

Safety Guide

**for
Supervisors**

J PHILLE

PLAINTIFF'S
EXHIBIT
BASF-32

GEISMA

**SAFETY
DEPT**



SAFETY — QUALITY — MORALE — COST — PRODUCTION

BASF



BASF Wyandotte Corporation

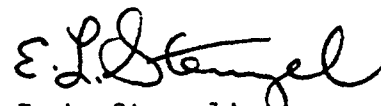
SAFETY AND LOSS PREVENTION POLICY

THE SAFETY AND LOSS PREVENTION POLICY of BASF Wyandotte Corporation is based on the firm conviction that accidents which cause personal injury and/or loss of assets can be prevented. No phase of Company business is of greater importance than the safety of our employees.

THE COMPANY will provide and maintain a safe and healthy working environment at all locations and will establish operating practices designed to assure the safety of all employees.

EACH EMPLOYEE is responsible for his individual safety performance. Each supervisor also has the responsibility to create a climate of safety awareness. Safety and loss prevention must be considered as an integral part of every job. It is the responsibility of each employee to comply with safety rules and to work in such a manner as to prevent injuries to himself and his fellow employees.

THE PREVENTION of accidents is in the best interest of employees, their families and the Company. Safety and loss prevention performance will be considered in determining an employee's overall performance. Only through constant mutual effort and cooperation can we achieve an accident-free work environment.


E. L. Stenzel
President

April 1979

Safety Guide for Supervisors



SAFETY — QUALITY — MORALE — COST — PRODUCTION

BASF WYANDOTTE CORPORATION
SAFETY GUIDE FOR SUPERVISORS

TABLE OF CONTENTS

SECTION I	SAFETY TRAINING PROGRAM
SECTION II	SAFETY AND LOSS PREVENTION PROGRAM
SECTION III	SAFETY AND LOSS PREVENTION RECORDS



REDACTED

BASF WYANDOTTE CORPORATION
SAFETY GUIDE FOR SUPERVISORS

SECTION I
SUPERVISOR'S SAFETY TRAINING PROGRAM

	<u>SESSION</u>
INTRODUCTION	1
BWC Safety and Loss Prevention Policy	
Goals and Objectives of Program	
SUPERVISOR SAFETY RESPONSIBILITY.....	2
MAINTAINING SAFE WORKING CONDITIONS	3
Inspections	
Housekeeping	
SAFETY TRAINING	4
ACCIDENT REPORTING AND INVESTIGATION	5
PERSONAL ACCOUNTABILITY	6
BASF WYANDOTTE SAFETY AND LOSS PREVENTION PROGRAM	7
MISCELLANEOUS	8



SECRET

SESSION 1

INTRODUCTION

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

INTRODUCTION

1. OPENING COMMENTS

Cost-conscious companies find that they must control accident costs if they are to continue in a highly competitive market. Safety must not be considered a nuisance but a necessity--accident prevention is not a fringe benefit but a prerequisite to an efficiently run operation. Or in other words, the Safety effort must be kept equal to the effort given product or work quality, employee morale, cost control and production.

BASF Wyandotte Corporation has had a safety program for several years. Many of you have participated in it. You have inspected your own areas, investigated accidents, attended or even conducted safety meetings; and perhaps some of you have given safety presentations to your employees.

Most of you probably have gained much of your present knowledge of accident prevention from many sources. A great part of your individual safety activities are based upon your own ideas of preventing accidents. Many of you, no doubt, are doing a very good job. However, if every supervisor in each plant were equipped with the same basic knowledge, and were enthusiastically and responsibly working toward a better accident record, the results would be better than even the best existing record.

You were trained for your present jobs. You spent years learning a certain trade or skill and because of your training, experience and job performance, you have earned an even more responsible job as a supervisor. This training program has been developed to pass along certain thoughts, ideas, techniques and general knowledge of accident prevention to better equip you to prevent accidents in your plants. Just as you were trained functionally to effectively perform in your job, you also will be trained in safety to enable you to affect accident prevention and make your Company a safer place to work.

2. COURSE OUTLINE

In this seminar, we will demonstrate that no business can operate efficiently and economically without a sound safety program. Further, we will point out how the

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

INTRODUCTION - 2

supervisor can do more to accomplish our safety objectives better than anyone else in the plant.

A. METHOD

These sessions are designed to be informal and participative. You are not going to merely listen to lectures for the remainder of this seminar. What we want is participation from each of you. If you have something to add or a question to ask, please speak up. We want to hear your ideas and experiences. You are going to see audio-visual packages which relate to the subjects at hand, and you are going to take a number of short quizzes on the various subjects being discussed. (Please note that we are not going to keep a record of the results of these quizzes.)

