



ASSOCIATION OF AMERICAN RAILROADS

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Senior Vice President
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January 27, 2015

Circular No. OT-55-O

(CPC-1312)

Subject: Recommended Railroad Operating Practices for Transportation of Hazardous
Materials

TO: MEMBERS AND PRIVATE CAR OWNERS

AAR's Safety and Operations Management Committee approved changes to OT-55 as reflected below. AAR Circular No. OT-55-O (attached) becomes effective January 27, 2015 and supersedes OT-55-N, issued August 5, 2013.

Changes include:

- The appendices A & B containing a list of PIH/TIH have been added back into this version
- Section V on TRANSCAER® was revised as follows:

“Upon written request, AAR members will provide bona fide emergency response agencies or planning groups with specific commodity flow information covering all at a minimum the top 25 hazardous commodities transported through the community for a 12 month period in rank order.”

The revised standard is included in this circular and is in effect as of the publication date of this circular. Under the provisions of Standard S-050, which may be found on the TTCI web site (www.AAR.com), this circular reflects the final action on this matter.

Sincerely,

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EX-0263-000001-TSS



ASSOCIATION OF AMERICAN RAILROADS

Circular OT-55-O
Effective January 27, 2015

Recommended Railroad Operating Practices For Transportation of Hazardous Materials

Road Operating Practices

I. "Key Trains"

A. Definition: A "Key Train" is any train with:

- One tank car load of Poison or Toxic Inhalation Hazard¹ (PIH or TIH) (Hazard Zone A, B, C, or D), anhydrous ammonia (UN1005), or ammonia solutions (UN3318), or;
- 20 car loads or intermodal portable tank loads of any combination of hazardous material, or;
- One or more car loads of Spent Nuclear Fuel (SNF), High Level Radioactive Waste (HLRW).

Appendices A and B are the lists of PIH/TIH sorted by Hazard Class and alphabetically proper shipping name, and by Hazard Class and Hazardous Materials Response Code (HMRC), respectively, Appendix 1 is a list of SNF and HLRW with 49 Hazmat Codes, Appendix 2 is a list of time sensitive materials and Appendix 3 is a form for requesting hazardous materials commodity flow information.

B. Restrictions:

1. Maximum speed -- "Key Train" - 50 MPH
2. Unless siding or auxiliary track meets FRA Class 2 standards, a Key Train will hold main track at meeting or passing points, when practicable.
3. Only cars equipped with roller bearings will be allowed in a Key Train.
4. If a defect in a "Key Train" bearing is reported by a wayside detector, but a visual inspection fails to confirm evidence of a defect, the train will not exceed 30 MPH until it has passed over the next wayside detector or delivered to a terminal for a mechanical inspection. If the same car again sets off the next detector or is found to be defective, it must be set out from the train.

II. Designation of "Key Routes"

A. Definition: Any track with a combination of 10,000 car loads or intermodal portable tank loads of hazardous materials, or a combination of 4,000 car loadings of PIH or TIH (Hazard zone A, B, C, or D), anhydrous ammonia, flammable gas, Class 1.1 or 1.2 explosives, environmentally sensitive chemicals, Spent Nuclear Fuel (SNF), and High Level Radioactive Waste (HLRW) over a period of one year.

¹ Poison Inhalation Hazard (PIH) and Toxic Inhalation Hazard (TIH) are used interchangeably and refer to the same list of chemicals.

B. Requirements:

1. Wayside defective bearing detectors shall be placed at a maximum of 40 miles apart on "Key Routes", or equivalent level of protection may be installed based on improvements in technology.
2. Main Track on "Key Routes" is inspected by rail defect detection and track geometry inspection cars or any equivalent level of inspection no less than two times each year; sidings are similarly inspected no less than one time each year; and main track and sidings will have periodic track inspections that will identify cracks or breaks in joint bars.
3. Any track used for meeting and passing "Key Trains" must be Class 2 or higher. If a meet or pass must occur on less than Class 2 track due to an emergency, one of the trains must be stopped before the other train passes.

III. Yard Operating Practices

- A. Maximum reasonable efforts will be made to achieve coupling of loaded placarded tank cars at speeds not to exceed 4 MPH.
- B. Loaded placarded tank cars of PIH or TIH (Hazard zone A, B, C or D), anhydrous ammonia, or flammable gas which are cut off in motion for coupling must be handled in not more than 2-car cuts; and cars cut off in motion to be coupled directly to a loaded placarded tank car of PIH or TIH (Hazard zone A, B, C, or D), anhydrous ammonia, or flammable gas must also be handled in not more than 2-car cuts.

IV. Storage

Separation Distance for New Facilities

Loaded Tank Cars and Storage Tanks from Mainline Class 2 Track or Higher

| Activity | PIH (Zone A, B, C or D), Class 3, Division 2.1, Division 2.2 and all other Hazard Classes | Combustible Liquids, Class 8, and Class 9 |
|-----------------------------|---|---|
| Loading and Unloading | 100 FEET | 50 FEET |
| Storage of Loaded Tank Cars | 50 FEET | 25 FEET |
| Storage in Tanks | 100 FEET | 50 FEET |

Note 1– With regard to existing facilities, maximum reasonable effort should be made to conform to this standard taking into consideration cost, physical and legal constraints. New facilities should take into consideration location of Mainline Class 2 Track or higher of all carriers.

Note 2 – The proposals apply to storage on railroad property and on chemical company property located close to railroad mainline.

Note 3 – These separations are primarily intended to provide protection to new facilities from main line derailments. Separation distances were derived from AAR derailment data for distances that cars typically travel from the main line during derailments. Although incidents that may occur in the new facilities cannot be quantified in the same manner, these separation distances will also provide some measure of protection to main line traffic. Also, both track class (e.g. operational speed) and hazard classification (e.g. risk) are factors that were taken into consideration when assigning the categories.

Note 4 – Distances above are measured from track centerline to track centerline or from track centerline to nearest edge of storage tanks.

V. **TRANSCAER®** (Transportation Community Awareness and Emergency Response Implementation of TRANSCAER®)

Railroads will assist in implementing TRANSCAER®, a system-wide community outreach program to improve community awareness, emergency planning and incident response for the transportation of hazardous materials. Objectives of TRANSCAER® are as follows:

- Demonstrate the continuing commitment of chemical manufacturers and transporters to the safe transportation of hazardous materials;
- Improve the relationship between manufacturers, carriers and local officials of communities through which hazardous materials are transported;
- When requested assist Local Emergency Planning Committees (LEPC's) in assessing the hazardous materials moving through their communities and the safeguards that are in place to protect against unintentional releases. Upon written request, AAR members will provide bona fide emergency response agencies or planning groups with specific commodity flow information covering all hazardous commodities transported through the community for a 12 month period in rank order. The request must be made using the form included as Appendix 3 by an official emergency response or planning group with a cover letter on appropriate letterhead bearing an authorized signature. The form reflects the fact that the railroad industry considers this information to be restricted information of a security sensitive nature and that the recipient of the information must agree to release the information only to bona fide emergency response planning and response organizations and not distribute the information publicly in whole or in part without the individual railroad's express written permission. It should be noted that commercial requirements change over time, and it is possible that a hazardous materials transported tomorrow might not be included in the specific commodity flow information provided upon request, since that information was not available at the time the list was provided;
- Assist LEPC's in developing emergency plans to cope with hazardous materials transportation incidents;
- Assist community response organizations in preparations for responding to hazardous materials incidents.

An important product of the TRANSCAER® program will be to overcome the widespread belief that every local firefighter and policeman must have the expert skills and equipment to respond personally to any hazardous materials emergency. Through the awareness training and contingency planning provided through TRANSCAER®, states and local communities will be able to pool their expertise and resources with those of industry to provide for a more coordinated and better managed emergency response system.

TRANSCAER® should be highly publicized to produce the maximum desirable enhancement of public awareness.

