

1996 CONSOLIDATED AUDIT

HAZARDOUS MATERIALS TRANSPORTATION REVIEW

TEAM LEADER - HELEN CAUSEY

FUNCTIONAL LEADERS - DEAN SMITH

DO A 043051
CONFIDENTIAL

Hazardous Materials Transportation Review

HMTR Questionnaires

Review Date 9/10/96

Location/Division: LAD

Plant/Facility: Chlorine

Plant Address: _____

Superintendent: J.J. Hiemenz
(Process leader)

Major Author: Helen Causey

Review Team Members: Dean Smith, Helen Causey, Wally Cutrer, Todd Boken

Chemicals Reviewed:

DRI:

Chlorine

Sulfuric Acid

This document has been developed solely for use within The Dow Chemical Company, and is thus marked as "Dow Restricted". Sharing of this document with persons not employed by or affiliated with The Dow Chemical Company must be cleared through the North America Safety, Loss Prevention, and Security Department.

April 1995

Dow Restricted

DO A 043052
CONFIDENTIAL

DO A 043053
CONFIDENTIAL

HMTR Questionnaires

Introduction

This collection of questionnaires is a part of the Review Package for the Hazardous Materials Transportation Review (HMTR) which will be discussed in the Formal Review during the Consolidated Audit. Complete only the questionnaires that apply to your plant.

Purpose

To provide a basis for discussion, at the Formal Review, of the plant's awareness and understanding of its distribution responsibilities.

Responsibility

The plant superintendent/process leader is ultimately responsible for completing the questionnaires and distributing them when completed.

The superintendent/process leader may designate a knowledgeable person to complete and distribute the questionnaires.

Deciding which questionnaires to complete

Use this table to decide which questionnaires you must complete.

If you ...	Then fill in the...
Are preparing for a HMTR	Emergency Response Questionnaire and Equipment Construction Questionnaire

AND...

If you...	Then fill in the...
Ship bulk materials	Outbound Bulk Questionnaire
Receive purchased materials	Inbound Bulk Questionnaire
Ship or receive materials by marine vessel	Marine Questionnaire
Ship bulk waste materials	Waste Questionnaire

What to do with the completed questionnaire

Distribute to the appropriate Review Committee members, at least three weeks prior to the Consolidated Audit.

Note: Contact your HMTR focal point for the names and numbers of copies to distribute.

Hazardous Materials Transportation Review
HMTR Questionnaires

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

EMERGENCY RESPONSE QUESTIONNAIRE

Resource - Operations, Distribution Emergency Response, Site Emergency Services

Responsible Care Distribution Code compliance for Element 5.1

B 1. Who are the Dow "Knowledgeable Plant Contacts" (KPCs) for an en route emergency?

Name Wally Cutrer 24 Hr Phone 504-353-8443

Name Glenn Wisdom 24 Hr Phone 504-353-8443

Name _____ 24 Hr Phone _____

Name _____ 24 Hr Phone _____

Responsible Care Distribution Code compliance for Element 5.1

B 2. How do you document that these contacts are trained and familiar with their role in a distribution emergency response?

Dow training records

Responsible Care Distribution Code compliance for Element 5.1

B 3. Are E/R responders with HAZMAT Technician or NFPA Level A training available to respond to transportation emergencies with your material?

Yes ☒ No ☐ Not Apply ☐

Responsible Care Distribution Code compliance for Element 5.1

B 4. For purchased materials, who are "knowledgeable" contacts for an en route emergency?

Supplier Name : Sulfuric Acid/ Cytec / Joan Adair 24 Hr Phone: 1-800-537-2649

Supplier Name _____ 24 Hr Phone _____

B 5. Are ALL inbound raw materials F.O.B. Dow? (i.e. Dow accepts ownership when it arrives at Dow's gate.)

Yes ☒ No ☐ Not Apply ☐

Responsible Care Distribution Code compliance for Element 5.2

B 6. Do the plant's KPCs have a Distribution Emergency Response (E/R) information packet, notebook, or briefcase for the materials both shipped and received by the plant?

Yes ☒ No ☐

If "No", why not? _____

Hazardous Materials Transportation Review
HMTR Questionnaires

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

EMERGENCY RESPONSE QUESTIONNAIRE

Responsible Care Distribution Code compliance for Element 5.2

C 7. What special properties of your material should be made known?

