

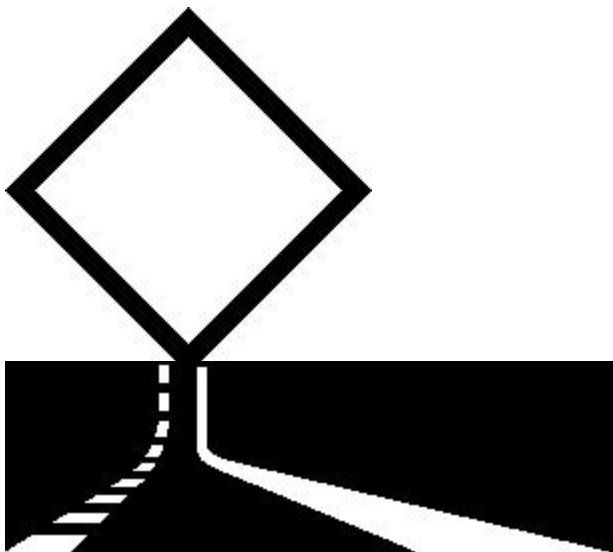
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**A Technical Publication
from the Co-ordination
and Information Centre**

Transportation of Soils Contaminated with Flammable Liquids

June 2011

**Dangerous Goods
And Rail Safety**



**Government
of Alberta** ■
Transportation

This material is meant as a guide to certain parts of the Transportation of Dangerous Goods Regulations and is not meant to be a substitute for them. It is the responsibility of handlers, offerers and transporters of dangerous goods to consult the Regulations for the exact requirements. The Coordination and Information Centre of Alberta Transportation can provide accurate information regarding the Regulations 24 hours a day.

Co-ordination and Information Centre

**Alberta Transportation
Dangerous Goods and Rail Safety Branch
Main Floor, Twin Atria Building
4999 – 98 Avenue
Edmonton, Alberta, T6B 2X3**

**Tel. Edmonton: (780) 422 – 9600
Tel. Province-wide: 1 (800) 272 – 9600
Fax: (780) 427 – 1044**

These telephone lines are recorded to assist in responding to the emergency (natural/manmade) and/or inquiry regarding dangerous goods and to ensure that the information is accurate. Direct any questions regarding the recording to the Compliance Officer responding to your call or contact the Manager of the CIC at 780-427-8660. *Legal Authority: Dangerous Goods Transportation and Handling Act, Section 13(1).*

INTRODUCTION

This bulletin has been produced to assist shippers and carriers transporting soils contaminated with hydrocarbons, such as crude oil, gasoline and diesel, to comply with the Transportation of Dangerous Goods (TDG) Regulations.

CLASSIFICATION

The hazard most likely exhibited in soils contaminated with oilfield hydrocarbons is flammability; and in the case of leaded fuels, lead contamination. Section 2.3 of the TDG Regulations deals with the classification of dangerous goods, and Schedule I has an entry listed as "**SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S., Class 4.1, UN3175, PG II**" (with Special Provision 16 and 56).

Special Provision 16:

(1) The technical name of the most dangerous substance related to the primary class must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(i)(A) of Part 3, Documentation. The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4, Dangerous Goods Safety Marks.

(2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name:

- **(a)** UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.;
- **(b)** UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.;
- **(c)** UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.;
- **(d)** UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or
- **(e)** UN3249, MEDICINE, SOLID, TOXIC, N.O.S.

An example in Canada is the "Food and Drugs Act".

Special Provision 56:

When solids that are not dangerous goods and liquids included in Class 3, Flammable Liquids, are in a mixture, the mixture may be handled, offered for transport or transported under this shipping name without the tests and criteria for including substances in Class 4.1, Flammable Solids, first being applied, if

- (a) there is no free liquid visible at the time the mixture is loaded into a means of containment or at the time the means of containment is closed; and*
- (b) each means of containment is leakproof.*

To determine the proper classification of any material, testing should be done.

Determining the Classification of Fuel Contaminated Soil

Assume you have non-leaded gasoline as the contaminant in soil:

1. Is the mix flammable and more liquid than solid? (either Yes or No)
2. If Yes, then the product is called "GASOLINE", Class 3, UN1203, PG II.
3. If No, then the product is called "SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (GASOLINE)", Class 4.1, UN3175, PG II".
4. If the product does not meet the criteria to be classified as a Class 3 or Class 4.1, the product is not regulated by Transportation of Dangerous Goods legislation.

EXAMPLE SHIPPING NAMES

Shipping Name	Class	UN #	Packing Group
SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (PETROLEUM CRUDE OIL)	4.1	UN3175	II
SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (GASOLINE)	4.1	UN3175	II

DOCUMENTATION

Documentation must accompany each consignment of dangerous goods and is supplied to the carrier by the shipper [Section 3.1]. The carrier must provide the consignee with a copy of the document [Section 3.2(6)]. There is no single approved format for this shipping document but the information should be clearly presented to assist any emergency response persons who may use it. A sample shipping document is attached.

If the shipment is going for disposal in Alberta, an Alberta Environment Recycle Docket is required. Information on where to obtain a Recycle Docket is included on page 10.

