



DOW CHEMICAL U.S.A.

REV
8(E)

January 6, 1983

LOUISIANA DIVISION

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cc: Arnold Seidule
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Introduction:

Attached is the 1982 Environmental Health Survey and the 1982 Area Noise Survey for CPE. These surveys are being circulated to the CPE plant personnel for training in:

1. The consequences of overexposure to chemical and physical agents in the plant.
2. The results of the employee exposure measurements made in 1982.
3. The control measures available to minimize employee exposures.

Conclusions:

1. Due to the presence of high noise areas in the plant:
 - a. The hearing conservation program should be continued to prevent possible overexposure to noise.
 - b. Engineering controls should be investigated to reduce high noise sources.
2. None of the job classifications that were tested for noise exposure had an average noise dose greater than the permissible noise dose.
3. Due to the high concentrations of non-asbestos form talc detected in the breathing zone samples of personnel working in the talc room:
 - a. The dust mask requirements for the talc room should be strictly enforced to prevent overexposure to non-asbestos form talc.
 - b. The new weigh feeder system should be installed as soon as possible to reduce the amount of talc that is being released into the talc room.

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Attachments AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

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December 29, 1982

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ENVIRONMENTAL HEALTH SURVEY - CPE

Consequences of Overexposure to Noise

Prolonged and repeated exposures to noise levels above 90 decibels may cause severe damage to the nerves in the inner ear. When this happens, hearing is first reduced in the high frequency range and will eventually be reduced in the normal speech range.

Preventing Hearing Loss

Ear plugs and ear muffs are two types of hearing protection available to you. Both types reduce noise exposure significantly to prevent hearing loss. Keep in mind as with all protective equipment, hearing protection is useful only if it is worn and worn properly.

It is mandatory that ear protection be worn in any areas that have noise levels exceeding 90 decibels. "Ear Protection Required" signs are posted in these areas. Also the area noise surveys conducted this year are at the end of this report showing these areas.

REMEMBER: Hearing loss caused from prolonged exposure to noise above 90 decibels is gradual and usually permanent. Don't lose your hearing, use the ear protection.

Potential Exposure to Noise

Fourteen (14) tests were made for personal noise exposure using an audio dosimeter. The audio dosimeter integrates the noise levels over time to give a percentage of allowable noise exposure. For example, 90 db for 8 hours would equal 100%.

<u>Job</u>	<u>Number of Samples</u>	<u>Average Potential Exposure</u>
O.T.	2	10%
Outside S.O.T.	6	25%
Board S.O.T.	3	8%
Outside O.S.	3	15%

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Potential Exposure to Talc at CPE Warehouse

When handling talc or working in the talc room, dust masks should be worn to prevent overexposure to non-asbestos form talc. The Threshold limit value (TLV) or exposure limit for talc is $3\text{mg}/\text{m}^3$ respirable dust and $6\text{mg}/\text{m}^3$ non-respirable dust. The TLV was set to prevent any change in the lung function.

Four samples were run on CPE O.T.'s while working in the talc room. The average potential exposure was $24.7\text{mg}/\text{m}^3$ respirable dust and $29.5\text{mg}/\text{m}^3$ non-respirable dust.

A new weigh feeder system has been ordered for the talc room which should reduce the potential for overexposure to talc substantially.



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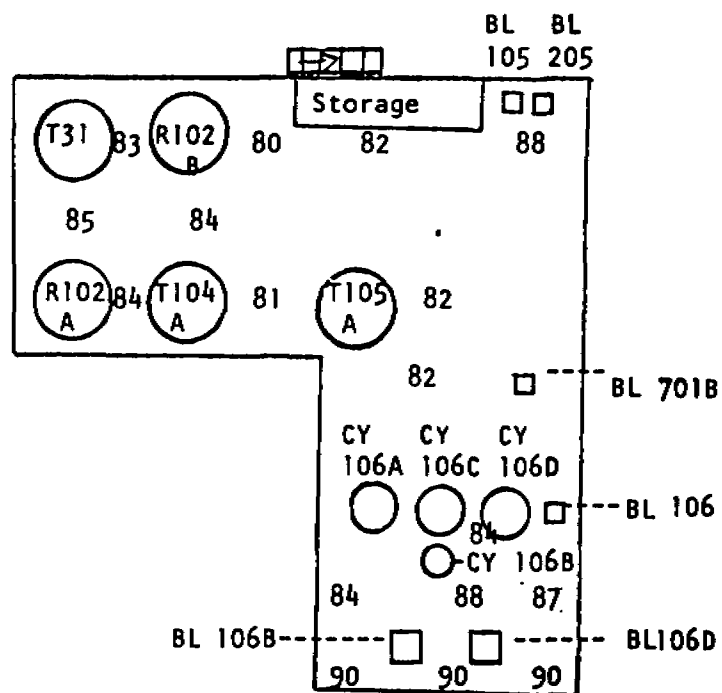
Attachments - Area Noise Surveys
Consequences of Overexposure