VI. **Criteria for Shipper Notification**

The railroads will initiate the shipper's emergency response system by calling CHEMTREC, or the appropriate contact telephone number as required by regulation on the shipping document, when an incident occurs involving any car (load or residue) containing a hazardous material regulated in transportation by the Department of Transportation.

An incident is defined as a rail car which is derailed and not upright, or which has sustained body or tank shell damage, or has sustained a release of any amount of product.

The shipper's emergency response system should also be initiated if the carrier believes there is reason to suspect any other potential for injury to people, property or the environment.

In the event of a major rail accident, a consist (to include shipper, consignee and commodity description for each hazardous material), waybill or equivalent document, should be provided upon request to CHEMTREC or the appropriate shipper contact as identified by the emergency response telephone number

displayed on the shipping document. This can be accomplished by facsimile or other appropriate and acceptable electronic means.

A major rail accident is defined as one resulting in fire, explosion, the potential for an explosion, fatalities, evacuation of the general public, or multiple releases of hazardous materials.

Anytime a consist or other document is provided to CHEMTREC or the appropriate contact a follow-up call by the carrier should be made to confirm the receipt of the information as well as to provide other additional information pertaining to the incident not contained in the facsimile or electronically transmitted document.

This practice does not preclude any carrier from notifying CHEMTREC or the appropriate shipper contact of a rail incident involving hazardous materials that does not meet the criteria outlined above.

VII. Time Sensitive Materials

Railroads and shippers will be responsible for monitoring the shipments (loads & residue) of products classified by the Department of Transportation as being time sensitive.

This monitoring process will, at a minimum, provide a means to ensure the movement of rail cars containing time sensitive materials (for list see Appendix 2) in order to achieve delivery of the product within the time specified by the Department of Transportation.

As warranted, railroads will implement an internal escalation process and communicate with shippers, receivers and other rail carriers concerning any rail car containing a time sensitive product that has been delayed in transit to the extent that it may not reach destination within the time specified by the Department of Transportation. In such cases, an expedited movement of the rail car, or other action as deemed appropriate by the carrier and shipper will be taken.

VIII. Special Provision for Spent Nuclear Fuel (SNF) and High Level Radioactive Waste (HLRW)

When a train carrying SNF or HLRW meets another train carrying loaded tank cars of flammable gas, flammable liquids or combustible liquids in a single bore double track tunnel, one train shall stop outside the tunnel until the other train is completely through the tunnel.

IX. Applicability

These recommendations apply to rail operations within the United States of America.

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(Supersedes Circular No. OT-55-N dated August 5, 2013)

Appendix A:
List of Poison Inhalation Hazard (PIH) or Toxic Inhalation Hazard Chemicals (TIH)
(Hazard Zone A, B, C, or D)
Sorted by Hazard Class and Proper Shipping Name
February 1, 2015

