

**Louisiana Division
Consolidated Audit**

**Hazardous
Materials
Transportation
Review**

March 1991

Dow Confidential

HAZARDOUS MATERIALS TRANSPORTATION

PLANT: Cell Service

BUILDING: 5601

REVIEW DATE & TIME: 3/25/92 - 8:30-10:00 A..M.

HAZARD MATERIALS TRANSPORTATION TEAM:

SUPERINTENDENT: Roddey Peebles

LOSS PREVENTION: Dean Smith

SAFETY ENGINEER:

TECHNOLOGY CENTER: Chlor-Alkali

DEPARTMENT PERSONNEL:

SECTION MANAGER:

MAJOR MANAGER: Tom Austin

(To be completed by the Superintendent)



Louisiana Division
March 1991

Dow U.S.A.

The Dow Chemical Company
P.O. Box 150
Plaquemine, Louisiana 70765-0150

To: Plant Superintendent/Department Head

**SUBJECT: HAZARDOUS MATERIALS TRANSPORTATION
REVIEW (HMTR)**

The HMTR audit will be part of the Louisiana Division Consolidated Audit Process. The audit will be the responsibility of the Superintendent/Department Head.

The purpose of this audit is to provide an in-depth review of our Louisiana Division hazardous materials transportation practices of materials which, if released, could possibly cause injury to the public. The audit will be reviewing the chemicals shipped or received, including the plant's waste materials with a Hazardous Materials Transportation Index (HMTI) of 2, 3, or 4. (Does not include pipeline transportation).

You should begin your preparations by reviewing the attached program guidelines and developing or updating the HMT Indexes for your plants' various chemicals and potential loss of containment from worst case transportation scenario. You will need to complete and send a copy of the review package to the Audit Facilitator ten (10) calendar days prior to the audit.

A HMTR Audit Team is required for a HMTI of 2, 3, or 4. A U.S. Area Loss Prevention Representative will be required for a HMTI of 3, or 4. A HMTI of 1 requires a review by the Superintendent and his Manager only.

NOTE: Prompt response to the HMTI calculations is necessary. A 30 day pre-audit notification to the U.S. Area will be necessary for some materials. Contact Dean Smith at extension 8879 for U.S. Area Loss Prevention Representatives as audit team members (required for HMTI's of 3 or 4). Dean should also be contacted for a Functional Audit Team if the HMTI of materials is 2, 3, or 4.

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The list of contacts below can be used as additional resources.

Ind. Hygiene	Gary Meier	1809
Purchasing	Randy Normand	8481
Loss Prev.	Buck Bailey	1539
HMTI	Dean Smith	8879
CEI	Jim Gibson	8163
F&EI	Maurice Oubre	8953
Safety	Don Jones	6097

Attached are the "Guidelines for a Hazardous Materials Transportation Review ", including the Audit Instructions which give the details about what is needed to prepare for the audit and how the audit will be conducted. If there are any questions concerning the audit, please contact me at extension 8879.

Dean Smith
HMTR Functional Team Leader
Building 3302D
Ext. 8879

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CHEMICALS USED

IN THE

CELL SERVICE BLOCK

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LIST OF CHEMICALS USED IN THE CELL SERVICE BLOCK

ACETONE (MAY BE USED IN CA#2 AND CHLORINE BLOCKS)
ACETYLENE
AIR
ARI SANITIZER DEODORIZER (USED FOR CLEANING OF RESPIRATORS)
ASBESTOS USED IN CATHODE DRAWING AND PULP
CELL PUTTY
CHLORINE (IN CHLORINE AND CA#2 BLOCK - TURNAROUND)
COBALT NAPHENATE 6% (HARDING AGENT FOR DERAKANE)
COPPER
DERAKANE
DIESEL FUEL
(DMA) DIMETHYLANILINE (ACCELERATOR)
DB-1430 ANTI-FOAM
FREON - R22
GAS UNLEADED
HEAT
HYDROGEN (IN CHLORINE AND CA#2 BLOCKS - TURNAROUNDS)
HCL HYDROCHLORIC ACID (IN CHLORINE AND CA#2 BLOCKS - TURNAROUNDS)
KYNAR (R) 32 (BONDING AGENT)
LIGHT BULBS
LOCQUIC (PRIMER N AERSOL)
MEROPA 220 OIL
MEROPA 320 OIL
MEROPA 460 OIL
MEROPA 680 OIL
MOBILARAMA 247 OIL (METAL PRESERVATIVE)
MOBIL RARUS 427
MOBIL SHC 824
MOLUB-ALLOY CHAIN OIL 22
ROYAL PURPLE THERMYL-GLYDE (SYNTHETIC LUBRICANT IN CR-501 GEAR BOX)
MEKP (METHYL ETHYL KETONE PEROXIDE, ACTIVATES DERAKANE)
METHANES
MINI FIBERS (POLYETHYLENE)
NICKLE OXIDE (TREATMENT FOR BACKBOARD GASKET SEALER TO HELP PREVENT
CREVICE CORROSION ON TITANIUM BACKBOARDS)
NICKLE POWDERS (NOVAMET R CONDUCTIVE NICKLE)
NITROGEN
OXYGEN
PLURONIC F-108