B. BENEFITS

Upon the successful completion of this program, you will be presented a Certificate, which will certify your accomplishment. We know that if everyone takes an active part in this training program, and does their best, each will then be able to do a much better job of accident prevention than before. In addition, you will be in a much better position to demonstrate to your company your improved supervisory qualifications. Therefore, you, as well as your Company, will benefit from this training.

C. MANAGEMENT'S SAFETY POLICY STATEMENT

Before going any further, a statement with regard to one of the most important elements of any safety program is in order. Without this statement your safety programs cannot be successful. If you were to open any textbook on the subject of safety management, the first and foremost essential would read "Top Management Support". Ours is called "BWC's Safety and Loss Prevention Policy" and is the first item in this book.

D. GOALS AND OBJECTIVES

At this point, it would be meaningful to discuss the goals and objectives of this Supervisor's Safety Training Program. We probably could develop a substantial number of goals and objectives, but our principal overriding goal is to PREVENT ACCIDENTS.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

INTRODUCTION - 3

3. STATISTICAL REVIEW

With the Safety Training Program goal in mind, let's review some general industrial statistics to determine where we stand now and where we intend to go. In order to be certain that everyone is on the same wave length, we will define the terms we refer to in the different statistical analyses used in measuring our safety performance. The three most common terms are:

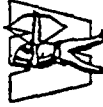
OSHA Recordable Incidence Rate
OSHA Lost Workday Incidence Rate
Injury Index Rate

4. REVIEW

Now we are going to take a preliminary quiz. You may wonder why we are giving a quiz when we haven't really talked a great deal about safety at this point. The reason for a quiz at this time is to determine generally your current knowledge and attitude regarding safety. This information will assist you in achieving the appropriate frame of mind and reference points to be used for the remainder of the program.

EXHIBIT 1-1

BASF Wyandotte Corporation



BASF

awards this

Certificate of Completion

to

DEPARTMENT

for completing _____ A TWO-DAY SEMINAR _____ in _____

SUPERVISOR'S SAFETY TRAINING

TITLE

DATE



SESSION 2

SUPERVISOR SAFETY RESPONSIBILITY

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SUPERVISOR SAFETY RESPONSIBILITY

This section will enable you to more clearly understand and more effectively manage your safety program. You will become familiar with the assignment of safety responsibility, the authority delegated by the responsibility assignment and the accountability that is part of a given responsibility. In addition, you will learn how unsafe acts and unsafe conditions are symptomatic of something wrong with any or all of these three fundamental management principles.

1. DEFINING RESPONSIBILITY, AUTHORITY AND ACCOUNTABILITY

A. RESPONSIBILITY

Anything for which one must be capable and able to answer. Responsibility is assigned. A higher level in management may assign a responsibility to a lower level. Yet this assignment does not relieve the higher level of its responsibility. In order for a person to assign responsibility, he must have the authority to do so. It would be an error in judgment, or in some cases, a calculated risk to assign responsibility to an individual not capable of answering or responding to the assignment for lack of experience or knowledge. It would be an equally incorrect exercise of authority to assign a responsibility to a person not able to answer or respond for lack of delegated authority commensurate with the assigned responsibility. Responsibility cannot be bought for money or wages; it must be accepted by the individual.

B. AUTHORITY

Authority is the right or power to act within a certain area. Authority which is delegated is "Authority of Position". A better word might be jurisdiction, meaning authority within certain specified limits. However, this word is not used often in industry. An employee's supervisor is a source of higher authority to which one may appeal. Only under unusual circumstances should a higher authority countermand a decision of a lower authority. In the event of an appeal to a source of higher authority, the higher authority is obligated, where circumstances permit, to consult with the lower authority to obtain the facts upon which the decision was based, and after evaluating the judgment used, confirm or countermand the decision. Errors in judgment are to be expected, but the incorrect exercises, or the failure to use delegated authority, should not be expected.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SUPERVISOR SAFETY RESPONSIBILITY - 2

There are three types of authority recognized by all:

- 1) Authority of Position -- the boss is an example.
- 2) Authority of Situation -- to save a life does not require the delegation of authority from a higher level, the situation may in itself delegate the authority.
- 3) Authority of Knowledge -- when people recognize knowledge, the knowledge becomes the authority.

C. ACCOUNTABILITY

One is accountable when one is answerable to a superior for results as well as the method of achieving results. A person who is held accountable will accept the given responsibility. In most cases, someone who is not held accountable will not accept responsibility--he or she will devote the most attention to the things that management is measuring: safety, production, quality, cost or any other area in which management is correctly exerting pressure.

Responsibility, Authority and Accountability, as defined, are co-terminus; that is, touching at the same boundary or bordering upon each other. To be effective these fundamental principles must be used properly together.

2. ASSUMPTION OF RESPONSIBILITY

A. EMPLOYER

Management has moral, legal and economic responsibilities for safety.