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|--|---|--------|---------------|-------------|--------------|-------------|
| NON-FLAMMABLE GASES, HAZARD CLASS 2.2 | | | | | | |
| 4904211 | AMMONIA SOLUTION | UN3318 | | | 2.2 | |
| 4904210 | AMMONIA, ANHYDROUS | UN1005 | | | 2.2 | |
| 4904879 | AMMONIA, ANHYDROUS | UN1005 | | | 2.2 | |
| POISON GASES, HAZARD CLASS 2.3 | | | | | | |
| 4920190 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | A | 2.3 | |
| 4920551 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | B | 2.3 | |
| 4920552 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | C | 2.3 | |
| 4920553 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | D | 2.3 | |
| 4920191 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | A | 2.3 | |
| 4920554 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | B | 2.3 | |
| 4920555 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | C | 2.3 | |
| 4920557 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | D | 2.3 | |
| 4920192 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | A | 2.3 | |
| 4920558 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | B | 2.3 | |
| 4920560 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | C | 2.3 | |
| 4920561 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | D | 2.3 | |
| 4920193 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | A | 2.3 | |
| 4920562 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | B | 2.3 | |
| 4920563 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | C | 2.3 | |
| 4920564 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | D | 2.3 | |
| 4920194 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | A | 2.3 | |
| 4920565 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | B | 2.3 | |
| 4920566 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | C | 2.3 | |
| 4920567 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | D | 2.3 | |
| 4920198 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | A | 2.3 | |
| 4920568 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | B | 2.3 | |
| 4920569 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | C | 2.3 | |
| 4920572 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | D | 2.3 | |
| 4920360 | AMMONIA SOLUTIONS | UN3318 | | D | 2.3 | |
| 4920359 | AMMONIA, ANHYDROUS | UN1005 | | D | 2.3 | |
| 4920135 | ARSINE | UN2188 | | A | 2.3 | |
| 4920176 | ARSINE, ADSORBED | UN3522 | | A | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|---|--------|---------------|-------------|--------------|-------------|
| 4920349 | BORON TRICHLORIDE | UN1741 | | C | 2.3 | |
| 4920522 | BORON TRIFLUORIDE | UN1008 | | B | 2.3 | |
| 4920573 | BORON TRIFLUORIDE, ADSORBED | UN3519 | | B | 2.3 | |
| 4920715 | BROMINE CHLORIDE | UN2901 | | B | 2.3 | |
| 4920343 | CARBON MONOXIDE AND HYDROGEN MIXTURE, COMPRESSED | UN2600 | | | 2.3 | X |
| 4920399 | CARBON MONOXIDE, COMPRESSED | UN1016 | | D | 2.3 | |
| 4920511 | CARBON MONOXIDE, REFRIGERATED LIQUID | NA9202 | | D | 2.3 | |
| 4920559 | CARBONYL FLUORIDE | UN2417 | | B | 2.3 | |
| 4920351 | CARBONYL SULFIDE | UN2204 | | C | 2.3 | |
| 4920523 | CHLORINE | UN1017 | | B | 2.3 | |
| 4920189 | CHLORINE PENTAFLUORIDE | UN2548 | | A | 2.3 | |
| 4920352 | CHLORINE TRIFLUORIDE | UN1749 | | B | 2.3 | |
| 4920574 | CHLORINE, ADSORBED | UN3520 | | B | 2.3 | |
| 4920516 | CHLOROPICRIN AND METHYL BROMIDE MIXTURES | UN1581 | | B | 2.3 | |
| 4920547 | CHLOROPICRIN AND METHYL BROMIDE MIXTURES | UN1581 | | B | 2.3 | |
| 4920392 | CHLOROPICRIN AND METHYL CHLORIDE MIXTURES | UN1582 | | B | 2.3 | |
| 4920527 | COAL GAS, COMPRESSED | UN1023 | | C | 2.3 | |
| 4920102 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | A | 2.3 | |
| 4920303 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | B | 2.3 | |
| 4920304 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | C | 2.3 | |
| 4920305 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | D | 2.3 | |
| 4920301 | COMPRESSED GAS, TOXIC CORROSIVE, N.O.S. | UN3304 | | D | 2.3 | |
| 4920324 | COMPRESSED GAS, TOXIC CORROSIVE, N.O.S. | UN3304 | | B | 2.3 | |
| 4920379 | COMPRESSED GAS, TOXIC FLAMMABLE, N.O.S. | UN1953 | | D | 2.3 | |
| 4920103 | COMPRESSED GAS, TOXIC OXIDIZING, CORROSIVE, N.O.S. | UN3306 | | A | 2.3 | |
| 4920101 | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S. | UN3304 | | A | 2.3 | |
| 4920331 | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S. | UN3304 | | C | 2.3 | |
| 4920165 | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. | UN1953 | | A | 2.3 | |
| 4920378 | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. | UN1953 | | C | 2.3 | |
| 4920396 | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. | UN1953 | | B | 2.3 | |
| 4920181 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | A | 2.3 | |
| 4920373 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | D | 2.3 | |
| 4920375 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | C | 2.3 | |
| 4920570 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | B | 2.3 | |
| 4920307 | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3306 | | C | 2.3 | |
| 4920308 | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3306 | | D | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|---|--------|---------------|-------------|--------------|-------------|
| 4920104 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | A | 2.3 | |
| 4920309 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | C | 2.3 | |
| 4920310 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | D | 2.3 | |
| 4920337 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | B | 2.3 | |
| 4920395 | CYANOGEN | UN1026 | | B | 2.3 | |
| 4920178 | CYANOGEN CHLORIDE, STABILIZED | UN1589 | | A | 2.3 | |
| 4920107 | DIBORANE | UN1911 | | A | 2.3 | |
| 4920398 | DICHLOROSILANE | UN2189 | | B | 2.3 | |
| 4920174 | DINITROGEN TETROXIDE | UN1067 | | A | 2.3 | |
| 4920353 | ETHYLENE OXIDE | UN1040 | | D | 2.3 | |
| 4920342 | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE | UN3300 | | D | 2.3 | |
| 4920180 | FLUORINE, COMPRESSED | UN1045 | | A | 2.3 | |
| 4920510 | GAS IDENTIFICATION SET | NA9035 | | | 2.3 | |
| 4920534 | GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S. | UN3168 | | | 2.3 | |
| 4920536 | GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S. | UN3169 | | | 2.3 | |
| 4920354 | GERMANE | UN2192 | | B | 2.3 | |
| 4920575 | GERMANE, ADSORBED | UN3523 | | B | 2.3 | |
| 4920515 | HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURES | UN1612 | | C | 2.3 | |
| 4920528 | HEXAFLUOROACETONE | UN2420 | | B | 2.3 | |
| 4920502 | HYDROGEN BROMIDE, ANHYDROUS | UN1048 | | C | 2.3 | |
| 4920503 | HYDROGEN CHLORIDE, ANHYDROUS | UN1050 | | C | 2.3 | |
| 4920504 | HYDROGEN CHLORIDE, REFRIGERATED LIQUID | UN2186 | | C | 2.3 | |
| 4920348 | HYDROGEN IODIDE, ANHYDROUS | UN2197 | | C | 2.3 | |
| 4920122 | HYDROGEN SELENIDE ANHYDROUS | UN2202 | | A | 2.3 | |
| 4920172 | HYDROGEN SELENIDE, ADSORBED | UN3526 | | A | 2.3 | |
| 4920513 | HYDROGEN SULFIDE | UN1053 | | B | 2.3 | |
| 4920115 | INSECTICIDE GASES, TOXIC FLAMMABLE, N.O.S. | UN3355 | | A | 2.3 | |
| 4920550 | INSECTICIDE GASES, TOXIC, N.O.S. | UN1967 | | C | 2.3 | |
| 4920381 | LIQUEFIED GAS, TOXIC FLAMMABLE, N.O.S. | UN3160 | | D | 2.3 | |
| 4920105 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | A | 2.3 | |
| 4920311 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | B | 2.3 | |
| 4920313 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | C | 2.3 | |
| 4920315 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | D | 2.3 | |
| 4920108 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | A | 2.3 | |
| 4920314 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | B | 2.3 | |
| 4920316 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | C | 2.3 | |
| 4920318 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | D | 2.3 | |
| 4920164 | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3160 | | A | 2.3 | |
| 4920380 | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3160 | | C | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|--|--------|---------------|-------------|--------------|-------------|
| 4920382 | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3160 | | B | 2.3 | |
| 4920195 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | A | 2.3 | |
| 4920368 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | C | 2.3 | |
| 4920369 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | D | 2.3 | |
| 4920571 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | B | 2.3 | |
| 4920110 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | A | 2.3 | |
| 4920312 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | B | 2.3 | |
| 4920320 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | C | 2.3 | |
| 4920325 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | D | 2.3 | |
| 4920111 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | A | 2.3 | |
| 4920317 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | B | 2.3 | |
| 4920319 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | C | 2.3 | |
| 4920321 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | D | 2.3 | |
| 4920518 | METHYL BROMIDE | UN1062 | | C | 2.3 | |
| 4920355 | METHYL MERCAPTAN | UN1064 | | C | 2.3 | |
| 4920394 | METHYLCHLOROSILANE | UN2534 | | B | 2.3 | |
| 4920113 | NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURES | UN1975 | | A | 2.3 | |
| 4920112 | NITRIC OXIDE, COMPRESSED | UN1660 | | A | 2.3 | |
| 4920175 | NITROGEN TRIOXIDE | UN2421 | | A | 2.3 | |
| 4920509 | NITROSYL CHLORIDE | UN1069 | | C | 2.3 | |
