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1936 - NSC

industry do not exist, but the possibility is there.

In a comparatively small field we find asbestos used in the manufacturing of heat resisting products, such as gaskets. Asbestos is a complex silicate which is capable of producing asbestosis, a form of pneumoconiosis. Workmen who are required to handle this material during the compounding stages, when it is dusty, should be protected with respirators.

The rational use of respirators, adequate local exhaust ventilation, and good housekeeping to keep down the amount of free dust in the compounding room, accompanied by periodic physical examinations of the workmen, should entirely control any hazard due to these dusty materials.

The use of enclosed or well hooded mixing mills should control any hazard from these materials in the mixing room.

The further handling of the compounded stock should not produce any health hazard because of these inorganic materials. We do find whiting and talc used in other parts of the factory as a dusting powder. It should not constitute a health hazard, provided the method of use is proper and good housekeeping is practiced.

In the compounding processes we do find numerous organic accelerators, anti-oxidants and stabilizers. Today most of these materials are used safely but some thought should be given to the method of handling them. Some of them can produce dermatitis. Ordinarily we find these materials weighed out in small batches and put up in small paper bags. This work is usually done by capable men who will follow instructions as to how they should handle such materials. Although there is no hazard to life, absenteeism may quite seriously be affected. There is nothing more annoying to the plant physician than to have a man come in with a typical dermatitis reaction. If he is satisfied that it comes from some material handled in the plant, it becomes necessary to find out all materials this man has handled in his work. Then one must rule out those that are known to be safe and concentrate on the others. We may find the source of the dermatitis at once or it may take several days. Occasionally one finds that "hexa" has been added to some new accelerator because

it appears to improve the reaction or the basic material.

What precautions should be used in handling these materials? In most cases the use of scoops for weighing and the wearing of leather gloves is all that the worker requires. In rare instances more exact methods should be employed. The manufacturer of these chemicals usually attaches directions where special precautions should be used. Master batching has proved very helpful in some instances, reducing the exposure to one man in place of several.

In Dr. Healy's Group III we have gums, resins, oils and waxes. Rarely do we hear of any trouble with this group. From experience some of the pitches, when handled in bulk, do produce a marked dermatitis. In such cases, respirators, goggles and cloth hoods should be used. Even then, the men will complain and show evidence of having been exposed to this material.

In Group IV, liquids and gases, we find materials which are generally used throughout the mill in numerous processes, such as solvents and curing gases. Among the solvents is benzol, which should only be used with precautions;—closed processes or adequate local exhaust ventilation.

Naphtha is harmless as ordinarily used. In the old dipping process, naphtha jags were common. Today, latex has taken the place of naphtha solutions for dipping work to such an extent, that we can almost pass over naphtha. But where it is used, we must consider the possibility of the sulphur chloride and carbon disulphide which are frequently used with it in dip work. Enclosed processes are called for when these materials are used.

Carbon tetrachloride is frequently found in the rubber factory because it reduces the flash hazard and is still a good solvent. Fortunately the price is such that the quantity ordinarily found is not great. Should it be used in large amounts, local exhaust ventilation must be provided.

Toluol and xylol are homologues of benzol which we find in some plants because of certain desirable solvent qualities and the fact that they are safer than benzol. Just remember they all contain some benzol, and local exhaust ventilation should be considered where the quantity used is large.

Ammonia has come into use recently in larger amounts. Care should be taken that young women are not exposed to much of this material as reports would indicate that they are affected by amounts we do find in some work rooms. Fortunately its use is largely in closed processes.

Occasionally we find a process where the concentration of hydrogen sulfide is fairly great. This may be toxic if the concentration is sufficient. I have failed to run across any real danger in connection with this material as used in the rubber industry. Its use is practically confined to closed processes where ven-

tilation is taken care of before the workmen are exposed to its fumes.

Safe Practices have played so large a part in present day methods in the rubber industry, that I believe it is fair to say that the industry is safe in so far as health hazards are concerned. It is safe because we have made it safe by using toxic materials in a safe way, or by substituting non-toxic materials where it has been impossible to use toxic materials safely. Let us keep our eyes open so that it may continue to be a safe industry from the health viewpoint as well as from the accident viewpoint.

TUESDAY NOON SESSION

October 6, 1936

Data on 1936 Safety Contest, Rubber Section

Chairman Dietz reported the high lights of the 1936 Contest, commenting on the fact that the frequency rate, 6.465, represented a three per cent increase over the 1935 Contest rate of 6.291.

A total of 20 units completed the contest with a frequency rate below the average. This is an increase in number when compared with 18 units in 1935, 15 in 1936, 13 in 1933, and 13 in 1932. The

ratio of persons employed to disabling injuries during the period of the Contest was 167 to 1, as compared with 179 to 1 for the 1935 Contest.

Seven units completed the Contest with a perfect record. During the Contest period there were 321 disabling injuries as compared with 378 disabling injuries in 1935.

Rubber Section Safety Contest

The 35 units registered in the Fifth Annual Safety Contest of the Rubber Section had an average frequency rate of 6.465. Represented in the Contest were 53,646 persons working a total of 49,652,

116 man-hours. Seven plaques were awarded in the Contest and two certificates.

Charles H. Weeks, Deputy Commissioner of Labor, Department of Labor,

How to Reach the Individual Worker on Safety

By URBAN L. MOLER

Personnel Director, Inland Division, General Motors Corp., Dayton, Ohio

You will agree that no one method has proved satisfactory in getting the individual worker interested in safety. It requires many things.