Moral responsibility includes everything above and beyond legal responsibility... taking additional steps to make your work area a safer operation. For example, this training course is above and beyond your Company's legal responsibility. Your company isn't required to sponsor this training program, but by providing such a program, it hopes and expects that you will be better qualified to fulfill your responsibilities under the accident prevention programs. To carry this one step further, you will now have a moral responsibility to utilize this training and to pass it on to your employees. When we have completed this course, you will become the instructors.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SUPERVISOR SAFETY RESPONSIBILITY - 3

Federal and, in many cases, state laws dictate that each employer has a duty to furnish each of his employees a place of employment free from recognized hazards causing, or likely to cause, death or serious physical harm. In addition, the employer has specified duties.

Managing safety is an essential part of good business. Economically, accidents cost money, but the costs can be controlled by successful safety management. Improvements in safety lead to increased productivity and reduced insurance rates.

B. EMPLOYEE

As set forth in Section 5B of the Occupational Safety and Health Act, the employee also has legal responsibilities to follow safe practices. It is important to understand that both the employer and the employee have legal responsibilities.

Throughout this entire training course, we will be discussing the various ways in which the employer and the employee can fulfill their safety responsibilities.

C. ACCIDENT PREVENTION IS LINE RESPONSIBILITY

The responsibility for accident prevention is a line responsibility. As a supervisor, you plan and direct the employee's work and are responsible for it being done safely as well as efficiently. You are responsible for accident prevention. You are responsible for correcting or reporting anything which is unsafe or inefficient. NO ONE ELSE CAN DO IT AS WELL AS YOU! You know more than anyone else about your operation, your machinery, your employees and your methods of operation. You are the key person in your accident prevention programs.

D. SAFETY DEPARTMENT/STAFF

Obviously since the line has the primary safety responsibility, the Safety Department is and must be Staff (assisting, supporting, planning). As Staff, there is no responsibility for the safety record or the results. The Safety Department is held responsible for providing activities that help the line organization achieve its goals in safety.

The major functions of the Safety Department are contained within the basic areas noted below:

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SUPERVISOR SAFETY RESPONSIBILITY - 4

- 1) Identification and appraisal of accidents and loss producing conditions and practices, and evaluation of the severity of the accident problem.
- 2) Development of accident prevention and loss control methods, procedures, and programs.
- 3) Communication of accident and loss control information to those directly involved.
- 4) Measurement and evaluation of the effectiveness of the accident and loss control system and the modifications needed to achieve optimum results.

Any time the Safety Department must step out of these functions and assume direction of the line safety responsibilities, it indicates a system failure in the line organization.

3. BENEFITS OF ACCEPTING RESPONSIBILITY

In the following discussion and demonstration, you will see your supervisory safety responsibilities in the proper perspective.

You are responsible to your employees and to your management. You are usually the only member of line management who has direct contact with the line employees, and you in turn are their representatives to management. You now will participate in a blackboard exercise which will virtually unfold a safety program in action. However, knowing your responsibilities is one thing; understanding the benefits which accrue to those who accept their responsibilities is quite another. In connection with the supervisor's assumption of safety responsibilities, please refer to the Safety Responsibility Form below.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

SUPERVISOR SAFETY RESPONSIBILITY - 5

SAFETY RESPONSIBILITY

EMPLOYER	SUPERVISOR	EMPLOYEE
1. Provide a Safe Place of Employment	1.	1.
2. Provide Safe Equipment	2.	2.
3. Provide Necessary Protective Equipment	3.	3.
4. To Guard Equipment	4.	4.
5. Establish Safe Methods	5.	5.
6. Protect Life, Health, Safety and Welfare of Employees and Frequenters	6.	6.

By accepting these responsibilities, you may well ask, "What's in it for me?"

...IMPROVED PRODUCTIVITY. Through accident elimination, you have fewer scheduled interruptions, the full time services of skilled employees and machinery which is not out of service.

...IMPROVED PHYSICAL SECURITY. You stand a much better chance of not getting hurt. We are talking about you. With a safe operation, you can be assured that you reduce the likelihood of being injured.

...IMPROVED MORALE. In a plant which enjoys a good safety record, people are more enthusiastic, happier, more productive, easier to work with and as members of a team, they are better protected and more secure.

...BETTER TYPE OF EMPLOYEE. This ties in with good morale. You will have better employees because of your reputation as a good and safe place to work. You will get much better people, not the cast offs.

...CLEAR LINES OF COMMUNICATION. If all supervisors fulfill their safety responsibilities, they will teach their employees safe practices and will report hazardous conditions in operations to their superior as well as taking any other necessary corrective action.