| 4920344 | OIL GAS, COMPRESSED | UN1071 | | | 2.3 | |
| 4920530 | ORGANIC PHOSPHATE, MIXED WITH COMPRESSED GAS | NA1955 | | C | 2.3 | |
| 4920173 | OXYGEN DIFLUORIDE, COMPRESSED | UN2190 | | A | 2.3 | |
| 4920535 | PARATHION AND COMPRESSED GAS MIXTURE | NA1967 | | C | 2.3 | |
| 4920356 | PERCHLORYL FLUORIDE | UN3083 | | B | 2.3 | |
| 4920184 | PHOSGENE | UN1076 | | A | 2.3 | |
| 4920160 | PHOSPHINE | UN2199 | | A | 2.3 | |
| 4920171 | PHOSPHINE, ADSORBED | UN3525 | | A | 2.3 | |
| 4920326 | PHOSPHORUS PENTAFLUORIDE | UN2198 | | B | 2.3 | |
| 4920576 | PHOSPHORUS PENTAFLUORIDE, ADSORBED | UN3524 | | B | 2.3 | |
| 4920106 | SELENIUM HEXAFLUORIDE | UN2194 | | A | 2.3 | |
| 4920357 | SILICON TETRAFLUORIDE | UN1859 | | B | 2.3 | |
| 4920577 | SILICON TETRAFLUORIDE, ADSORBED | UN3521 | | B | 2.3 | |
| 4920167 | STIBINE | UN2676 | | A | 2.3 | |
| 4920508 | SULFUR DIOXIDE | UN1079 | | C | 2.3 | |
| 4920187 | SULFUR TETRAFLUORIDE | UN2418 | | A | 2.3 | |
| 4920526 | SULFURYL FLUORIDE | UN2191 | | D | 2.3 | |
| 4920188 | TELLURIUM HEXAFLUORIDE | UN2195 | | A | 2.3 | |
| 4920347 | TRIFLUOROACETYL CHLORIDE | UN3057 | | B | 2.3 | |
| 4920346 | TRIFLUOROCHLOROETHYLENE, STABILIZED | UN1082 | | C | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|--|---|--------|---------------|-------------|--------------|-------------|
| 4920371 | TUNGSTEN HEXAFLUORIDE | UN2196 | | B | 2.3 | |
| FLAMMABLE LIQUIDS, HAZARD CLASS 3 | | | | | | |
| 4907434 | ETHYL ISOCYANATE | UN2481 | 1 | | 3 | X |
| 4907409 | ISOBUTYL ISOCYANATE | UN2486 | 2 | | 3 | X |
| 4909306 | ISOPROPYL ISOCYANATE | UN2483 | 1 | | 3 | X |
| 4910370 | METHACRYLONITRILE, STABILIZED | UN3079 | 1 | | 3 | X |
| 4909307 | METHOXYMETHYL ISOCYANATE | UN2605 | 1 | | 3 | X |
| SPONTANEOUSLY COMBUSTIBLE, HAZARD CLASS 4.2 | | | | | | |
| 4916138 | PENTABORANE | UN1380 | 1 | A | 4.2 | |
| OXIDIZERS, HAZARD CLASS 5.1 | | | | | | |
| 4918505 | BROMINE PENTAFLUORIDE | UN1745 | 1 | A | 5.1 | |
| 4918507 | BROMINE TRIFLUORIDE | UN1746 | 1 | B | 5.1 | |
| 4918180 | TETRANITROMETHANE | UN1510 | 1 | | 5.1 | X |
| POISONS, HAZARD CLASS 6.1 | | | | | | |
| 4921402 | 2-CHLOROETHANAL | UN2232 | 1 | B | 6.1 | |
| 4921495 | 2-METHYL-2-HEPTANETHIOL | UN3023 | 1 | B | 6.1 | |
| 4921741 | 3,5-DICHLORO-2,4,6- TRIFLUOROPYRIDINE | NA9264 | 1 | B | 6.1 | |
| 4921401 | ACETONE CYANOHYDRIN, STABILIZED | UN1541 | 1 | B | 6.1 | |
| 4927007 | ACROLEIN, STABILIZED | UN1092 | 1 | A | 6.1 | |
| 4921019 | ALLYL ALCOHOL | UN1098 | 1 | B | 6.1 | |
| 4923113 | ALLYL CHLOROFORMATE | UN1722 | 1 | B | 6.1 | |
| 4921004 | ALLYLAMINE | UN2334 | 1 | B | 6.1 | |
| 4923209 | ARSENIC TRICHLORIDE | UN1560 | 1 | B | 6.1 | |
| 4921727 | BROMOACETONE | UN1569 | 2 | B | 6.1 | |
| 4921558 | CHLOROACETONE, STABILIZED | UN1695 | 1 | B | 6.1 | |
| 4921009 | CHLOROACETONITRILE | UN2668 | 2 | | 6.1 | X |
| 4921439 | CHLOROACETONITRILE | UN2668 | 1 | B | 6.1 | |
| 4923117 | CHLOROACETYL CHLORIDE | UN1752 | 1 | B | 6.1 | |
| 4921414 | CHLOROPICRIN | UN1580 | 1 | B | 6.1 | |
| 4921746 | CHLOROPIVALOYL CHLORIDE | NA9263 | 1 | B | 6.1 | |
| 4921248 | CROTONALDEHYDE | UN1143 | 1 | B | 6.1 | |
| 4921010 | CYCLOHEXYL ISOCYANATE | UN2488 | 1 | B | 6.1 | |
| 4921254 | DIKETENE, STABILIZED | UN2521 | 1 | B | 6.1 | |
| 4921405 | DIMETHYL SULFATE | UN1595 | 1 | B | 6.1 | |
| 4921251 | DIMETHYLHYDRAZINE, SYMETRICAL | UN2382 | 1 | B | 6.1 | |
| 4921202 | DIMETHYLHYDRAZINE, UNSYMMETRICAL | UN1163 | 1 | B | 6.1 | |
| 4921020 | ETHYL CHLOROFORMATE | UN1182 | 1 | B | 6.1 | |
| 4927035 | ETHYL ISOCYANATE | UN2481 | 1 | A | 6.1 | |
| 4921745 | ETHYL PHOSPHONOTHIOIC DICHLORIDE, ANHYDROUS | NA2927 | 1 | B | 6.1 | |
| 4921742 | ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS | NA2845 | 1 | B | 6.1 | |
| 4921744 | ETHYL PHOSPHORODICHLORIDATE | NA2927 | 1 | B | 6.1 | |
| 4921404 | ETHYLDICHLOROARSINE | UN1892 | 1 | B | 6.1 | |
| 4921420 | ETHYLENE CHLOROHYDRIN | UN1135 | 1 | B | 6.1 | |
| 4921497 | ETHYLENE DIBROMIDE | UN1605 | 1 | B | 6.1 | |
| 4927006 | ETHYLENEIMINE, STABILIZED | UN1185 | 1 | A | 6.1 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|--|--------|---------------|-------------|--------------|-------------|
| 4921722 | HEXACHLOROCYCLOPENTADIENE | UN2646 | 1 | B | 6.1 | |
| 4921028 | HYDROCYANIC ACID, AQUEOUS SOLUTIONS | UN1613 | 1 | B | 6.1 | |
| 4921239 | HYDROGEN CYANIDE, SOLUTION IN ALCOHOL | UN3294 | 1 | B | 6.1 | |
| 4927014 | HYDROGEN CYANIDE, STABILIZED | UN1051 | 1 | A | 6.1 | |
| 4927004 | IRON PENTACARBONYL | UN1994 | 1 | A | 6.1 | |
| 4921211 | ISOBUTYL CHLOROFORMATE | NA2742 | 1 | B | 6.1 | |
| 4927036 | ISOBUTYL ISOCYANATE | UN2486 | 1 | A | 6.1 | |
| 4921252 | ISOPROPYL CHLOROFORMATE | UN2407 | 1 | B | 6.1 | |
| 4927037 | ISOPROPYL ISOCYANATE | UN2483 | 1 | A | 6.1 | |
| 4921440 | METHACRYLONITRILE, STABILIZED | UN3079 | 1 | B | 6.1 | |
| 4921245 | METHANESULFONYL CHLORIDE | UN3246 | 1 | B | 6.1 | |
| 4927038 | METHOXYMETHYL ISOCYANATE | UN2605 | 1 | A | 6.1 | |
| 4921438 | METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURES, LIQUID | UN1647 | 1 | B | 6.1 | |
| 4927008 | METHYL CHLOROFORMATE | UN1238 | 1 | A | 6.1 | |
| 4927012 | METHYL CHLOROMETHYL ETHER | UN1239 | 1 | A | 6.1 | |
| 4921304 | METHYL IODIDE | UN2644 | 1 | B | 6.1 | |
| 4927009 | METHYL ISOCYANATE | UN2480 | 1 | A | 6.1 | |
| 4921487 | METHYL ISOTHIOCYANATE | UN2477 | 1 | B | 6.1 | |
| 4921255 | METHYL ORTHOSILICATE | UN2606 | 1 | B | 6.1 | |
| 4921695 | METHYL PHOSPHONIC DICHLORIDE | NA9206 | 1 | B | 6.1 | |
| 4921008 | METHYL PHOSPHONOUS DICHLORIDE | NA2845 | 1 | B | 6.1 | |
| 4927022 | METHYL VINYL KETONE, STABILIZED | UN1251 | 1 | A | 6.1 | |
| 4921275 | METHYLDICHLOROARSINE | NA1556 | 1 | B | 6.1 | |
| 4927011 | METHYLHYDRAZINE | UN1244 | 1 | A | 6.1 | |
| 4921730 | N-BUTYL CHLOROFORMATE | UN2743 | 1 | B | 6.1 | |
| 4921027 | N-BUTYL ISOCYANATE | UN2485 | 1 | B | 6.1 | |
| 4927010 | NICKEL CARBONYL | UN1259 | 1 | A | 6.1 | |
| 4921756 | N-PROPYL CHLOROFORMATE | UN2740 | 1 | B | 6.1 | |
| 4927025 | N-PROPYL ISOCYANATE | UN2482 | 1 | A | 6.1 | |
| 4921473 | PERCHLOROMETHYLMERCAPTAN | UN1670 | 1 | B | 6.1 | |
| 4921216 | PHENYL ISOCYANATE | UN2487 | 1 | B | 6.1 | |
| 4921413 | PHENYL MERCAPTAN | UN2337 | 1 | B | 6.1 | |
| 4921587 | PHENYLCARBYLAMINE CHLORIDE | UN1672 | 1 | B | 6.1 | |
| 4921437 | PHOSPHORUS OXYCHLORIDE | UN1810 | 1 | B | 6.1 | |
| 4921016 | PHOSPHORUS TRICHLORIDE | UN1809 | 1 | B | 6.1 | |
| 4921207 | SEC-BUTYL CHLOROFORMATE | NA2742 | 1 | B | 6.1 | |
| 4927039 | SULFURYL CHLORIDE | UN1834 | 1 | A | 6.1 | |
| 4927026 | TERT-BUTYL ISOCYANATE | UN2484 | 1 | A | 6.1 | |
| 4921463 | TETRANITROMETHANE | UN1510 | 1 | B | 6.1 | |
| 4921465 | THIOPHOSGENE | UN2474 | 1 | B | 6.1 | |
| 4923298 | THIOPHOSGENE | UN2474 | 2 | | 6.1 | X |
| 4921462 | TITANIUM TETRACHLORIDE | UN1838 | 1 | B | 6.1 | |
| 4921024 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3390 | 1 | B | 6.1 | |
| 4921287 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3390 | 1 | B | 6.1 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|-----------------------------------|---|--------|---------------|-------------|--------------|-------------|
| 4921288 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3390 | 1 | B | 6.1 | |
| 4927028 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3389 | 1 | A | 6.1 | |
| 4921441 | TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. | UN3489 | 1 | B | 6.1 | |
| 4927031 | TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. | UN3488 | 1 | A | 6.1 | |
| 4921003 | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3384 | 1 | B | 6.1 | |
| 4921029 | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3384 | 1 | B | 6.1 | |
| 4927019 | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3383 | 1 | A | 6.1 | |
| 4921000 | TOXIC BY INHALATION LIQUID, N.O.S. | UN3382 | 1 | B | 6.1 | |
| 4927018 | TOXIC BY INHALATION LIQUID, N.O.S. | UN3381 | 1 | A | 6.1 | |
| 4921023 | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. | UN3388 | 1 | B | 6.1 | |
| 4927024 | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. | UN3387 | 1 | A | 6.1 | |
| 4921458 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. | UN3491 | 1 | B | 6.1 | |
| 4927034 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. | UN3490 | 1 | A | 6.1 | |
| 4921006 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. | UN3386 | 1 | B | 6.1 | |
| 4927023 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. | UN3385 | 1 | A | 6.1 | |
| 4921213 | TRIMETHOXYSilANE | NA9269 | 1 | B | 6.1 | |
| 4921063 | TRIMETHYLACETYL CHLORIDE | UN2438 | 1 | B | 6.1 | |
| 4821019 | WASTE ALLYL ALCOHOL | UN1098 | 1 | B | 6.1 | |
| 4821722 | WASTE HEXACHLOROCYCLO- PENTADIENE | UN2646 | 1 | B | 6.1 | |
| 4821029 | WASTE, TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3384 | 1 | B | 6.1 | |
| CORROSIVES, HAZARD CLASS 8 | | | | | | |
| 4932010 | BORON TRIBROMIDE | UN2692 | 1 | B | 8 | |
| 4936110 | BROMINE | UN1744 | 1 | A | 8 | |
| 4930204 | CHLOROSULFONIC ACID | UN1754 | 1 | B | 8 | |
| 4933327 | ETHYL CHLOROTHIOFORMATE | UN2826 | 2 | B | 8 | |
| 4930024 | HYDROGEN FLUORIDE, ANHYDROUS | UN1052 | 1 | C | 8 | |
| 4931201 | NITRIC ACID, RED FUMING | UN2032 | 1 | B | 8 | |
| 4932352 | PHOSPHORUS OXYCHLORIDE | UN1810 | 2 | | 8 | X |
| 4930050 | SULFUR TRIOXIDE, STABILIZED | UN1829 | 1 | B | 8 | |
| 4930030 | SULFURIC ACID, FUMING | UN1831 | 1 | B | 8 | |
| 4930260 | SULFURYL CHLORIDE | UN1834 | 1 | | 8 | X |
| 4932385 | TITANIUM TETRACHLORIDE | UN1838 | 2 | | 8 | X |
| 4935231 | TRICHLOROACETYL CHLORIDE | UN2442 | 2 | B | 8 | |
| 4830030 | WASTE SULFURIC ACID, FUMING | UN1831 | 1 | B | 8 | |