The other day I noticed one of our stockroom employees had his hand bandaged. I asked, "Joe, how'd you hurt your hand? Get caught in a lawnmower?"

"No," said Joe "I was trying to close a freight car door and pulled it shut on my fingers. The nurse dressed my hand, and said I ought to rest a little before going back on the job. But while sitting there, I thought about those red and green lights on the safety board, and I sure didn't want a red light checked up against our department."

That was interesting. There was at least one man in our plant who had been reminded of safety, and who wanted to keep the green light blinking.

I like to start teaching safety to employees right in the employment department. If you are hiring a punch press or a rubber mill operator, you can include some safety questions in your interview. If the man is hired, safety should be included in your talk to the new employee—we have a safety booklet which is given to all new and reinstated employees—he is required to read it and sign a perforated slip in the back of the book indicating his willingness to co-operate in our safety program.

After the employee is in the department a few days, the shift foreman speaks to him about Safety, and asks him to sign a card indicating that the departmental exposures have been called to his attention, and that he has been instructed to report all injuries to the foreman, to the medical department, etc. These cards are kept as a permanent record.

No doubt we all agree that the most important individual in getting safety across to the worker is the supervisor and foreman. He must be sold—he must accept the responsibility for safety in his department. The foreman who has a good safety record has a good production record. He knows how to handle employee relations. His scrap and departmental costs are in line, and the manage-

ment rates hint as a good foreman. Most of our departments have safety rules which are used by the foremen as a basis in carrying on their safety work.

Departmental safety committees have assisted all of us in keeping the employees interested in safety. Also employee group meetings, departmental or plant wide, with talks by the foremen to their men. Costs of accidents, major accident causes, and departmental exposures might be used as material for these meetings.

Plant inspections in an effort to keep in touch with new jobs, to follow up on cleanliness and order, and to see that the equipment is properly guarded and in good repair are essential.

Plant Police—we used to call them guards—can serve as inspectors throughout the plant and on company premises in seeing that safety rules are enforced; that running and horseplay are not permitted; that automobile and truck traffic is under control; that the aiseways are kept open, and that electric trucks are not operated at excessive speeds. They can also constantly keep checking on fire prevention.

In our mill and calendar room operations, we follow the practice of having all operators at the start of shifts check the safeties and roll travel and record them—which warns the operator of the necessity of keeping this equipment in good operating condition, and daily reminds him of safety.

Where employee representative plans are in operation, it is a good policy to have some of these representatives on general plant safety committees.

Investigation of accidents will impress the facts on certain employees that we are interested in preventing recurrences. Accident hearings before the safety committee, with the injured man, his foreman and witnesses present, tend to spread the gospel of safety, and this is a splendid time for recruiting more safety converts.

Various educational and publicity methods are good, such as bulletin boards—house organs—safety boards—safety slides, etc. The safety director at the National Cash Register Company has told

me that they are photographing some of the posters published by the National Safety Council and are making slides and showing these to employees at noon day shows—they select the ones carrying the most humor and greatest safety appeal.

It is surprising how many industrial accidents are carried in our local newspapers as news stories—sometimes these can be used. I noticed an item recently where a man had walked between some

railroad cars which were being switched and was crushed to death. This was cut out of the paper and placed on all our bulletin boards, and was called to the attention of our foremen, our traffic department, and our plant police.

I believe that contests, new stunts, things spectacular, are also essential. We must keep everyone in the organization interested.

10/6/36

Do We Have Occupational Disease Hazards in the Rubber Industry?

By DR. J. NEWTON SHIRLEY

Medical Adviser, Arrow Mutual Liability Insurance Co., Watertown, Mass.

We do have occupational disease hazards in the rubber industry. This is true of all large industries where chemistry and the compounding of chemicals play a large part in the manufacturing of the finished product.

But through the efficient work of our predecessors the industry has progressed from one of the worst producers of occupational disease to one of the safest for the workers. This has been accomplished through the efforts of the industrial physician, the safety engineer, the public health department and the industrial disease section of the State Department of Labor.

Industrial chemistry is bringing new chemicals into every day use. It is the duty of the men who know that such materials are to be used, to be sure that they are used safely.

Most of you are familiar with the extensive work done by Dr. L. J. D. Healy, consulting chemist, formerly with the Fisk Rubber Co. He has listed all the compounding materials into groups and has noted the health hazards of each, together with a suggestion of what care should be taken in handling them.

Unquestionably, lead poisoning was the outstanding hazard in the industry which first attracted attention. Precautions were taken to safeguard the worker. Local exhaust hoods were installed where

litharge (the common form of lead used) was weighed out. The workers were supplied with respirators and were required to clean up properly before lunch and after completing the day's work.

Periodic physical examinations of workers in the compound room, with a rotation of the men on this particular job, were further steps in safeguarding the workmen in this department. Some mills used master batching of litharge to reduce the lead dust. Today, lead has been very largely eliminated in rubber compounding. This has removed the extensive lead hazard which formerly existed but has introduced it in another way. The use of lead becomes sporadic and the safety measures formerly employed are apt to be disregarded by workmen exposed to litharge dust in dangerous amounts.

Similar dust hazards are present to a much less extent in the handling of several other inorganic materials. Some of the fillers used in compounding contain a small amount of free silica (diatomaceous earth, Fuller's earth, clay, infusorial earth and especially silica and ground quartz). These materials may be handled in large amounts, as in the receiving department and the compound room. The workmen in these departments should be supplied with and required to use respirators of an approved type. I believe that actual cases of silicosis in the rubber