Dangerous goods shipping documents must be kept with the shipment in an accessible location such as on the seat or in a pocket within the cab. The document must be retained by the consignor and the carrier for two years. There is no requirement for the consignee to retain a copy of the document [Section 3.10].

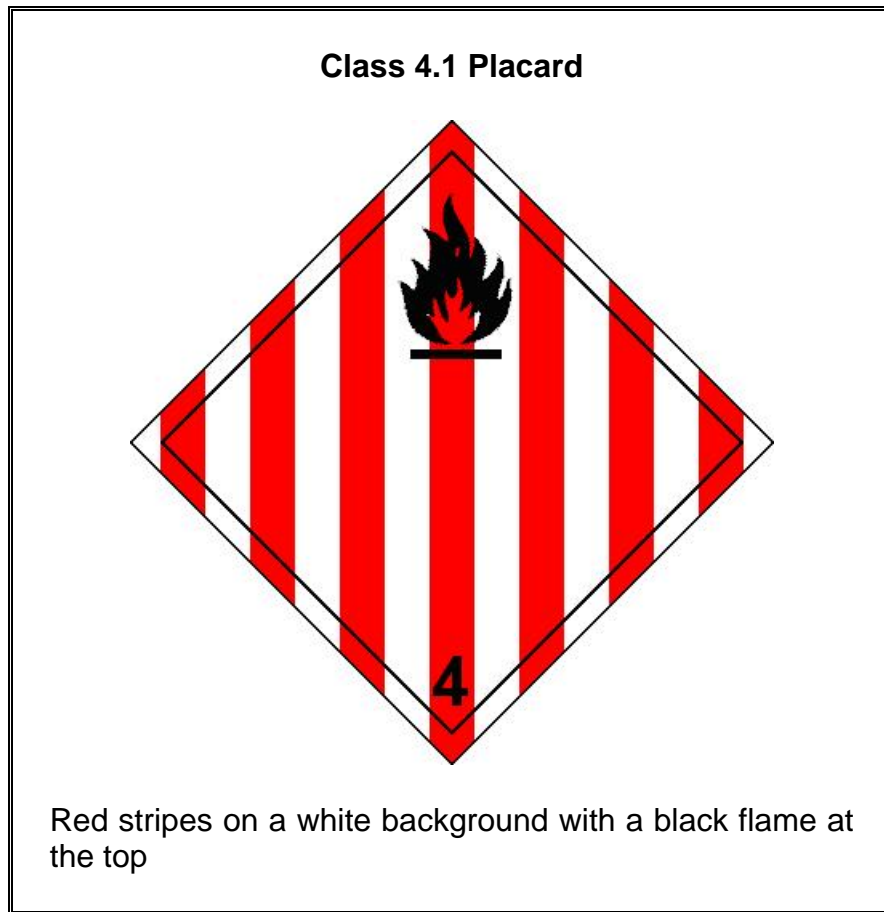
SAFETY MARKS

Safety marks are the placards, labels and package markings which identify dangerous goods shipments. These safety marks are provided by the shipper and must be maintained in good condition during transport by the carrier.

Hazard labels are diamond shaped signs measuring 100 mm on each side [Section 4.7(2)]. They are displayed on a small means of containment (450 litres or less container capacity). In addition, the UN number and the shipping name must also be displayed [Sections 4.8 & 4.11(1)].

Placards are diamond shaped signs measuring at least 250 mm [Section 4.7(3)]. They are displayed on vehicles which are carrying quantities of most dangerous goods in excess of 500 kg or on a large means of containment (more than 450 litres container capacity) [Section 4.15]. Placards must be displayed on all sides of the vehicle and/or containers [Section 4.15(3)].

Refer to Section 4.15 of the TDG Regulations for the placarding requirements for all the hazard classes. Placards are required for more than 500 Kgs. gross mass of Class 4.1 dangerous goods.



The UN number is displayed on the placard or on an adjacent orange panel when in quantities greater than 500 kg or on a large means of containment. Safety marks are left in place until the requirement for safety marks change for any reason. The person having charge, management or control of the means of containment must determine, as a result of the new conditions, if the dangerous goods safety marks must be changed or removed [Section 4.9(1)].

When the DANGER placard is required or permitted to be displayed on a large means of containment and the quantity of dangerous goods to which the placard applies decreases, a person may continue to display the DANGER placard for those remaining dangerous goods, in place of any other placard, until a placard is no longer required by this Part to be displayed on the large means of containment for those dangerous goods [Section 4.9(2)].