...OPPORTUNITY TO DEMONSTRATE ABILITY. Here it is. A chance to accept responsibility and to demonstrate your ability to develop and manage an effective safety program. By accepting your responsibility in the accident prevention

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SUPERVISOR SAFETY RESPONSIBILITY - 6

program, you can have a safe operation. By having a safe operation, you are in a much better position to have more efficient and economical production, which will support that you are capable of holding your supervisory position. Remember that safety is a measurable standard in your operation. Top management will be able to compare your department with any other supervisor's department. If you have a better safety record than someone else, you may have demonstrated a superior ability to manage. This most definitely will be taken into consideration in management's decisions affecting your managerial and financial growth.

4. PENALTIES FOR REJECTING RESPONSIBILITY

Now what are the penalties for not accepting this responsibility? First you lose all of the benefits which we have discussed. Second, you will be unnecessarily confronted with extremely high costs of accidents. Additionally, there are several areas of costs which accompany most accidents and injuries that are known as hidden costs.

As we said, accidents are costly. They cost the Company money, and they cost you something. Your production efficiency decreases. The unnecessary costs of accidents in your department are reflected in your overall ability as a supervisor.

Remember, all supervisor's should accept their safety responsibility. It is very important to understand the significance of this. When a supervisor neglects this assigned responsibility, particularly after being advised of the moral and legal implications, he should not expect to be rewarded with greater job responsibility or increased financial rewards.

This is not an unfair attitude, but one which will insure that BASF Wyandotte Corporation will have supervisors of the highest character, who sincerely care about their employees, and who can demonstrate the ability to perform their job.



SESSION 3

MAINTAINING SAFE WORKING CONDITIONS

- INSPECTIONS
- HOUSEKEEPING

SAFETY INSPECTION CHECKLIST

Plant or Department _____ Date _____

(✓) Indicates satisfactory (X) Indicates unsatisfactory

REMARKS

1. Housekeeping

Aisles, stairs, floors	_____	
Storage and piling	_____	
Light and ventilation	_____	
Disposal of waste	_____	
Restrooms and lockers	_____	

2. Stairs and Elevated Platform

Railings, toeboards, midrail	_____	
Risers	_____	
Storage	_____	
Condition (Dry, Slippery)	_____	

3. Aisles and Walkways

Mark	_____	
Clear of hazards, slip or trip	_____	
Open hole	_____	

4. Electrical

Control Boxes	_____	
Conduit	_____	
Extension cords	_____	
Lights	_____	
Motors	_____	

5. Machinery and Equipment

Point of Operation Guards	_____	
Belts, Pulley, Gears, Shafts	_____	

6. Tools

Power Tools	_____	
Hand Tools	_____	
Storage	_____	

7. Ladders

Condition	_____	
safety Shoes	_____	
Use	_____	
Storage	_____	

SAFETY INSPECTION CHECKLIST

Page 1

REMARKS

8. Fire Protection

Extinguishing Equipment _____

Exits, clear - marked _____

Emergency Lighting _____

Storage of Flammables _____

Waste Disposal _____

9. Bulletin Boards

Neat and attractive _____

Change regularly _____

Well lighted _____

10. Unsafe Practices

Failure to use protective equipment _____

Failure to wear proper clothing _____

Inattention _____

Failure to follow instructions _____

Horseplay _____

Failure to report injury _____

Failure to get first aid _____

Improper use of tools _____

~~Improper use of equipment~~ _____

Poor safety attitude _____

Signed _____

SAFETY FAULT PICTURE



BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

MAINTAINING SAFE WORKING CONDITIONS

Hazards must be identified before they can be eliminated. This session covers techniques for controlling hazards and maintaining control by anticipating and preventing accidents before they happen. Two major areas will be discussed--- Safety Inspections and Good Housekeeping.

1. SAFETY INSPECTIONS

A. PHILOSOPHY AND PROGRAM

Safety inspections are skilled observations that provide the principal means to identify hazards and unsafe acts before they can cause accidents. Every operating machine can be properly safeguarded, good housekeeping maintained and personal protective equipment provided in your plant. However, this is no assurance that good operating conditions will be maintained because conditions will change with time, age, wear and other operational changes. Therefore, some type of follow up is required to maintain the conditions and actions within acceptable safety and loss prevention standards. Regular safety inspections conducted by supervisors will be a significant part in your accident and fire prevention program. In fact, safety inspections should be conducted by every person in our company.

Unless prompt corrective action is taken following an inspection, the time and effort required to make the inspection are wasted. Every successful safety program must have a well-planned inspection system to assure that equipment is kept free of hazards and that your entire operation is free of unsafe conditions and unsafe work practices. Remember, the purpose of safety inspections is to maintain a safe work environment and to control unsafe actions before they can cause accidents or injuries. The objective of safety inspections is to discover unsafe acts or conditions which, when corrected, will bring the plant up to accepted and approved standards, thereby making it a safer place in which to work.

