

TRANSPORAD : THE SOLUTION TO YOUR RADIOACTIVE TRANSPORT PROBLEMS

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ABSTRACT

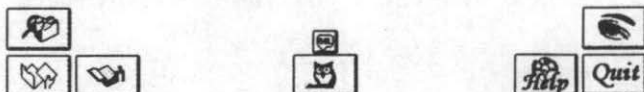
The Software TransporaD enables the regulatory conditions governing the transport of radioactive materials and the means used to transport such materials to be determined (training of driver, instructions, labelling, transport documents printout ...), irrespective of the number of radionuclides present and/or the physical state of the material involved. TransporaD was developed in a windows environment, in compliance with the Agreement concerning the international carriage of Dangerous goods by Road (A.D.R.). Records, statistics, centralised management of transport operations etc. can be ensured.

A VERY APPARENT NEED

The Agreement concerning the international carriage of Dangerous goods by Road (A.D.R.) is complex and difficult to interpret by users unfamiliar with its contents. The problem is further complicated by the different natures and types of radioactive material (sources, targets, irradiated samples etc.) transported. The TransporaD software was developed by the safety and health physics department of the CEA Saclay as an help to users confronted with a maze of often tortuous regulations.



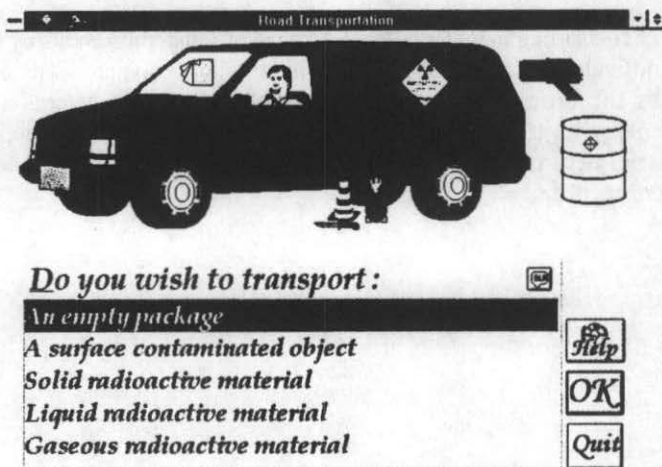
TransporaD



Select a way of transportation and click on OK. Enter =Transport by road.

USER FRIENDLY

TransporaD operates in a Windows™ environment and is user friendly making extensive use of pictorial representations. The only information required from the user relates to the materials to be transported (activity, physicochemical state, etc.). The software has been designed for both single PC and network operation.



Select the object to transport and click on OK (for the labeling click on label)

TransporaD enables the regulatory conditions governing the transport of radioactive materials and the means used to transport such materials to be determined (training of driver, instructions, permissible material loads, etc.) irrespective of the number of radionuclides present and/or the physical state of the materials involved.

Package containing solid radioactive material

Search

Select a Material

Table of Radionuclides

Er169
Er171
Eu147
Eu148
Eu149
Eu150
Eu152
Eu152m
Eu154
Eu155
Eu156
F18
Fe52
Fe55
Fe59
Fe60
Ga67

A1

A2

PACKAGE CONTENTS

Radionuclide	Activity (TBq)
Cobalt 60	0.074
Euroquim 152	0.111

Total activity

A2 for mixture

OK Help Quit

Input contents of only one package.

Provisions related to radiation protection and labelling (packages and vehicles) are also elucidated. Regulatory designations and transport schedules are also given.

1m

Select schedule.

Select unit.

Input dose rate.

Click on display

Schedule 1 to 4
 Schedule 5 to 13

Dose rate at 1 m Unit
 Dose rate on surface

Transport index

Help Quit

Choose unit (mrem/h ou mSv/h). Input the dose rate and click on "display".

Schedule 9

Identification 2982	ADR designation 2982. Radioactive material, n.o.s. in type A packages, 7, Schedule 9, ADR (ou RID)	Folder N° 0
		Prefix SPR/GRAD

Schedule 9

Consignor	Consignee	Package	Transport
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Maximum package radiation levels :

2 mSv/h (200 mrem/h) on any external surface.
 10 mSv/h (1 rem/h) for exclusive use.
 0.1 mSv/h (10 mrem/h) at a distance of 1 meter from package.

Non-fixed external contamination limit for packages :

B, γ , low tox. : 4 Bq/cm² (0.4 if non radioactive or excepted packages are present)
 other alpha : 0.4 Bq/cm² (0.04 if non radioactive or excepted packages are present)

Maximum vehicle radiation levels :

2 mSv/h (200 mrem/h) on the outside of the vehicle
 0.1 mSv/h (10 mrem/h) at a distance of 2 m from the vehicle.
 0.02 mSv/h at any normally occupied position in a vehicle, if personal monitoring devices are not used.

In order to record or print, you are required to input the information necessary to obtain the transport documents.

The Window's help system associated with the code enables some ADR marginals to be consulted in Hypertext.

Different windows enable the input of information necessary to edit a transport certificate, together with its radiation protection annex and safety instructions.