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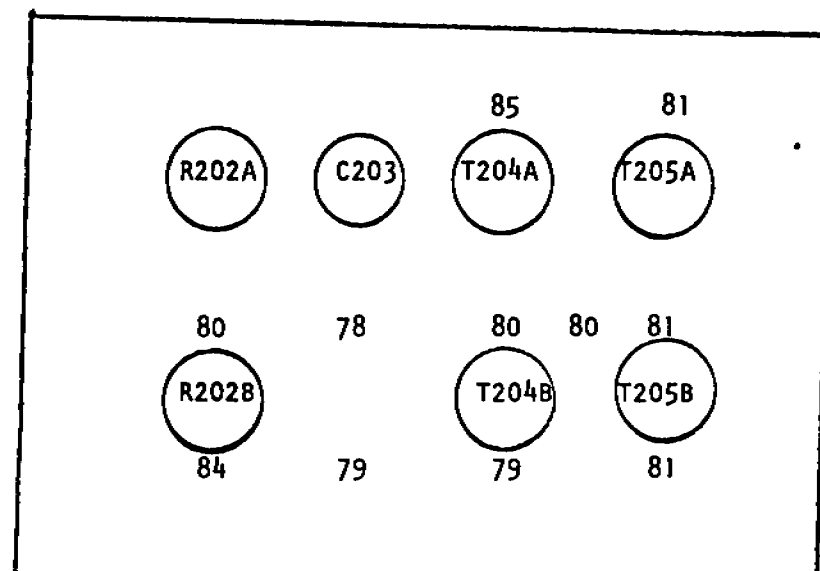
CPE Area Noise Levels in Decibels

TRAIN 1 - UPSTAIRS



CPE Area Noise Levels in Decibels

TRAIN 11 - SECOND DECK



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CONSEQUENCES OF OVEREXPOSURE

COMPOUND: TETRAHYDROFURAN

SYNONYMS: TETRAMETHYLENE OXIDE: DIETHYLENE OXIDE;
T.H.F.: MAY CAUSE POSSIBLE CORNEAL INJURY

EYES: IRRITATING, MAY CAUSE POSSIBLE CORNEAL INJURY

SKIN: SLIGHTLY IRRITATING, MAY CAUSE REDDENING AND
SWELLING

INHALATION: IRRITATION OF THE MOUTH, NOSE AND THROAT
MAY CAUSE NAUSEA, DIZZINESS AT HIGH CONCENTRATIONS,
ABNORMAL DROWSINESS AT VERY HIGH CONCENTRATIONS
ALL HEALTH EFFECTS FOR SHORT EXPOSURES APPEAR
TO BE ONLY TEMPORARY

INGESTION: AMOUNTS OF THIS MATERIAL WHICH MAY BE SWALLOWED
INCIDENTAL TO INDUSTRIAL HANDLING SHOULD NOT
CAUSE INJURY

IHG: 200 PPM

SOURCE: DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS
BY SAX
HYGIENIC GUIDE SERIES - AIHA
THE MERCK INDEX, 9TH EDITION
THE CONDENSED CHEMICAL DICTIONARY, 9TH EDITION
H&ER REPORT T36.5-13-1
DOCUMENTATION OF THE THRESHOLD LIMIT VALUES
BY ACGIH

AUTHOR: C. Vaughn, June, 1977
REVIEWING
PHYSICIAN: D. B. Johns

Consequences of Exposure to Toxic Amounts

COMPOUND: Chlorine

EYES: Contact with concentrated gas or liquid will cause pain, irritation and a burn; possible permanent impairment of vision. A very corrosive material.

SKIN: Contact with concentrated gas or liquid will cause burning sensation with swelling, burns and blister formation.

INHALATION: ACUTE: Severe irritation of nose and throat with coughing, vomiting and destruction of lung tissue which can lead to death.
CHRONIC: Coughing, tightness in the chest, possible increased susceptibility to respiratory diseases. May cause erosion of teeth.

IHG: ACGIH TLV: 1 ppm TWA.
OSHA Standard: 1 ppm Ceiling.

NOTE: Chlorine was evaluated for fetal (conceptus) toxicity. No special limitations or warnings are required. Standard exposure guidelines and training will apply to all personnel.

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CONSEQUENCES OF OVEREXPOSURE

COMPOUND: HCL, ANHYDROUS
HYDROCHLORIC ACID

EYES: SEVERE PAIN OR EYE INJURY. PROLONGED CONTACT
MAY RESULT IN TISSUE DAMAGE TO THE CORNEA
WITH POSSIBLE IMPAIRMENT OF VISION.

SKIN: SERIOUS BURNS AND OPEN SORES. PROLONGED
CONTACT CAN RESULT IN SOME TISSUE DAMAGE.

INHALATION: ACUTE - SEVERE IRRITATION, BURNING SENSATION
WITH DESTRUCTION OF TISSUE IN THE NOSE, THROAT
AND LUNGS.

CHRONIC - BLEEDING AND POSSIBLE ULCERATION IN
THE NOSE AND THROAT, TIGHTNESS OF THE CHEST,
MAY ALSO CAUSE EROSION OF THE TEETH.

METHODS OF CONTROL

DIHG - 5 PPM - TO PREVENT INJURY TO THE RESPIRATORY
SYSTEM, THOUGH IRRITANT EFFECTS MAY STILL BE SIGNIFICANT.

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COMPOUND: POLYETHYLENE (DUST OR PELLETS)

EXPOSURE GUIDELINE: 10 MG/M³ - TO AVOID IRRITATION TO
NOSE AND THROAT IN DUSTY
ATMOSPHERES.

EYES: MINOR IRRITATION POSSIBLE FROM MECHANICAL ABRASION.

SKIN: MINOR IRRITATION POSSIBLE FROM MECHANICAL ABRASION.

INGESTION: NON-TOXIC

INHALATION: CONSIDERED A NUISANCE DUST (BIOLOGICALLY INACTIVE)

SHORT TERM EXPOSURE: MAY CAUSE IRRITATION TO THE NOSE AND
THROAT IN VERY DUSTY ATMOSPHERES.

LONG TERM EXPOSURE: MAY RESULT IN SOME DEPOSITION OF THE
DUST IN THE LUNGS.

REFERENCES: I.H. DATA SHEET, M.S.D. SHEET.

WRITTEN BY: P.E. HENSON

DATE: AUGUST 11, 1978

REVIEWED BY: N. MURRAY /E.H. WAUGH M.D. DATE: AUGUST 30, 1978

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