B. DEFINING STANDARDS AND HOW THEY ARE FORMULATED

When we say we're inspecting to bring the plant up to accepted and approved standards, we're saying a comparison is being made of the actual condition of our plant with the minimum accepted and approved standards. The standards with which we compare our

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

MAINTAINING SAFE WORKING CONDITIONS - 2

actual work conditions come from several sources--our Corporate Safety Standards, plant rules, legal requirements, insurance company requirements, personal experiences and common sense.

Our Corporate Safety Standards are derived from all these sources and many times exceed the legal requirements imposed on us.

Our plant rules and regulations are based on our general knowledge, experience and expertise in the plant processes.

Legal standards from the Occupational Safety and Health Administration, state and city safety codes, and insurance company requirements have been formulated by professional experts within government and business. The majority of our safety standards come from these areas.

The last source is personal experience and common sense. You work in a department or an area and have more knowledge of that area or department than anyone else. If you feel a condition is hazardous, you recognize it because you have the experience gained from working with the particular equipment or product. You gain much of this experience from training, observing, listening, checking and doing.

C. Defining the Types of Inspections

Safety inspections can be classified into two different categories--formal and informal.

Formal inspections are made by the Safety & Loss Prevention Department and insurance companies. In addition, a formal safety audit is conducted by our Safety & Loss Prevention Department to insure that Corporate Safety Policies and Standards are being followed.

Informal inspections are the type every worker, regardless of job, should be continually making through skilled observations of his work area and equipment. This is part of our individual safety responsibility.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

MAINTAINING SAFE WORKING CONDITIONS - 3

D. KEY INSPECTION CHECKS

The following items highlight the key checks to be made during your inspections:

- 1) Make certain that equipment, machines, tools and parts are in good condition, are properly safeguarded and have not become worn or damaged.
- 2) That materials used in the operations processes do not create uncontrolled health, fire or explosion hazards.
- 3) That personal protective devices, fire equipment, first-aid equipment, machine guards and safety appliances are adequate and being properly used.
- 4) That aisles, walkways, floors, stairs, ramps and plant work areas are being maintained in a safe condition.
- 5) Check for proper illumination, ventilation, and noise levels.
- 6) Check work practices and establish conformity to approved safety and loss prevention standards and procedures.

E. CORRECTIVE ACTION AND AUDITING

The most important step in making safety inspections part of your every day job is to take action when you observe a condition or procedure that might injure you or your fellow workers or cause property damage. Proper action can be initiated in several ways. Reporting to your supervisor, writing work releases, taking interim action, or better yet, correcting the problem immediately. We can make many excuses for not inspecting--not enough time, it won't do any good, it's not my job, I miss too many items--but if we're going to have a safe plant where unsafe conditions and practices are observed, reported and corrected, we must all become skilled observers and inspect at all times. Each of us must train ourselves to follow the Observation Cycle. First, **DECIDE** to inspect and make observations in your department, area or plant. **STOP** and **OBSERVE** for any hazards as you carry out your routine duties. Then **TAKE ACTION** by correcting or reporting the hazardous condition or unsafe procedure. Remember, accidents and injuries will be prevented when you take prompt corrective action. This action will maintain your minimum standards. To improve your standards you will also have to take action to prevent recurrence of the unsafe act or condition.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

MAINTAINING SAFE WORKING CONDITIONS - 4

2. GOOD HOUSEKEEPING

A. DEFINING GOOD HOUSEKEEPING

In the last session we briefly touched on "Housekeeping" as a factor to be considered in any effective inspection program. Good housekeeping is a very essential part of every good accident prevention program. To fully appreciate its importance, there are at least three phases to be considered: What is housekeeping? What are the benefits of good housekeeping? How can good housekeeping be achieved and maintained?

The purpose of a good housekeeping program really is...to increase or improve plant efficiency by constantly maintaining an orderly and clean work area. Other basic benefits derived from establishing and maintaining good housekeeping standards are: 1) accident hazard elimination; 2) fire hazard elimination; 3) improved morale, and 4) favorable impression on customers and visitors.

The plant efficiency gain alone justifies the time and expense involved in the plan. The other benefits can be considered as a bonus for doing something which is completely essential to your operation.

B. ELEMENTS OF GOOD HOUSEKEEPING

Next we will consider several of the basic elements of good housekeeping. These items will be discussed in depth to determine the conditions that are necessary to maintain an effective program. A blackboard exercise conducted by your instructor will be used to develop these elements.

C. ACHIEVING AND MAINTAINING GOOD HOUSEKEEPING

By this time, you are probably asking yourself how all of this can be accomplished. Like all good programs, it must be supported by top management. Someone in authority must introduce, direct and support a program to clean up, fix up and paint up to achieve this condition of order.