Appendix B:
List of Poison Inhalation Hazard (PIH) or Toxic Inhalation Hazard Chemicals (TIH)
(Hazard Zone A, B, C, or D)
Sorted by Hazmat Response Code #
February 1, 2015

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|--|--------|---------------|-------------|--------------|-------------|
| 4821019 | WASTE ALLYL ALCOHOL | UN1098 | 1 | B | 6.1 | |
| 4821029 | WASTE, TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3384 | 1 | B | 6.1 | |
| 4821722 | WASTE HEXACHLOROCYCLO- PENTADIENE | UN2646 | 1 | B | 6.1 | |
| 4830030 | WASTE SULFURIC ACID, FUMING | UN1831 | 1 | B | 8 | |
| 4904210 | AMMONIA, ANHYDROUS | UN1005 | | | 2.2 | |
| 4904211 | AMMONIA SOLUTION | UN3318 | | | 2.2 | |
| 4904879 | AMMONIA, ANHYDROUS | UN1005 | | | 2.2 | |
| 4907409 | ISOBUTYL ISOCYANATE | UN2486 | 2 | | 3 | X |
| 4907434 | ETHYL ISOCYANATE | UN2481 | 1 | | 3 | X |
| 4909306 | ISOPROPYL ISOCYANATE | UN2483 | 1 | | 3 | X |
| 4909307 | METHOXYMETHYL ISOCYANATE | UN2605 | 1 | | 3 | X |
| 4910370 | METHACRYLONITRILE, STABILIZED | UN3079 | 1 | | 3 | X |
| 4916138 | PENTABORANE | UN1380 | 1 | A | 4.2 | |
| 4918180 | TETRANITROMETHANE | UN1510 | 1 | | 5.1 | X |
| 4918505 | BROMINE PENTAFLUORIDE | UN1745 | 1 | A | 5.1 | |
| 4918507 | BROMINE TRIFLUORIDE | UN1746 | 1 | B | 5.1 | |
| 4920101 | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S. | UN3304 | | A | 2.3 | |
| 4920102 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | A | 2.3 | |
| 4920103 | COMPRESSED GAS, TOXIC OXIDIZING, CORROSIVE, N.O.S. | UN3306 | | A | 2.3 | |
| 4920104 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | A | 2.3 | |
| 4920105 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | A | 2.3 | |
| 4920106 | SELENIUM HEXAFLUORIDE | UN2194 | | A | 2.3 | |
| 4920107 | DIBORANE | UN1911 | | A | 2.3 | |
| 4920108 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | A | 2.3 | |
| 4920110 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | A | 2.3 | |
| 4920111 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | A | 2.3 | |
| 4920112 | NITRIC OXIDE, COMPRESSED | UN1660 | | A | 2.3 | |
| 4920113 | NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURES | UN1975 | | A | 2.3 | |
| 4920115 | INSECTICIDE GASES, TOXIC FLAMMABLE, N.O.S. | UN3355 | | A | 2.3 | |
| 4920122 | HYDROGEN SELENIDE ANHYDROUS | UN2202 | | A | 2.3 | |
| 4920135 | ARSINE | UN2188 | | A | 2.3 | |
| 4920160 | PHOSPHINE | UN2199 | | A | 2.3 | |
| 4920164 | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3160 | | A | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|---|--------|---------------|-------------|--------------|-------------|
| 4920165 | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. | UN1953 | | A | 2.3 | |
| 4920167 | STIBINE | UN2676 | | A | 2.3 | |
| 4920171 | PHOSPHINE, ADSORBED | UN3525 | | A | 2.3 | |
| 4920172 | HYDROGEN SELENIDE, ADSORBED | UN3526 | | A | 2.3 | |
| 4920173 | OXYGEN DIFLUORIDE, COMPRESSED | UN2190 | | A | 2.3 | |
| 4920174 | DINITROGEN TETROXIDE | UN1067 | | A | 2.3 | |
| 4920175 | NITROGEN TRIOXIDE | UN2421 | | A | 2.3 | |
| 4920176 | ARSINE, ADSORBED | UN3522 | | A | 2.3 | |
| 4920178 | CYANOGEN CHLORIDE, STABILIZED | UN1589 | | A | 2.3 | |
| 4920180 | FLUORINE, COMPRESSED | UN1045 | | A | 2.3 | |
| 4920181 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | A | 2.3 | |
| 4920184 | PHOSGENE | UN1076 | | A | 2.3 | |
| 4920187 | SULFUR TETRAFLUORIDE | UN2418 | | A | 2.3 | |
| 4920188 | TELLURIUM HEXAFLUORIDE | UN2195 | | A | 2.3 | |
| 4920189 | CHLORINE PENTAFLUORIDE | UN2548 | | A | 2.3 | |
| 4920190 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | A | 2.3 | |
| 4920191 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | A | 2.3 | |
| 4920192 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | A | 2.3 | |
| 4920193 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | A | 2.3 | |
| 4920194 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | A | 2.3 | |
| 4920195 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | A | 2.3 | |
| 4920198 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | A | 2.3 | |
| 4920301 | COMPRESSED GAS, TOXIC CORROSIVE, N.O.S. | UN3304 | | D | 2.3 | |
| 4920303 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | B | 2.3 | |
| 4920304 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | C | 2.3 | |
| 4920305 | COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3305 | | D | 2.3 | |
| 4920307 | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3306 | | C | 2.3 | |
| 4920308 | COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3306 | | D | 2.3 | |
| 4920309 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | C | 2.3 | |
| 4920310 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | D | 2.3 | |
| 4920311 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | B | 2.3 | |
| 4920312 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | B | 2.3 | |
| 4920313 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | C | 2.3 | |
| 4920314 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | B | 2.3 | |
| 4920315 | LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. | UN3308 | | D | 2.3 | |
| 4920316 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | C | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|--|--------|---------------|-------------|--------------|-------------|
| 4920317 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | B | 2.3 | |
| 4920318 | LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3309 | | D | 2.3 | |
| 4920319 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | C | 2.3 | |
| 4920320 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | C | 2.3 | |
| 4920321 | LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. | UN3307 | | D | 2.3 | |
| 4920324 | COMPRESSED GAS, TOXIC CORROSIVE, N.O.S. | UN3304 | | B | 2.3 | |
| 4920325 | LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3310 | | D | 2.3 | |
| 4920326 | PHOSPHORUS PENTAFLUORIDE | UN2198 | | B | 2.3 | |
| 4920331 | COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S. | UN3304 | | C | 2.3 | |
| 4920337 | COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. | UN3303 | | B | 2.3 | |
| 4920342 | ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE | UN3300 | | D | 2.3 | |
| 4920343 | CARBON MONOXIDE AND HYDROGEN MIXTURE, COMPRESSED | UN2600 | | | 2.3 | X |
| 4920344 | OIL GAS, COMPRESSED | UN1071 | | | 2.3 | |
| 4920346 | TRIFLUOROCHLOROETHYLENE, STABILIZED | UN1082 | | C | 2.3 | |
| 4920347 | TRIFLUOROACETYL CHLORIDE | UN3057 | | B | 2.3 | |
| 4920348 | HYDROGEN IODIDE, ANHYDROUS | UN2197 | | C | 2.3 | |
| 4920349 | BORON TRICHLORIDE | UN1741 | | C | 2.3 | |
| 4920351 | CARBONYL SULFIDE | UN2204 | | C | 2.3 | |
| 4920352 | CHLORINE TRIFLUORIDE | UN1749 | | B | 2.3 | |
| 4920353 | ETHYLENE OXIDE | UN1040 | | D | 2.3 | |
| 4920354 | GERMANE | UN2192 | | B | 2.3 | |
| 4920355 | METHYL MERCAPTAN | UN1064 | | C | 2.3 | |
| 4920356 | PERCHLORYL FLUORIDE | UN3083 | | B | 2.3 | |
| 4920357 | SILICON TETRAFLUORIDE | UN1859 | | B | 2.3 | |
| 4920359 | AMMONIA, ANHYDROUS | UN1005 | | D | 2.3 | |
| 4920360 | AMMONIA SOLUTIONS | UN3318 | | D | 2.3 | |
| 4920368 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | C | 2.3 | |
| 4920369 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | D | 2.3 | |
| 4920371 | TUNGSTEN HEXAFLUORIDE | UN2196 | | B | 2.3 | |
| 4920373 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | D | 2.3 | |
| 4920375 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | C | 2.3 | |
| 4920378 | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. | UN1953 | | C | 2.3 | |
| 4920379 | COMPRESSED GAS, TOXIC FLAMMABLE, N.O.S. | UN1953 | | D | 2.3 | |
| 4920380 | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3160 | | C | 2.3 | |
| 4920381 | LIQUEFIED GAS, TOXIC FLAMMABLE, N.O.S. | UN3160 | | D | 2.3 | |
| 4920382 | LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3160 | | B | 2.3 | |
| 4920392 | CHLOROPICRIN AND METHYL CHLORIDE MIXTURES | UN1582 | | B | 2.3 | |
| 4920394 | METHYLCHLOROSILANE | UN2534 | | B | 2.3 | |
| 4920395 | CYANOGEN | UN1026 | | B | 2.3 | |
| 4920396 | COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. | UN1953 | | B | 2.3 | |
| 4920398 | DICHLOROSILANE | UN2189 | | B | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|---|--------|---------------|-------------|--------------|-------------|