____ DOT Corrosive, Poison _____

Responsible Care Distribution Code compliance for Element 5.2

C 8. What "specialized" equipment and/or resources would be necessary in a transportation incident?
Consider: Drager or GasTec sample pump and tubes, explosimeters, absorbent materials,
neutralizers, materials of construction, and clean-up and disposal information.

____ C-Kit, Drager Tubes, neutralization techniques _____

Responsible Care Distribution Code compliance for Element 5.1

A 9. What system do you have to verify that the driver or conductor has the required papers and
emergency response information? Ref: 49 CFR 172.600 - 604

____ Provided by railroad on shipping paperwork _____

DO A 043056
CONFIDENTIAL

Hazardous Materials Transportation Review
HMTR Questionnaires

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

EQUIPMENT CONSTRUCTION QUESTIONNAIRE

Resource - Distribution Emergency Response, Distribution Regulatory Affairs, Tech Centers

Responsible Care Distribution Code compliance for Element 4.1

- A 1. What are the acceptable Dow or Department of Transportation (DOT) equipment specifications?
Ref: 49 CFR 172 & 173, Global Hazardous Materials Distribution Guidelines, Distribution
Operating Standards

Not Known []

Drum (like UN 1A1): _____ Not Apply []
Cylinder (like DOT 3A): _____ Not Apply []
Tank Truck (like MC 307): _____ Not Apply []
IMO Bulk Tank (like IM 101): _____ Not Apply []
Rail Car (like DOT 111A100): DOT 1005500W Not Apply []
Other: _____ Not Apply []

Responsible Care Distribution Code compliance for Element 4.1

- A 2. Can this material be transported without requiring special local, state, or federal permits or approvals
(like: DOT Exemptions or special approvals)? Ref: 49 CFR 107 Subpart B

Yes [x] No []

If "No", please attach copies of the exemptions or approvals.

Responsible Care Distribution Code compliance for Element 4.1

- A 3. How is the container material of construction verified for compatibility before loading?
Ref: 49 CFR 173.22

Dedicated fleets under direction of North American rail fleet organization

Responsible Care Distribution Code compliance for Element 4.1

- C 4. How is the gasket material verified for compatibility before loading?

Plant Procedures/specifications

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

OUTBOUND BULK QUESTIONNAIRE

Resource - Manufacturing, Distribution/Traffic, Distribution Regulations, Industrial Hygiene, Product Tech Center, Distribution Emergency Response

C 1. List any special concerns for this material while in transit?

Like: Anhydrous HCl - Extended time will result in excessive pressure.

Responsible Care Distribution Code compliance for Element 4.1

A 2. Do you have a process to verify? 49 CFR 171 -174

Correct unit number	Yes ☒	No ☐	Not Apply ☐
Correct DOT vehicle specification	Yes ☒	No ☐	Not Apply ☐
Container integrity	Yes ☒	No ☐	Not Apply ☐
Analysis of heels	Yes ☐	No ☒	Not Apply ☐
Note: analysis not done, but process in place to investigate large heels			
Final securement	Yes ☒	No ☐	Not Apply ☐
Carrier has appropriate personal protective equipment	Yes ☐	No ☐	Not Apply ☒

Responsible Care Distribution Code compliance for Element 3.1

B 3. Are you satisfied with the safety, service, and emergency preparedness of the companies transporting your materials?

Yes ☒	No ☐	Not Apply ☐	for Rail
Yes ☐	No ☐	Not Apply ☒	for Truck

Responsible Care Distribution Code compliance for Element 3.2

B 4. Do you have a system to provide input to those evaluating carrier performance?

Yes ☒	No ☐	Not Apply ☐	for Rail
Yes ☐	No ☐	Not Apply ☒	for Truck

Responsible Care Distribution Code compliance for Element 2.3

B 5. For truck transportation, is product specific driver training provided by Dow personnel?

Yes ☐	No ☐	Not Apply ☒
------------------------------	-----------------------------	---

A 6. Has personal protective equipment required for loading this product been tested or approved by the Industrial Hygiene Department? Ref: 29 CFR 1910.133 - 134

Yes ☒	No ☐
---	-----------------------------

Hazardous Materials Transportation Review
HMTR Questionnaires

Responsible Care Distribution Code compliance for Element 4.2

- A 7. Do you have a written procedure to prevent incompatible materials from being loaded on the same vehicle or in adjacent compartments?