- 1) Clean Up. Clean up comes first. Once this is accomplished, a planned system of inspection is necessary to maintain this condition. Here again, someone with authority must direct the program. It must be continuous and not sporadic.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

MAINTAINING SAFE WORKING CONDITIONS - 5

- 2) Inspection. The system can vary according to your immediate needs. While it must be directed by someone with authority, it can include supervisory, production or maintenance people. The important thing is to have a plan and to follow the plan...constantly and continuously.
- 3) Responsibility. Since everyone benefits from this program, it is important to get everyone to take part in it. It will work better that way.
Everyone doing a little something every day to maintain a condition of orderliness is necessary. To provide a place for everything and to keep everything in its place is very important, but it cannot happen unless everyone assumes some responsibility. The words "provide" and "keep" imply "doing" which further implies "assuming the responsibility for getting it done".
- 4) Publicity. In addition, a sense of pride will develop when it is recognized that this orderly condition has been achieved by a joint effort. Make your employees feel proud of what they have accomplished under your direction. Compliment them, and if feasible, provide verbal and written publicity for them when they have done an unusually fine job of maintaining an orderly operation. However, this alone will not assure good housekeeping of your plant.
- 5) Standards. In many cases, it has become necessary to establish housekeeping standards. The purpose of these standards is to establish specific minimum conditions of cleanliness and order in all departments and areas in the plant, individually and collectively. While it is important to make these standards known and to fix specific responsibility for adherence to them, the schedules and conditions set forth in the standards are stated as minimums. They do not relieve management at any level of setting higher standards if such are required or desired. Specific responsibilities are fixed in the standards for given locations or conditions and/or circumstances. Generally, all members of management are charged with the responsibility for providing full support to and for participation in any and all such activities.
- 6) Common Reasons for Not Having Good Housekeeping. Many reasons are given for why we have poor housekeeping in some of our plants. Let's review a few of them.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

MAINTAINING SAFE WORKING CONDITIONS - 6

- a) Lack of equipment.
- b) Attitude. "That's not my job". "The other shift left it". "Not enough people". "What's the use, it'll get dirty again". These excuses reflect a lack of discipline regarding housekeeping.
- c) Company maintenance or the contractors are not cleaning up after their jobs.
- d) There are just not enough trash containers.
- e) There is not enough manpower.
- f) Janitor work is for janitors.

Eliminate these excuses!

- 7) Action Plan. If you or your plant have a housekeeping problem, it is suggested that you consider the following action plan:
- a) Secure management leadership. Get top management to take a stand. Someone in authority must introduce, direct and support the program.
 - b) Clean up comes first.
 - c) Establish department housekeeping standards.
 - d) Make housekeeping an important aspect of your inspection program and audit it in the same manner as you would unsafe acts and conditions.
 - e) Establish recognition programs for departments which accomplish housekeeping objectives.
 - f) Use publicity--bulletins, newspapers, letters, posters, individual safety contacts, etc.

Housekeeping campaigns can be established. Campaigns are not cure-alls, but they are started to establish a routine of good housekeeping. Once the routine has been established and the supervisor of the area and the employees working the area realize the benefits of good housekeeping, it is much easier to have a continuous program.

In summary, the term housekeeping refers to normal routine duties and procedures which are required on a day-to-day basis to keep a plant, area, department or piece of equipment in a neat, orderly, safe and presentable condition. Basically, housekeeping is a function of the people who live in a specific area and take pride in keeping their house in order.

Figure 1

12

SESSION 4

SAFETY TRAINING

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING

1. DEFINING THE GOALS OF THE SESSION

In this session, we will try to achieve the following goals:

- ...To provide an understanding of the method and significance of instructing employees in the safe way to perform their jobs; i.e., "Job Safety Analyses".
- ...To provide an understanding of the necessity of having rules and regulations in order to achieve accident prevention objectives.
- ...To convey the method and importance of safety training for new employees.
- ...To demonstrate the effectiveness of one-on-one personal contacts in the conduct of communicating the elements of accident prevention.
- ...To set forth the purpose, types and effective conduct of safety meetings with employees.
- ...To highlight some of the special types of safety training which are offered.

2. SCOPE OF THE SESSION

In this session, we will discuss Employee Safety Training. It is important that each of you become aware of the scope of this subject. Quite often safety training is believed to be very narrow in scope, restricted to such subjects as fire training, new employee orientation or some other specific safety task. Actually, the magnitude of Employee Safety Training is broader than any facet of the entire Safety Program.

3. JOB SAFETY ANALYSES

A. GOALS

The goals of this part are: ...

- ...To impart the significance of JSA as a means of gaining knowledge of the job in order to perform it more safely and efficiently.
- ...To focus attention on the hazards and unsafe acts or practices which may be inherent to the job being analyzed.
- ...To set forth an effective JSA approach.
- ...To demonstrate the employee relations benefits which can accrue through utilization of JSAs.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 2

B. SCOPE

The first area of Employee Safety Training which we will discuss is the Job Safety Analysis Program, more commonly referred to as JSA.

