FILE NAME: Westinghouse Pennsylvania Archives (WHPA)

DATE: 1969

DOC#: WHPA003

DOCUMENT DESCRIPTION: WH Research Documenting Insulating Materials as Asbestos Hazard

Westinghouse Research

- 1969 field report with Operation/Hazard/Control Measure matrix, asbestos Transite used on nose cones of products and as backstop for laser.
- Insulating materials documented as asbestos hazard

HIH-19003 REV. 12-67

REGION V

PROD. MFG. OR SERVICE Lasers

DATE OF ACTIVITY Jan. 21, 1969

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

FIELD ACTIVITY REPORT

EMPLOYEES	COUNTY
MALE	02
FEMALE	IND. CODE
TOTAL	38

PLANT: Westinghouse Research Laboratory

ADDRESS: Churchill Boro. Pittsburgh, Pa. | ZIP: 15235 | PHONE: 412-256-7265

PERSON INTERVIEWED: Kenneth Steinbruegge | TITLE: Research Engineer

PURPOSE: INVEST.; SURVEY; INSPECT.; PRELIM.; F.U.; CONF.; VISIT;

REASON: SELF-INIT.; O.D. REP.; COMPL.; REQUEST; SOURCE

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS WRITTEN • • • VERBAL	ACCOMPLISHED YES	NO	IN PROG.

SAMPLES COLLECTED (NO. & KIND) TOTAL

DETERM. MADE (NO. & KIND) TOTAL

MEDICAL - O.D. REPORTED, NO. & KIND

PUNCH CARD YES [ ] NO [X] | FOLDER YES [ ] NO [X]

REMARKS:

The conference with Mr. Steinbruegge revealed the following information concerning lasers:

1. Flashtubes have a casing of quartz instead of glass, because of its higher resistance to breakage. Flashtubes may contain xenon or krypton for pulsed lasers, and Hg, Na, or K in C. W. lasers.
2. UV filters are sometimes employed between the flashtube and media for better efficiency.
3. Solid state efficiency may be 3%. CO_2 lasers may be 40% efficient.
4. The largest CO_2 laser is 190 ft. long with a mountain as a backstop. This one is owned by the Federal Government.
5. Transite is a material used on nose cones of rockets because of its very high resistance to heat, is used as a backstop for the CO_2 laser.
6. When titanium or Mg is cut, argon gas is jetted onto these materials, as they are highly explosive.
7. A new erbium doped crystal is being developed as a laser media that would emit a wavelength of 1.5 microns. This wavelength is less hazardous for the eye, states the plant engineer, since the energy is absorbed in the humours of the eye first.
8. This plant tests one of a new supply of goggles bought for use with a particular laser. The beam is passed through the goggles. If energy is transmitted through the goggles, it is noted on the ballistic thermopile. This data along with spectroscopic measurements determines whether the goggles are returned or not.

BY M. Choby Industrial hygienist RIH

WINS 2.0

(over)

PA STATE ARCHIVES
350 North West, Harrisburg, PA 17130-0050
PA Historical & Museum Commission

9. Also microwave and radio wave stimulating mechanisms are used in probing technique and will not be sold to industry as they are more complicated and present more hazards.

10. Noise problems may exist when a beam is shot at a hard object (in Q-switching). the noise is similar to that of a gun shot blast.

11. Coolants may be transisterized in that one-half of the transistor material is cold and the other, hot. ~~because~~ The heat energy goes from cold side to the hot, where it is given off.

RECEIVED
FEB - 4 1969
PENNA. DEPT. OF HEALTH
INDUSTRIAL HYGIENE SECTION

battery laboratory	sodium hydroxide sulfuric acid & other chemical reagents	hoods; gloves; goggles plastic shields
specialty coating laboratory paint spray booth	epoxys; methyl ethyl ketone methanol	hoods; goggles; safety can
environmental exposure room electric furnaces	heat;	isolation
stockroom	chemical reagents; solvents & varnishes	isolation
plating room	cyanide baths; nickel, gold, silver, cadmium & rhodium plating sulfuric acid; nitric acid	slot ventilation (exhaust) aprons, gloves; goggles cyanide kits
water purification apparatus	none	none
corrosion technology laboratory	high temperature corrosion heat;	isolation & insulation
lubrication laboratory potentiometers	tungsten cellanide argon cylinders; testing of lubrication of bearings in hot sodium hydroxide sulfur hexafluoride noise	hoods; exh. ventilation ear muffs; hearing tests

Reproduction of all Copyrighted Materials
Please Contact
PA STATE ARCHIVES
350 North Street, Harrisburg, PA 17120-0090
PA Historical & Museum Commission

gas laboratory	shooting electrons through gases	shields, film badges, etc. posters - all radiation protection equipment
Machine Shop lathes, drills, presses, etc. gas cylinders N_2 CO_2	cutting oil, noise oil mist	aprons, gloves, ear muffs, etc. hoods, exhaust ventilation
physics of insulation	insulating materials rubber, asbestos, fiberglas making insulation for Capacitors	hoods, exhaust ventilation gloves, protective clothing, etc.
Hi voltage test lab testing contacts	electric shock oils-halogenated oil	insulation, exhaust ventilation
polishing crystals	various reagents	hoods, exhaust ventilation
fuel cell lab	carbon monoxide vanadium acid mists	hoods, exhaust ventilation
electric catalysis	organic solvents	hoods, exhaust ventilation

Reproduction of this Document Prohibited
Please Order
PA STATE ARCHIVES
350 North Street, Harrisburg, PA 17120-0090
PA Historical & Museum Commission