Ref: 49 CFR 173.24(e)4 and Global Hazardous Materials Distribution Guidelines

Yes ☐ No ☐ Not Apply ☒ for Rail

Yes ☐ No ☐ Not Apply ☒ for Truck

- A 8. List the methods used to assure that the container is not overloaded:

Ref: 49 CFR 173.24, 173.314

For Rail Scale with automatic cutoff]

For Truck _____ Not Apply ☒

Responsible Care Distribution Code compliance for Element 4.2

- B 9. Is the vapor space prevented from passing through the flammable range during loading?

Yes ☐ No ☐ Not Apply ☒ for Rail

Yes ☐ No ☐ Not Apply ☒ for Truck

- C 10. Are only Dow personnel involved in loading this product?

Yes ☐ No ☒ Not Apply ☐ for Rail

Yes ☐ No ☐ Not Apply ☒ for Truck

Responsible Care Distribution Code compliance for Element 2.3

- B 11. Have non-Dow personnel been trained in the proper handling of this material?

Yes ☒ No ☐ Not Apply ☐

Responsible Care Distribution Code compliance for Element 2.3

- A 12. How do you assure the non-Dow loader uses the proper protective equipment during the loading operation? Ref: 29 CFR 1910.133 - 134

Enforcement of operating procedures

Not Apply ☐

DO A 043059
CONFIDENTIAL

Responsible Care Distribution Code compliance for Element 2.3

- C 13. How are special Dow procedures and requirements for specific products communicated to carriers?
(For example: we require dry disconnects for Epichlorohydrin.)
-
-

Responsible Care Distribution Code compliance for Element 2.4

- B 14. Is there a documented process in place for determining and recording carrier compliance with special procedures and requirements?

Yes ☐ No ☐ Not Apply ☒ for Rail

Yes ☐ No ☐ Not Apply ☒ for Truck

Responsible Care Distribution Code compliance for Element 3.1

- C 15. Do you decide which carriers will be used for your shipments?

Yes ☐ No ☐ Not Apply ☒ for Rail

Yes ☐ No ☐ Not Apply ☒ for Truck

If yes, how? _____

If no, what is the process of identifying carriers for your shipments?

Responsible Care Distribution Code compliance for Element 4.4

- C 16. Where are instructions for proper cleaning of distribution containers documented?

MSDS ☐ TEDER ☐ Product Handbook ☐ Other _____

DO A 043060
CONFIDENTIAL

Hazardous Materials Transportation Review
HMTR Questionnaires

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

INBOUND BULK QUESTIONNAIRE

Responsible Care Distribution Code compliance for Element 4.3 -- Whole section

Resource - Product Prime Buyer (through division Purchasing), Distribution Regulations, Distribution Emergency Response, Industrial Hygiene

B 1. Do you have a "system" to report supplier defects to the purchasing department?

Yes ☒ No ☐

C 2. List any concerns you have for this material while in transit?

Like: Anhydrous HCl - Extended time will result in excessive pressure.

A 3. Has personal protective equipment required for unloading this product been tested or approved by the Industrial Hygiene Department? Ref: 29 CFR 1910.133 -134

Yes ☒ No ☐

C 4. Are only Dow personnel involved in unloading this product in your plant?

Yes ☒ No ☐

A 5. Has the non-Dow unloader been trained in proper unloading procedures in your plant?

Ref: 49 CFR 174.67 and 177.834

Yes ☐ No ☐ Not Apply ☒

A 6. Who documents the training? _____

A 7. How do you assure the non-Dow unloader uses the proper protective equipment during the unloading operation? (Like: cooling tower chemicals, compressed gases, and other raw materials.)

Ref: 29 CFR 1910.133 - 134

Not Apply ☒

B 8. Is the material analyzed for positive identification before unloading begins?

Yes ☒ No ☐

B 9. Is the vapor space prevented from passing through the flammable range during unloading?

Yes ☒ No ☐ Not Apply ☐

Hazardous Materials Transportation Review
HMTR Questionnaires

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

MARINE QUESTIONNAIRE — Does not Apply

Resource - Marine Technology Center (Freeport, TX), Marine Chartering (Houston, TX), Your local Marine Dept.

- C 1. Are Dow personnel the only ones directly involved with the marine transfer (loading/unloading) operations for the material being shipped into or out of your facility?