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POLYMER 1165L FLOC
PST PIPE SEALANT #567 90 (1 LITER STAINLESS STEEL PST, BACKBOARD
GASKET SEALER)
RANDO OIL HD68
REGAL OIL R & O 32
REGAL OIL R & O 68
REGAL OIL R & O 150
REGAL OIL R & O 220
ROOF FLEX (USED TO FILL HOLES IN THE CONCRETE) AND (USED ON TURNAROUNDS
AT CHLORINE AND CA#2)
STANNIC OXYCHLORIDE (USED IN FIT TESTING)
STYRENE MONOMER (VAPORS FROM DERAKANE)
SULFURIC ACID (IN CHLORINE AND CA#2 BLOCKS - TURNAROUNDS)
TEFLON FIBERS (FLOUROCARBON FIBER) 7C
TRANSMISSION FLUID
TRITON DF-12 (WETTING AGENT)
TRITON X-114 (WETTING AGENT)
URSA SUPER PLUS SAE 10W
URSA OIL EXTRA DUTY 30WT
WELDING RODS
WELD SEALANT/GRADE AA #89

R & D HAS THE FOLLOWING ITEMS IN BLOCK

CAUSTIC SODA 50% (EXPERIMENTAL)

CELL EFFLUENT

TEFLON FLOUROCARBON (TEFLON FIBER)

MISTRON VAPOR TALC

SAFFIL - ALUMINA FIBER

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CHEMICAL OF CONCERN:

ASBESTOS

PRODUCED FOR THE ASBESTOS DATABASE

DATE: 3-12-92

MASTER No 431055 JML

February 24, 1992

Dean Smith
HMTI Functional Team Leader
Building 3302D

**HAZARDOUS MATERIAL TRANSPORTATION INDEX ASSIGNED TO
ASBESTOS IS "1"**

Because asbestos is relatively inert, the FEI calculation cannot be made. The computer program is not designed for materials like asbestos (M. Oubre). Also there are no available dermal LD50 numbers to calculate skin effects (B. Heinze). Please see next two pages.

The "calculated" HMTI would be less than 1. However, asbestos is carcinogenic and with your recommendation an HMTI of 1 will be assigned.

John Lewis
Cell Service

DO A 022588
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PRODUCED FOR THE ASBESTOS DATABASE

DATE: 3-12-92

H.MATLAUDIT.DOC:3/2/92:LLM

DOW CONFIDENTIAL 431055 13

TO: BRUCE HEINZE 3502E
FAX 8001

HAZARDOUS MATERIALS TRANSPORTATION
REVIEW QUESTIONNAIRE

FROM: J. LEWIS
FAX 6930

III. HEALTH AND ENVIRONMENTAL EFFECTS

BRUCE, CAN YOU ANSWER 1-8
FOR ASBESTOS? THANKS.

1. What is acute toxicity of the materials?

- Inhalation (LC50 in ppm) NOT AVAILABLE
- Dermal (LD50 in mg/kg) N/A
- Oral (LD50 in mg/kg) NOT AVAILABLE

2. Are potential health effects reversible?

Yes ☐ No ☒ ~~substantiated~~

3. Can people readily escape contaminated areas?

Yes ☒ No ☐

4. What is effect on aquatic life?

None

5. Does material biodegrade?

Yes ☐ No ☒

6. Would a spill cause long-term groundwater toxicity problems?

Yes ☐ No ☒

7. Does material exhibit any warning properties?

Yes ☐ No ☒

8. Is material corrosive to skin?

Yes ☐ No ☒

9. Has recommended protective equipment been tested?

Yes ☒ No ☐

10. Please Submit -

-- A Material Safety Data Sheet (MSDS)

-- A Transportation Equipment Data-Emergency Response Sheet
(TEDER)

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PRODUCED FOR THE ASBESTOS DATABASE

DATE: 3-12-92MASTER No. 431055 JML

860
1802 J.S.
3.9M
8702

SAMPLE OUTPUT FROM LOTUS 1-2-3 PROGRAM
HAZARDOUS MATERIALS TRANSPORTATION REVIEW
CEI, F&EI, AND SKIN RANK CALCULATIONS
(REVISED 8/14/90)

MAURICE 10/28/91
CAN YOU
PROVIDE, FOR
ASBESTOS, THESE
NUMBERS?