TRAINING

The TDG Regulations requires that anyone who is involved in the transportation of dangerous goods must be trained or working under the direct supervision of a trained person. The training must relate to duties which the employee carries out in the course of his employment and will include one or more of the following topics:

- (a) the classification criteria and test methods in Part 2, Classification;
- (b) shipping names;
- (c) the use of Schedules 1, 2 and 3;
- (d) the shipping document and train consist requirements in Part 3, Documentation;
- (e) the dangerous goods safety marks requirements in Part 4, Dangerous Goods Safety Marks;
- (f) the certification safety marks requirements, safety requirements and safety standards in Part 5, Means of Containment;
- (g) the emergency response assistance plan requirements in Part 7, Emergency Response Assistance Plan;
- (h) the report requirements in Part 8, Accidental Release and Imminent Accidental Release Report Requirements;
- (i) safe handling and transportation practices for dangerous goods, including the characteristics of the dangerous goods;
- (j) the proper use of any equipment used to handle or transport the dangerous goods;
- (k) the reasonable emergency measures the person must take to reduce or eliminate any danger to public safety that results or may reasonably be expected to result from an accidental release of the dangerous goods;
- (l) for air transport, the aspects of training set out in Part 6 of the ICAO Technical Instructions for the persons named in that Part and the requirements in Part 12, Air, of these Regulations; and
The ICAO Technical Instructions require the approval of training programmes for air carriers. Information may be obtained from the Chief, Dangerous Goods Standards, Civil Aviation, Transport Canada.
- (m) for marine transport, the requirements set out in the IMDG Code and the “Dangerous Goods Shipping Regulations”, as applicable, and the requirements in Part 11, Marine, of these Regulations.

When the employer is satisfied that the employee is trained he issues a "Training Certificate" to the employee. This certificate must indicate at least the date of initial training, the date of any subsequent training and the aspects of dangerous goods transportation for which the person is trained.

The training certificate is valid for 36 months and must be shown to an inspector on request. A copy of this certificate should be kept on record by the employer for at least two years from the date of expiry. Alberta Transportation, Dangerous Goods and Rail Safety Branch, has produced a sample training certificate which is available from the Co-ordination and Information Centre (CIC). The 24-hour telephone number for the CIC is 1-800-272-9600.

REPORTING

The person who has possession of the dangerous goods at the time of an accidental release or an imminent accidental release must make an immediate report [Section 8.1].

For more information on reporting requirements, request the CIC Information bulletin entitled Reporting an Accidental Release of Dangerous Goods.

An immediate report is required when there is an accidental release that consists of a quantity of dangerous goods or an emission of radiation that is greater than the quantity or emission level set out in the following table:

Table

Class	Quantity	Emission Level
1	<p>Any quantity that</p> <p>(a) could pose a danger to public safety or is greater than 50 kg; or</p> <p>(b) is included in Class 1.1, 1.2, 1.3 or 1.5 and is</p> <p>(i) not subject to special provision 85 or 86 but exceeds 10 kg net explosives quantity, or</p> <p>(ii) subject to special provision 85 or 86 and the number of articles exceeds 1 000.</p>	
2	Any quantity that could pose a danger to public safety or any sustained release of 10 minutes or more	
3	200 L	
4	25 kg	
5.1	50 kg or 50 L	
5.2	1 kg or 1 L	
6.1	5 kg or 5 L	
6.2	Any quantity	
7	Any quantity that could pose a danger to public safety	An emission level greater than the emission level established in section 20 of the "Packaging and Transport of Nuclear Substances Regulations"
8	5 kg or 5 L	
9	25 kg or 25 L	

The immediate report must be made to:

the appropriate authority (in Alberta, the local police and Alberta Transportation at 1-800-272-9600)

the employer

the consignor of the dangerous goods

the owner, lessee or charterer of the vehicle

Canutec at (613)996-6666 for: Class 1, Explosives,
Class 6.2, Infectious Substances and
For an accidental release from a cylinder that has
suffered a catastrophic failure.

Transport Canada, Dangerous Goods Directorate, requires a 30 Day Follow-up report containing the information specified in Section 8.3.

If an immediate report was required to be made for an accidental release, a “dangerous goods accident” or a “dangerous goods incident”, a follow-up report must be made by the employer of the person who had possession of the dangerous goods at the time of the accidental release, the “dangerous goods accident” or the “dangerous goods incident”, or by the person if self-employed.

Note:

The Alberta Environment Recycle Docket is available at the following website:

<http://www.environment.alberta.ca/904.html>

The Recycle Docket is for use in Alberta only.

Dangerous Goods Shipping Document for Road Transport

DESTINATION (City-Town)			CONSIGNOR			
Name:			Name:			
Address:			Address:			
Name of Carrier		Prepaid <input type="checkbox"/>	Collect <input type="checkbox"/>	Transport Unit Number		
Point of Origin			Shipping Date		Shipper's No.	
REGULATED DANGEROUS GOODS			24-Hour Number:			
			ERAP Reference _____ and Telephone Number _____			
Shipping Name	Primary Class	Subsidiary Class	UN Number	Packing Group	Quantity	Packages Requiring Labels
This is to certify that the above named articles are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the <i>Transportation of Dangerous Goods Regulations</i> .						
Special Instructions						
NON-REGULATED GOODS						
Packages	Description of Articles				Weight	
Received in apparent good order			_____ Consignee Signature		_____ Shipper's Signature	
Received in Apparent Good Order	_____ Driver's Signature			_____ Driver's No.		

Please note that this sample shipping document contains some information that is not required in the TDG Regulations. The additional information reflects current industry practice.