Having determined the principle causes of injuries, we can now make a Job Safety Analysis to determine a safer and/or better way to do the job.

C. ELEMENTS

Job Safety Analysis is the sequel to Accident Investigation. Job Safety Analysis is a method by which each element of the job is analyzed to determine the hazards involved and the unsafe acts or practices which are most likely to occur. It is an essential part of any effective safety program.

Let's compare Job Safety Analysis with the session on Accident Investigation. In Accident Investigation, we must first learn who was involved, where the accident happened, when the accident occurred, what were the causes, and why the unsafe act or condition was permitted? Next, we determine how a similar accident can be prevented. This detail review is the purpose of the Job Safety Analysis.

Don't be misled by the title "Job Safety Analysis Study". It was not intended for large expenditures of money for new equipment, machinery, etc. It does, however, intend to:

- 1) Determine the safest way to do a job.
- 2) Determine the safest method of performing that job with the same equipment, machinery, personnel, material, etc., previously used.

Another purpose of conducting a JSA is to provide a systematic method by which the knowledge and experience of all concerned can be converted into safe job procedures.

Unless each job has been studied carefully with respect to each element involved, it is not possible to know the best way to perform the job either efficiently or safely. Always consider who possesses the knowledge and experience necessary to accomplish this.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 3

D. RESPONSIBILITY

Who is responsible for the JSA study?

- 1) The immediate supervisor.
- 2) Employees performing the operation.

If we are completely honest with ourselves, we should admit that we either consciously or unconsciously resent change, so prior to making the analysis we should:

- 1) Completely familiarize the employee with what we are attempting to do.
- 2) Solicit the employee's cooperation and participation.
- 3) Convince the employee that we are trying to determine a safer way of performing the job.
- 4) Assure the employee that this is not just another method of time study.
- 5) Keep in mind that the employee's own ideas and suggestions for improvement of the job procedure may have previously been rejected with responses and excuses such as:
 - a) "I'll talk to you about it later".
 - b) "If I want your ideas, I'll ask for them".
 - c) "If there were a better way, I'd have already thought of it".
 - d) "It won't work".
 - e) "We don't have time to try it".
 - f) "It costs money to experiment".
- 6) Point up how much employees can contribute to new procedures by expressing their ideas which draw upon their knowledge and experience. Consider these points and approaches:
 - a) Who knows the job better than the employee?
 - b) Employees can point out unsafe conditions and unsafe acts due to their familiarity with the job.
- 7) Ask employees how they would perform the jobs if they were given a choice.
- 8) Find out why employees perform the job as they do. Perhaps you will determine:
 - a) This is the way the employee was taught.
 - b) The employee was not instructed, but instead personally developed the work procedures.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 4

E. METHOD/WORKSHOP

You will participate in a workshop which will acquaint you with the method involved in conducting a Job Safety Analysis. It will be helpful if you would refer to the sample JSA Form in your Study Guide.

F. BENEFITS

While the primary purpose of a JSA is to establish safer working procedures for each job analyzed, those who have adopted this plan have found that the benefits received from the program were far greater than anticipated. Some of these additional benefits are:

- 1) It establishes a standard method and provides a means of detecting deviations from the standard procedure.
- 2) It establishes a standard operating procedure which is a valuable aid in training and instructing new and transferred employees, as well as supervisors.
- 3) It improves quality and increases productivity while producing a safer operation.
- 4) It encourages the employee to suggest the elimination of the steps which are not essential to the operation.
- 5) It restores pride in performance and creates a feeling of importance on the part of the employee which was destroyed by mass production. This is a valuable morale factor.
- 6) It increases the safety awareness of the supervisor and the employees and improves their attitude toward safety through their participation in establishing safe work practices.
- 7) It brings to the attention of the supervisor the skill, experience and ability of the employee, which have remained dormant for lack of an opportunity to demonstrate them.
- 8) It improves supervisor/employee relationships by establishing better communication.
- 9) It assists the supervisor in obtaining more willing compliance because the employee has participated in developing the procedure.
- 10) It improves the supervisor's efficiency through familiarization with every phase of each job under the supervisor's area of responsibility.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 5

You only have so much time to devote to JSAs, but if you were to make only one per week, you would soon cover all jobs within your department.

After you have made your JSAs, ask yourself who has benefitted the most from this experience. We are trying to equip you with sufficient knowledge to enable you to be one of the best informed people in your department.

JSA is a method to convey the thought and establish the fact that we cannot efficiently mass produce quality without an inherent high degree of safety:

G. BWC JOB SAFETY ANALYSIS TRAINING GUIDE PROCEDURES

The following JSA procedures shall be followed within the Company.