Yes [] No []

- A 2. If "No", how is training and/or licensing verified for the other people involved with the marine transfer? Ref: 46 CFR, Parts 10 and 12

- A 3. Is the training documented? Ref: 46 CFR, Parts 10 and 12

Yes [] No [] Not Apply []

- B 4. Have the facilities of the department performing the transfer been audited via the Marine Tech Center or the Terminal Tech Center?

Yes [] No []

Date of last Review _____

- C 5. If "YES", attach a copy of the recommendations and response/action plans from the last Marine Tech Center or Terminal Tech Center audit.

Not Apply []

- A 6. Does your facility Emergency Response Plan include contingency plans for marine emergencies which comply with the Dow Marine E/R Guidelines.

Ref: 33 CFR, Parts 150 and 154

Yes [] No []

If "NO", what are your plans to achieve compliance? _____

- A 7. Is your Marine E/R plan periodically tested? Ref: 33 CFR, Parts 150 and 154

Yes [] No [] Not Apply []

- A 8. Is the testing of your Marine E/R plan documented? Ref: 33 CFR, Parts 150 and 154

Yes [] No [] Not Apply []

Hazardous Materials Transportation Review
HMTR Questionnaires

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

MARINE QUESTIONNAIRE

Does Not Apply

B 9. Does the department responsible for loading check for the cleanliness and compatibility of the ship/barge tank prior to loading?

Yes [] No []

C 10. Are compartments analyzed for "last contents," if you load on product heels.

Yes [] No []

Responsible Care Distribution Code compliance for Element 4.2

A 11. Do you have a written procedure to prevent incompatible materials from being loaded on the same vessel in adjacent tanks? Ref. 46 CFR Part 150, Table 1

Yes [] No []

A 12. List the methods used to assure that the vessel tank/container is not overloaded:
Ref. 46 CFR 151.45-6, 46 CFR 150.500

B 13. Is the vapor space prevented from passing through the flammable range during loading/unloading?

Yes [] No [] Not Apply []

A 14. Are all personnel within the cargo area or involved in the cargo transfer (including sampling or measuring) required to use specified protective equipment and clothing?
Ref: 46 CFR 150.455

Yes [] No []

B 15. Has personal protective equipment, utilized by personnel working on behalf of Dow, been tested or approved by the Industrial Hygiene Department?
(NOTE: Ships crew are not considered working on behalf of Dow.)

Yes [] No []

A 16. How are carrier personnel informed of the hazards of the material being transported?
Ref: 46 CFR 150.500

Name of Material _____

- A = based on government regulations, corporate minimum requirements, and area/division safety standards.
B = based on established good practices, internal and external guidelines, and to stimulate discussion or training.
C = based on identifying hazards and hazard mitigation.

WASTE QUESTIONNAIRE

Resource - Environmental Services, Environmental Operations

B 1. Has Environmental Services reviewed your materials within the last 3 years?

Yes ☐ No ☐ When? _____

B 2. What modes of transport are used to ship this material?

Package truck ☐ Bulk truck ☐ Vacuum truck ☐ Rail ☐ Other ☐

C 3. Are only Dow personnel involved in loading/unloading this material?

Yes ☐ No ☐ Not Apply ☐

B 4. Have non-Dow personnel been trained in the proper handling of this material?

Yes ☐ No ☐ Not Apply ☐

A 5. How do you assure the non-Dow unloader uses the proper protective equipment during the unloading operations? Ref: 29 CFR 1910.133 - 134

Not Apply ☐

A 6. Do you have a process to verify? Ref: 49 CFR 171 -174

Correct unit number	Yes ☐ No ☐ Not Apply ☐
Correct DOT vehicle/container specification	Yes ☐ No ☐ Not Apply ☐
Container integrity	Yes ☐ No ☐ Not Apply ☐
Analysis of heels	Yes ☐ No ☐ Not Apply ☐
Proper Blocking and Bracing	Yes ☐ No ☐ Not Apply ☐
Final securement	Yes ☐ No ☐ Not Apply ☐
Marking, labeling, and placarding	Yes ☐ No ☐ Not Apply ☐

B 7. Is the vapor space prevented from passing through the flammable range?

Yes ☐ No ☐ Not Apply ☐

A 8. What process do you have to assure that container is not overloaded? Ref: 49 CFR 173.24 and 173.314