Rapid research:

Container name : **Fissile Type :**

Name of Package	Number	Approval N°	Type	End of approval	Fissile	Owner
LR44	C11	F/230/B(U)	B(U)	01/01/2000		UEGD
LR56	C14	F/309/B(U)	B(U)	01/01/2000		UEGD
SV 37		F81u74	B(U)			
SV02			A			CBI
SV03			A			CBI
SV04	sans coque		A			CBI
SV04 coque	coque CC26	F277B(U) CC26	B(U)			CBI
SV05			A			CBI
SV06			A			CBI
SV07			A			CBI
SV19	5	F77E(U)	B(U)	01/01/2000		CBI
SV21		F75B(U)	B(U)	01/01/2000		CBI

Packages whose end of approval dates have been exceeded appear in red.

SHIPMENT DECLARATION FOR RADIOACTIVE MATERIAL

N° DTLE :

Folder N° :

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Radioactive material in type A packages

2982, Radioactive material, n. o. s. in type A packages, 7, Schedule 9, ADR (or RID)

Name of the substance: ONU-ADR-RID RID - Marginal 704 Schedules 1 to 12. ADR - Marginal 2704 Schedules 1 to 12.

Consignor	Consignee
Name : LELACHE Compagny : CEA Department : SPR/SRI/GRAD Address : CEA Saclay Town/City : GIF SUR YVETTE CEDEX Tel. : 331 6908 5233 PC : 91191	Authorization No Name : BOURGOIS Compagny : CEA Department : SPR/SRI/GRAD Address : CEA SACLAY Town/City : GIF/YVETTE CEDEX Tel. : 331 6908 7653 PC : 91191

Departure	Arrival
Date : 17/02/1998 Location : batiment 12	Date : 17/02/1998 Location : hall 18

Container	Content(s)
Type : IL47 Number : 9	Description : source Total activity : 1 85E-01 TBq

Radionuclide(s)	Non Special form material
Co60(7.4E-02) - Eu152(1.1E-01) in TBq	

Description of the physical and chemical form of the material :	Exclusive use Shipping	Category of package :		
	YES <input type="checkbox"/>	NO <input type="checkbox"/>	I-WHITE <input type="checkbox"/>	II-YELLOW <input type="checkbox"/>
			Transport index	

The nature of the goods and the packaging are in conformity with the provisions of ADR and RID.

Made at date Signature

Name and title of signatory:

CEA @ TranspRAD - Ver 2

COMMON PROVISION FOR SCHEDULES 5 TO 12: (ADR Marg. 2703/RID Marg. 703)

Maximum radiation level for packages: 2 mSv/h(200 mrem/h) and 0.1mSv/h(10 mrem/h) at 1 m from package.

Non-fixed external contamination level on package: Beta/gamma/alpha: 4 Bq/cm²; all other alpha: 0.4 Bq/cm².

Copy ->	Consignor : 1	Driver : 2	Consignee : 1	dition date 18/02/98
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DATA BASE

A permanent record is kept of keyboard inputted data. In this way statistics can be constituted, information obtained on goods being transported and lists of transport packaging kept up to date. A centralised management of transport operations can be ensured when TransporaD is used on a network.

Selection window of a shipment declaration

Shipments declaration file

Folder N°: Code: Consignor: Schedu:

Folder N°	Identif	Consignor	Consignee	Consignor Compas	Consignee Comp	Consignor phone	Sc	Cor
1	2910	LELACHE	BOURGOIS	CEA	CEA	0169085233	4	SPR
2	2910	LELACHE	BOURGOIS	CEA	CEA	69085233	4	SPR
3	2910	LELACHE	BOURGOIS	CEA	CEA	69087653	4	SPR
4	2982	GUELF	BOURGOIS	CEA	CEA	69085233	9	SPR
5	2982	BOURGOIS	LELACHE	CEA	CEA	69087653	10	SPR
6	2982	LELACHE	BOURGOIS	CEA	CEA	69085233	9	SPR
7	2982	LEBLANC	LEBLANC	CEA	CEA	69 08 24 07	10	SPR
12	2982	LELACHE	BOURION	CEA	CEA	69085233	10	SPR
16	2910	BOURGOIS	LEBLANC	CEA	CEA	69087653	1	SPR
19	2982	FAYART	BONDIS	CEA	CEA	01 39562915	9	DSV
20	2910	FAYART	BOURIE	CEA	CEA	01 39562915	1	DSV
21	2910	ANDRE GILLES	L DOBRZYNSKI	CEA/LLB	INSTITUTE OF R	0169086022	1	LLB
22	2982	LELACHE	BOURIE	CEA	CEA	69085233	9	SPR

Current file: Transportation by road

Declaration directory -> S:\Transrad\

REFERENCE

Arrêté du 5/12/96 relatif au transport des marchandises dangereuses par route (dit arrêté ADR)
Les éditions du journal officiel n°1692-0100 (vol I) et n°1692-0200 (vol II).

BOURGOIS L. Présentation d'un organigramme pour le respect du Règlement pour le transport de Matières Dangereuse par voie Routière. Novembre 94 Rapport interne CEA Saclay SPR/SRI-A/94-1011

Economic Commission For Europe Inland Transport Committee. European agreement concerning the international carriage of dangerous goods by road (ADR) and protocol of signature Volume I and II. ECE/TRANS/115. United nations, 1996.

LELACHE H. BOURGOIS L. TransporaD 2.0 ; Guide d'utilisation du logiciel pour le respect de la réglementation des matières radioactives par voie routière. Septembre 97 Rapport interne CEA Saclay SRI-A/97-0989