| 4920399 | CARBON MONOXIDE, COMPRESSED | UN1016 | | D | 2.3 | |
| 4920502 | HYDROGEN BROMIDE, ANHYDROUS | UN1048 | | C | 2.3 | |
| 4920503 | HYDROGEN CHLORIDE, ANHYDROUS | UN1050 | | C | 2.3 | |
| 4920504 | HYDROGEN CHLORIDE, REFRIGERATED LIQUID | UN2186 | | C | 2.3 | |
| 4920508 | SULFUR DIOXIDE | UN1079 | | C | 2.3 | |
| 4920509 | NITROSYL CHLORIDE | UN1069 | | C | 2.3 | |
| 4920510 | GAS IDENTIFICATION SET | NA9035 | | | 2.3 | |
| 4920511 | CARBON MONOXIDE, REFRIGERATED LIQUID | NA9202 | | D | 2.3 | |
| 4920513 | HYDROGEN SULFIDE | UN1053 | | B | 2.3 | |
| 4920515 | HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURES | UN1612 | | C | 2.3 | |
| 4920516 | CHLOROPICRIN AND METHYL BROMIDE MIXTURES | UN1581 | | B | 2.3 | |
| 4920518 | METHYL BROMIDE | UN1062 | | C | 2.3 | |
| 4920522 | BORON TRIFLUORIDE | UN1008 | | B | 2.3 | |
| 4920523 | CHLORINE | UN1017 | | B | 2.3 | |
| 4920526 | SULFURYL FLUORIDE | UN2191 | | D | 2.3 | |
| 4920527 | COAL GAS, COMPRESSED | UN1023 | | C | 2.3 | |
| 4920528 | HEXAFLUOROACETONE | UN2420 | | B | 2.3 | |
| 4920530 | ORGANIC PHOSPHATE, MIXED WITH COMPRESSED GAS | NA1955 | | C | 2.3 | |
| 4920534 | GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S. | UN3168 | | | 2.3 | |
| 4920535 | PARATHION AND COMPRESSED GAS MIXTURE | NA1967 | | C | 2.3 | |
| 4920536 | GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S. | UN3169 | | | 2.3 | |
| 4920547 | CHLOROPICRIN AND METHYL BROMIDE MIXTURES | UN1581 | | B | 2.3 | |
| 4920550 | INSECTICIDE GASES, TOXIC, N.O.S. | UN1967 | | C | 2.3 | |
| 4920551 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | B | 2.3 | |
| 4920552 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | C | 2.3 | |
| 4920553 | ADSORBED GAS, TOXIC, CORROSIVE, N.O.S. | UN3516 | | D | 2.3 | |
| 4920554 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | B | 2.3 | |
| 4920555 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | C | 2.3 | |
| 4920557 | ADSORBED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. | UN3517 | | D | 2.3 | |
| 4920558 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | B | 2.3 | |
| 4920559 | CARBONYL FLUORIDE | UN2417 | | B | 2.3 | |
| 4920560 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | C | 2.3 | |
| 4920561 | ADSORBED GAS, TOXIC, FLAMMABLE, N.O.S. | UN3514 | | D | 2.3 | |
| 4920562 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | B | 2.3 | |
| 4920563 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | C | 2.3 | |
| 4920564 | ADSORBED GAS, TOXIC, N.O.S. | UN3512 | | D | 2.3 | |
| 4920565 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | B | 2.3 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|--|--------|---------------|-------------|--------------|-------------|
| 4920566 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | C | 2.3 | |
| 4920567 | ADSORBED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. | UN3518 | | D | 2.3 | |
| 4920568 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | B | 2.3 | |
| 4920569 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | C | 2.3 | |
| 4920570 | COMPRESSED GAS, TOXIC, N.O.S. | UN1955 | | B | 2.3 | |
| 4920571 | LIQUEFIED GAS, TOXIC, N.O.S. | UN3162 | | B | 2.3 | |
| 4920572 | ADSORBED GAS, TOXIC, OXIDIZING, N.O.S. | UN3515 | | D | 2.3 | |
| 4920573 | BORON TRIFLUORIDE, ADSORBED | UN3519 | | B | 2.3 | |
| 4920574 | CHLORINE, ADSORBED | UN3520 | | B | 2.3 | |
| 4920575 | GERMANE, ADSORBED | UN3523 | | B | 2.3 | |
| 4920576 | PHOSPHORUS PENTAFLUORIDE, ADSORBED | UN3524 | | B | 2.3 | |
| 4920577 | SILICON TETRAFLUORIDE, ADSORBED | UN3521 | | B | 2.3 | |
| 4920715 | BROMINE CHLORIDE | UN2901 | | B | 2.3 | |
| 4921000 | TOXIC BY INHALATION LIQUID, N.O.S. | UN3382 | 1 | B | 6.1 | |
| 4921003 | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3384 | 1 | B | 6.1 | |
| 4921004 | ALLYLAMINE | UN2334 | 1 | B | 6.1 | |
| 4921006 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. | UN3386 | 1 | B | 6.1 | |
| 4921008 | METHYL PHOSPHONOUS DICHLORIDE | NA2845 | 1 | B | 6.1 | |
| 4921009 | CHLOROACETONITRILE | UN2668 | 2 | | 6.1 | X |
| 4921010 | CYCLOHEXYL ISOCYANATE | UN2488 | 1 | B | 6.1 | |
| 4921016 | PHOSPHORUS TRICHLORIDE | UN1809 | 1 | B | 6.1 | |
| 4921019 | ALLYL ALCOHOL | UN1098 | 1 | B | 6.1 | |
| 4921020 | ETHYL CHLOROFORMATE | UN1182 | 1 | B | 6.1 | |
| 4921023 | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. | UN3388 | 1 | B | 6.1 | |
| 4921024 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3390 | 1 | B | 6.1 | |
| 4921027 | N-BUTYL ISOCYANATE | UN2485 | 1 | B | 6.1 | |
| 4921028 | HYDROCYANIC ACID, AQUEOUS SOLUTIONS | UN1613 | 1 | B | 6.1 | |
| 4921029 | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3384 | 1 | B | 6.1 | |
| 4921063 | TRIMETHYLACETYL CHLORIDE | UN2438 | 1 | B | 6.1 | |
| 4921202 | DIMETHYLHYDRAZINE, UNSYMMETRICAL | UN1163 | 1 | B | 6.1 | |
| 4921207 | SEC-BUTYL CHLOROFORMATE | NA2742 | 1 | B | 6.1 | |
| 4921211 | ISOBUTYL CHLOROFORMATE | NA2742 | 1 | B | 6.1 | |
| 4921213 | TRIMETHOXYSILANE | NA9269 | 1 | B | 6.1 | |
| 4921216 | PHENYL ISOCYANATE | UN2487 | 1 | B | 6.1 | |
| 4921239 | HYDROGEN CYANIDE, SOLUTION IN ALCOHOL | UN3294 | 1 | B | 6.1 | |
| 4921245 | METHANESULFONYL CHLORIDE | UN3246 | 1 | B | 6.1 | |
| 4921248 | CROTONALDEHYDE | UN1143 | 1 | B | 6.1 | |
| 4921251 | DIMETHYLHYDRAZINE, SYMMETRICAL | UN2382 | 1 | B | 6.1 | |
| 4921252 | ISOPROPYL CHLOROFORMATE | UN2407 | 1 | B | 6.1 | |
| 4921254 | DIKETENE, STABILIZED | UN2521 | 1 | B | 6.1 | |
| 4921255 | METHYL ORTHOSILICATE | UN2606 | 1 | B | 6.1 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|---|--------|---------------|-------------|--------------|-------------|
| 4921275 | METHYLDICHLOROARSINE | NA1556 | 1 | B | 6.1 | |
| 4921287 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3390 | 1 | B | 6.1 | |
| 4921288 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3390 | 1 | B | 6.1 | |
| 4921304 | METHYL IODIDE | UN2644 | 1 | B | 6.1 | |
| 4921401 | ACETONE CYANOHYDRIN, STABILIZED | UN1541 | 1 | B | 6.1 | |
| 4921402 | 2-CHLOROETHANAL | UN2232 | 1 | B | 6.1 | |
| 4921404 | ETHYLDICHLOROARSINE | UN1892 | 1 | B | 6.1 | |
| 4921405 | DIMETHYL SULFATE | UN1595 | 1 | B | 6.1 | |
| 4921413 | PHENYL MERCAPTAN | UN2337 | 1 | B | 6.1 | |
| 4921414 | CHLOROPICRIN | UN1580 | 1 | B | 6.1 | |
| 4921420 | ETHYLENE CHLOROXYDRIN | UN1135 | 1 | B | 6.1 | |
| 4921437 | PHOSPHORUS OXYCHLORIDE | UN1810 | 1 | B | 6.1 | |
| 4921438 | METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURES, LIQUID | UN1647 | 1 | B | 6.1 | |
| 4921439 | CHLOROACETONITRILE | UN2668 | 1 | B | 6.1 | |
| 4921440 | METHACRYLONITRILE, STABILIZED | UN3079 | 1 | B | 6.1 | |
| 4921441 | TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. | UN3489 | 1 | B | 6.1 | |
| 4921458 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. | UN3491 | 1 | B | 6.1 | |
| 4921462 | TITANIUM TETRACHLORIDE | UN1838 | 1 | B | 6.1 | |
| 4921463 | TETRANITROMETHANE | UN1510 | 1 | B | 6.1 | |
| 4921465 | THIOPHOSGENE | UN2474 | 1 | B | 6.1 | |
| 4921473 | PERCHLOROMETHYLMERCAPTAN | UN1670 | 1 | B | 6.1 | |
| 4921487 | METHYL ISOTHIOCYANATE | UN2477 | 1 | B | 6.1 | |
| 4921495 | 2-METHYL-2-HEPTANETHIOL | UN3023 | 1 | B | 6.1 | |
| 4921497 | ETHYLENE DIBROMIDE | UN1605 | 1 | B | 6.1 | |
| 4921558 | CHLOROACETONE, STABILIZED | UN1695 | 1 | B | 6.1 | |
| 4921587 | PHENYLCARBYLAMINE CHLORIDE | UN1672 | 1 | B | 6.1 | |
| 4921695 | METHYL PHOSPHONIC DICHLORIDE | NA9206 | 1 | B | 6.1 | |
| 4921722 | HEXACHLOROCYCLOPENTADIENE | UN2646 | 1 | B | 6.1 | |
| 4921727 | BROMOACETONE | UN1569 | 2 | B | 6.1 | |
| 4921730 | N-BUTYL CHLOROFORMATE | UN2743 | 1 | B | 6.1 | |
| 4921741 | 3,5-DICHLORO-2,4,6- TRIFLUOROPYRIDINE | NA9264 | 1 | B | 6.1 | |
| 4921742 | ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS | NA2845 | 1 | B | 6.1 | |
| 4921744 | ETHYL PHOSPHORODICHLORIDATE | NA2927 | 1 | B | 6.1 | |
| 4921745 | ETHYL PHOSPHONOTHIOIC DICHLORIDE, ANHYDROUS | NA2927 | 1 | B | 6.1 | |
| 4921746 | CHLOROPIVALOYL CHLORIDE | NA9263 | 1 | B | 6.1 | |
| 4921756 | N-PROPYL CHLOROFORMATE | UN2740 | 1 | B | 6.1 | |
| 4923113 | ALLYL CHLOROFORMATE | UN1722 | 1 | B | 6.1 | |
| 4923117 | CHLOROACETYL CHLORIDE | UN1752 | 1 | B | 6.1 | |
| 4923209 | ARSENIC TRICHLORIDE | UN1560 | 1 | B | 6.1 | |
| 4923298 | THIOPHOSGENE | UN2474 | 2 | | 6.1 | X |
| 4927004 | IRON PENTACARBONYL | UN1994 | 1 | A | 6.1 | |

