

Monsanto

FROM (NAME & LOCATION):

S. A. Roberts - Department of Medicine and Environmental Health

DATE

December 1, 1975

cc Paul E. Bureau-Springfield

G. W. Fletcher - "

H. M. Keating-St. Louis

R. L. Miller-St. Louis

George Roush, Jr., M.D-St. Louis

G. L. Smith-St. Louis

SUBJECT

Preliminary Industrial Hygiene Survey

REFERENCE

TO

G. M. Ellsworth - Springfield

File Safety

The Springfield plant was surveyed by this writer during August 1975 in order to review the operations for possible industrial hygiene hazards. It can be concluded that impending OSHA standards will significantly affect programs at Springfield designed to control exposures to federally-regulated chemical substances and physical agents. The scope of the effect will depend greatly on the ability of Springfield personnel to produce recurrent documentation verifying employee exposure below certain lower environmental concentrations. Exposure above these levels will require detailed administrative and engineering control programs. It is recommended, therefore, that the Springfield organization's capability to institute and sustain a monitoring and reporting program for exposure documentation be evaluated and upgraded as necessary. The examination of typical standards such as those issued recently for the ketones would show the advantages that can be obtained when exposures are so controlled and documented. If proper exposure control can be documented, the following will generally not be required by law:

- * Rec*
1. Comprehensive medical regimens
 2. Restrictive work practices
 3. Employee appraisal programs
 4. Substantial personnel protective equipment requirements
 5. Accelerative environmental monitoring

It should be stressed that:

1. The environmental concentration defining the exposure will generally be set at one-half the current threshold limit value (TLV).
2. It is the goal of OSHA and NIOSH to establish monitoring, recordkeeping, medical, training and housekeeping requirements for all chemical substances and physical agents on the TLV list.

Additionally, the following recommendation highlights were developed as a result of the survey.

RSV0029448

Recommendations

SAFLEX DEPARTMENT

It is recommended that baseline sampling be conducted to determine the actual personnel exposure to the following compounds:

Sodium Bicarbonate Dust
All Dyes
Methyl Ethyl Ketone
Ethanol
Toluene
Dimethyl Formamide
Resin Compounds Such as the Aldehydes and Vinyl Acetate

It is recommended that audio dosimeters be utilized to define the actual noise exposure level. *when?*

It is recommended the local exhaust system be checked for efficiency on a quarterly basis. *w/ documented readings.*

FORMALIN DEPARTMENT

It is recommended that air sampling be conducted to determine actual employee exposure to formaldehyde and methanol primarily at the formaldehyde unloading station and at the methanol storage tank.

RESINOX DEPARTMENT

It is recommended work place sampling be conducted to determine employee exposures to those chemicals for which TLV's have been determined. Priority should be given to phenol, formaldehyde, maleic anhydride, hexa, and diatomaceous earth.

60-62 DEPARTMENT

It is recommended additional work place sampling be conducted to fully describe the polypress and kettle charge operators exposure to styrene.

It is recommended the work place environmental contaminants be both qualified and quantified where respiratory protection is recommended, used or required.

It is recommended engineering controls be implemented to reduce the high heat exposure in the CI process area.

It is recommended mechanical devices be designed and/or purchased in order to reduce the potential for back injuries at the Diene bale-loading station.

86 DEPARTMENT

It is recommended additional personnel monitoring be conducted to define operator exposure to styrene, pentane, respirable and total dust.

LUSTREX PROCESSING/DC-O/VYDYNE DEPARTMENTS

It is recommended personnel exposure to the colorants be determined. Priority should be given to the lead chromates, zinc oxide, quinones, TiO₂ and cadmium compounds. The ventilation system should be checked for efficiency by qualified personnel on a monthly basis for design static pressure, face velocity, fan motor current requirements and total volume exhausted. It is this writer's opinion that local exhaust systems such as hoods cannot be relied upon for consistent engineering control of contaminants when operators are allowed to use floor stand fans in the vicinity. It is, therefore, recommended that these fans be made non-portable if their use is continued and the exhaust system evaluated under the influence of the floor fans.

It is recommended that personnel exposure to OSHA regulated substances be determined. Priority should be given to Betanox Special, HBr, HCN, AN, Styrene and total dust.

RESIMENES DEPARTMENT

It is recommended that employe exposure to regulated chemicals be determined. If employe exposures are within allowable limits, the exposure determinations should be documented. If the exposures are excessive, the concentrations should be controlled to allowable limits. Priority should be given to the alcohols and dust.

BARRIER RESIN DEPARTMENT

There are no recommendations at this time. Recommendations will be forthcoming after receipt of sampling data.

RESEARCH DEPARTMENT

It is recommended that exposure potential be determined in the pilot plant and research design stages. Research personnel should be included when monitoring studies are conducted in plant departments. Analytical methods should be developed as part of the pilot plant/research design function.

EAST CONTROL LAB

No specific recommendations at this time although management should be aware of the fact that monitoring will have to be conducted on all OSHA regulated materials.

UTILITIES DEPARTMENT

It is recommended that the extent of chemical exposure be determined at the station where waste materials are transferred to the package boiler.

It is recommended that the actual heat exposure around the boiler operations be determined by the NIOSH heat exposure criteria guidelines.

*J. J. fn
Res. Safety
Committee*

The results of any and all occupational health sampling and monitoring should be sent to my attention as further recommendations and suggestions will be made pending the outcome of the data. Additionally, by copy of this letter, I am requesting a copy of SHA Form 101 and/or Workmen's Compensation Form that details the occurrence of any occupational illness falling into the OSHA classification codes 21 through 29.

If I can be of assistance in implementing the recommendations, please contact me.

I wish to thank you for the courtesies extended me by your staff while in your plant.

Steve / ms.
S. A. Roberts
Industrial Hygienist

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Enc.

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