-target organisms which (taking into account the nature of the receiving environment) may be unintentionally significantly harmed by the release of the GMO

(i)	order and/or higher taxon (for animals)	…
(ii)	family name for plants	…
(iii)	genus	…
(iv)	species	…
(v)	subspecies	…
(vi)	strain	…
(vii)	cultivar/breeding line	…
(viii)	pathovar	…
(ix)	common name	…

7. Likelihood of genetic exchange in vivo

(a) from the GMO to other organisms in the release ecosystem:
not applicable due to physical containment of the animals

(b) from other organisms to the GMO:
not applicable due to physical containment of the animals

(c) likely consequences of gene transfer:
not applicable due to physical containment of the animals

8. Give references to relevant results (if available) from studies of the behaviour and characteristics of the GMO and its ecological impact carried out in stimulated natural environments (e.g. microcosms, etc.):
not applicable

9. Possible environmentally significant interactions with biogeochemical processes (if different from the recipient or parental organism)
not applicable due to physical containment of the animals

H. Information relating to monitoring

1. Methods for monitoring the GMOs
During the experiments the animals will be visually observed

2. Methods for monitoring ecosystem effects
not applicable due to physical containment of the animals

3. Methods for detecting transfer of the donated genetic material from the GMO to other organisms
not applicable due to physical containment of the animals.

4. Size of the monitoring area (m^2)
… m^2

5. Duration of the monitoring
…

6. Frequency of the monitoring
…

I. Information on post-release and waste treatment

It is not expected that any waste will be generated. In case waste is generated it will be disposed of according to the regulations in place for contained use of GMOs.

1. Post-release treatment of the site
…

2. Post-release treatment of the GMOs
…

3. (a) Type and amount of waste generated
…

3. (b) Treatment of waste
…

J. Information on emergency response plans

1. Methods and procedures for controlling the dissemination of the GMO(s) in case of unexpected spread
The experiments will be conducted under conditions equivalent to those for contained use of GMOs.

2. Methods for removal of the GMO(s) of the areas potentially affected
not applicable

3. Methods for disposal or sanitation of plants, animals, soils, etc. that could be exposed during or after the spread
not applicable

4. Plans for protecting human health and the environment in the event of an undesirable effect
not applicable