| HMRC | Proper Shipping Name | UN/NA# | Packing Group | Hazard Zone | Hazard Class | Canada Only |
|---------|---|--------|---------------|-------------|--------------|-------------|
| 4927006 | ETHYLENEIMINE, STABILIZED | UN1185 | 1 | A | 6.1 | |
| 4927007 | ACROLEIN, STABILIZED | UN1092 | 1 | A | 6.1 | |
| 4927008 | METHYL CHLOROFORMATE | UN1238 | 1 | A | 6.1 | |
| 4927009 | METHYL ISOCYANATE | UN2480 | 1 | A | 6.1 | |
| 4927010 | NICKEL CARBONYL | UN1259 | 1 | A | 6.1 | |
| 4927011 | METHYLHYDRAZINE | UN1244 | 1 | A | 6.1 | |
| 4927012 | METHYL CHLOROMETHYL ETHER | UN1239 | 1 | A | 6.1 | |
| 4927014 | HYDROGEN CYANIDE, STABILIZED | UN1051 | 1 | A | 6.1 | |
| 4927018 | TOXIC BY INHALATION LIQUID, N.O.S. | UN3381 | 1 | A | 6.1 | |
| 4927019 | TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. | UN3383 | 1 | A | 6.1 | |
| 4927022 | METHYL VINYL KETONE, STABILIZED | UN1251 | 1 | A | 6.1 | |
| 4927023 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. | UN3385 | 1 | A | 6.1 | |
| 4927024 | TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. | UN3387 | 1 | A | 6.1 | |
| 4927025 | N-PROPYL ISOCYANATE | UN2482 | 1 | A | 6.1 | |
| 4927026 | TERT-BUTYL ISOCYANATE | UN2484 | 1 | A | 6.1 | |
| 4927028 | TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. | UN3389 | 1 | A | 6.1 | |
| 4927031 | TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. | UN3488 | 1 | A | 6.1 | |
| 4927034 | TOXIC BY INHALATION LIQUID, WATER-REACTIVE, FLAMMABLE, N.O.S. | UN3490 | 1 | A | 6.1 | |
| 4927035 | ETHYL ISOCYANATE | UN2481 | 1 | A | 6.1 | |
| 4927036 | ISOBUTYL ISOCYANATE | UN2486 | 1 | A | 6.1 | |
| 4927037 | ISOPROPYL ISOCYANATE | UN2483 | 1 | A | 6.1 | |
| 4927038 | METHOXYMETHYL ISOCYANATE | UN2605 | 1 | A | 6.1 | |
| 4927039 | SULFURYL CHLORIDE | UN1834 | 1 | A | 6.1 | |
| 4930024 | HYDROGEN FLUORIDE, ANHYDROUS | UN1052 | 1 | C | 8 | |
| 4930030 | SULFURIC ACID, FUMING | UN1831 | 1 | B | 8 | |
| 4930050 | SULFUR TRIOXIDE, STABILIZED | UN1829 | 1 | B | 8 | |
| 4930204 | CHLOROSULFONIC ACID | UN1754 | 1 | B | 8 | |
| 4930260 | SULFURYL CHLORIDE | UN1834 | 1 | | 8 | X |
| 4931201 | NITRIC ACID, RED FUMING | UN2032 | 1 | B | 8 | |
| 4932010 | BORON TRIBROMIDE | UN2692 | 1 | B | 8 | |
| 4932352 | PHOSPHORUS OXYCHLORIDE | UN1810 | 2 | | 8 | X |
| 4932385 | TITANIUM TETRACHLORIDE | UN1838 | 2 | | 8 | X |
| 4933327 | ETHYL CHLOROTHIOFORMATE | UN2826 | 2 | B | 8 | |
| 4935231 | TRICHLOROACETYL CHLORIDE | UN2442 | 2 | B | 8 | |
| 4936110 | BROMINE | UN1744 | 1 | A | 8 | |