INPUT DATA

EEPG CONCENTRATION (PPM)	200.00
MATERIAL FACTOR (F&EI GUIDE)	24
NFPA HEALTH RATING (NH)	2
NFPA FLAMMABILITY RATING (NF)	3
BTU'S PER LBS	17.00
MOLECULAR WEIGHT	104
VAPOR PRESSURE MM HG @ 25 DEG C	7.00
THERMAL INSTABILITY DEG C	32
PHYSICAL STATE PENALTY	1.00
VISCOUS LIQUID -----	.70
LIQUID -----	1.00
COMPRESSED GAS -----	1.20
LIQUIFIED FLAM GAS ---	1.00
LBS OF PRODUCT PER CONTAINER	150,000
SHIPPING PRESSURE (PSI OF MATERIAL)	5
RELIEF VALVE SETTING (LBS)	75
DERMAL LOSO FOR SKIN EXPOSURE	2,001

TANK CAR
STYRENE

THANKS,

JOHN LEWIS

PH. 6170

FAX 6930

SUMMARY

CEI	64.00
F&EI	142.22
SKIN RAN	0

JOHN,

I CHECKED WITH COMPANY
SAFETY AND WE DON'T FOR
THAT THESE PROGRAMS ARE
DESIGNED FOR SOMETHING
LIKE ASBESTOS.

CHEMICAL EXPOSURE INDEX RANKING

ACUTE HEALTH HAZARD FACTOR	21714.29
ACUTE HEALTH FACTOR SCALE #	1.00
LBS VAPOR RELEASED IN 15 MIN.	893.55
VAPOR QUANTITY SCALE #	2.00
DISTANCE SCALE #	4.00
MOLECULAR WEIGHT SCALE #	4.00
SHIPPING PRESSURE FACTOR	0.00
THERMAL INSTABILITY FACTOR	2.00
PROCESS PENALTIES FACTOR	2.00
PROCESS PENALTIES SCALE #	2.00
CHEMICAL EXPOSURE INDEX	64.00
CHEMICAL EXPOSURE SCALE #	1.00

PRODUCED FOR THE ASBESTOS DATABASE

SKIN RANKING 0.00
MASTER NO. 431055

CALCULATED FACTORS

FIRE & EXPLOSION INDEX RATING

MATERIAL FACTOR	24.00
GP BASE FACTOR	1.00
HANDLING & TRANSFER FACTOR	0.85
ACCESS FACTOR	0.35
SPILL CONTROL FACTOR	0.50
F1-GENERAL PROCESS FACTOR	2.70
SP BASE FACTOR	1.00
TOXIC MATERIALS FACTOR	0.40
PROCESS OPERATION, PURGE FACT	0.30
QUANTITY IN STORAGE FACTOR	0.40
IGNITION SOURCE FACTOR (FIRED HT	0.00
OPERATING PRESSURE FACTOR	0.09
F2-SPECIAL PROCESS HAZARDS FACT	2.19
F3-UNIT HAZARD FACTOR (-F1*F2)	5.93
F&EI-FIRE & EXPLOSION INDEX	142.22
FIRE & EXPLOSION RANKING	4

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**HAZARDOUS MATERIAL COVERED IN AUDIT:
ASBESTOS**

NATURE OF HAZARD:

Extended exposure to certain airborne friable asbestos particles can cause asbestosis, lung cancer and mesothelioma.

Asbestos is not considered hazardous by DOT and is not regulated. It is non-flammable, non-explosive, non-reactive and does not affect the skin.

Public perception places asbestos in the "Hazardous" category.

PRODUCED FOR THE ASBESTOS DATABASE

DATE: 3-12-92

MASTER No. 431055 JMA

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TRANSPORATION INCIDENTS

WITHIN LAST TWO YEARS:

NONE

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ITEMS REQUIRING ACTION

FROM PREVIOUS HMTR AUDIT:

NONE:

THIS IS THE FIRST AUDIT

DO A 022593
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