Appendix 1
Spent Nuclear Fuel (SNF) and High Level Radioactive Waste (HLRW)
August 5, 2013

| HMRC | Proper Shipping Description |
|-------------|--|
| 4929142 | Radioactive Material, Type B(U) Package, Fissile |
| 4929143 | Radioactive Material, Type B(M) Package, Fissile |
| 4929144 | Radioactive Material, Transported Under Special Arrangement, Fissile |
| 4929147 | Radioactive Material, Transported Under Special Arrangement |

Appendix 2
Time Sensitive Materials
August 5, 2013

| Proper Shipping Name | Haz Mat STCC |
|---|---------------------|
| 20 Day | |
| Ethylene, refrigerated liquid | 4905735 |
| Hydrogen, refrigerated liquid | 4905745 |
| Vinyl Fluoride, stabilized | 4905793 |
| Chloroprene, stabilized | 4907223 |
| Flammable Liquid, n.o.s. (Methyl Methacrylate Monomer, uninhibited) | 4907255 |
| Hydrogen chloride, refrigerated liquid | 4920504 |
| 30 day | |
| Styrene monomer, stabilized | 4907265 |
| Styrene monomer, stabilized | 4907235 |

Appendix 3

Sample Request for Hazardous Materials Commodity Flow Information

August 5, 2013

[Company LOGO]

Request for Hazardous Materials COMMODITY FLOW INFORMATION

Organization Requesting Information: _____

Contact Person: _____

Phone Number: _____

Email Address: _____

Mailing Address: _____
(Street Address)

(City, State, Zip)

Geographical Description of Area for study: _____

Preferred method to receive report: Email U.S. Mail (Mark One)

By signing below I acknowledge and agree to the terms set forth by [RAILROAD NAME] for use and dissemination of the [RAILROAD'S] Hazardous Materials Commodity Flow Information. [RAILROAD'S NAME] considers this information to be restricted information of a security sensitive nature. I thus affirm and agree that the information provided by [RAILROAD NAME] in this report will be used solely for and by bona fide emergency planning and response organizations for the expressed purpose of emergency and contingency planning. This information will not be distributed publicly in whole or in part without the expressed written permission of [RAILROAD NAME].

(Signature of person requesting commodity flow information)

Return Completed Form to: [INSERT RAILROAD NAME AND ADDRESS]

For [RAILROAD] Use Only

[PERSON RESPONSIBLE FOR APPROVAL]: ___ Yes ___ NO Date: _____

Hazardous Materials Service Support:

Date Request Received: _____

Time Period Covered: _____

Date Report Sent: _____

Report sent via: Email U.S. Mail

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rvanderclute@aar.org | www.aar.org