- 1) Each manager and/or superintendent will determine jobs to be covered.
- 2) Job Safety Analysis (JSAs) are to be developed by line supervision and at least two employees who normally perform the function.
- 3) Job Safety Analysis will be reviewed and signed by the supervisor developing the analyses and the superintendent reviewing the procedure. Employees helping to develop Job Safety Analysis should also sign.
- 4) Job Safety Analysis will be reviewed by the Supervisor's Safety Department for that area and will be reviewed and signed by the department manager.
- 5) All Job Safety Analysis will be dated and given a title. Job Safety Analysis should be reviewed and revised every 24 months.
- 6) Four copies of the Job Safety Analysis will be maintained. One copy will be kept by the supervisor and one copy will be placed in the department safety file. A third copy is to be posted on the safety bulletin board. The fourth copy will be sent to the Safety & Loss Prevention Department.
- 7) Job Safety Analysis will be developed or revised at a frequency determined by plant management.

H. REVIEW

At this point in the session, a short quiz will be given covering the highlights of this part.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 6

4. SAFETY RULES AND REGULATIONS

A. GOALS

The goals in this part are:

- ...To indicate the importance of Safety Rules and Regulations as control measures to assist a company in accomplishing its total accident prevention objectives.
- ...To demonstrate how Rules and Regulations are critical to establish safety standards.

B. SCOPE

In accident investigation, the injuries experienced over a long period of time were used to indicate the jobs or processes which inflict the most frequent injuries. From this experience, improved procedures or conditions could be developed.

To determine a better way, we turn to JSAs in which we make a step-by-step analysis of the job elements for the purpose of determining the hazards involved. From this, we developed better methods of hazard control and/or elimination. There would be no point in making a JSA unless we were determined to consistently follow the better way once it has been established.

C. NEED FOR RULES

In this part, we will discuss the importance of Rules and Regulations as control measures to aid us in reaching our goal of accident prevention.

The purpose of developing Rules and Regulations is to establish standards which will make an effective accident prevention program possible. Practical rules and regulations, when properly communicated and applied, will greatly assist in maintaining an accident-free operation.

We believe it is essential to control conditions before attempting to control behavior for these reasons:

- ...People will not be favorably impressed if an elaborate program is started before obvious hazards are eliminated.
- ...Management, by eliminating serious hazards, demonstrates that they are sincerely interested in the safety and welfare of their employees.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 7

D. STANDARDS

What kind of rules and regulations do we need to eliminate and/or control unsafe conditions? We need safety standards. Let's define the word "standard"... "...that which is established by authority, custom or general consent as a model or example; a rule with which to measure performance".

We are all familiar with various standards. Standard quantities such as dozens, bushels, pairs; and standard weights such as ounces, pounds and tons; standard measures such as pints, quarts and gallons; standards of living such as high, average, and poor. We would be lost without standards.

Let's consider our homes as an example. Fortunately established standards are maintained during construction, i.e., for ceiling supports, plumbing, footings, linings, etc.

To reiterate, a standard is a rule with which to measure performance.

Safety standards enable us to eliminate or control hazards within a given area. Safety standards are based primarily upon accident experience. To illustrate how and why safety standards are developed, let's discuss an accident involving a compressed gas cylinder. A compressed gas cylinder is knocked over, the valve is broken off, the cylinder becomes self-propelled, goes through a cement block wall, injures two people, continues into an expensive piece of equipment, explodes and causes a fire. Results--damaged building, two people injured, a piece of equipment destroyed.

From this type of accident came the awareness of the hazards of handling compressed gas cylinders. This awareness led to the following requirements:

- 1) Compressed gas cylinders shall be used and stored in an upright position.
- 2) Compressed gas cylinders shall be securely fastened in an upright position.
- 3) Compressed gas cylinders shall be capped when not in use.

There are, of course, many other regulations governing the use and handling of compressed gas, but these will serve as an illustration of our point.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 8

Why should we be interested in complying with safety standards?

...The law requires that we meet minimum requirements.

...You can realize the advantages arising from past industrial experience.

Since there are federal and state standards, why should we develop our own safety rules?

...Federal and state safety standards are minimum requirements.

...It would be impractical, if not impossible, to have specific requirements covering every unsafe condition.

...Company safety rules can be developed to meet the particular needs of that company's operations.

...Some departments or operations require regulations which are unnecessary in other departments or operations within the same company.

...Only the Company can establish and enforce rules to govern the behavior and personal conduct of employees on the job.

E. PROGRAM GUIDELINE FOR ESTABLISHING RULES

What guidelines should be used in establishing safety rules?

- 1) Safety rules for a plant should be formulated by an appointed group of supervisors. These rules should be presented to the Plant Management Safety Committee for approval.
- 2) After approval by the Plant Management Safety Committee, the rules will be published and given to all supervisors. They, in turn, should explain the rules to their employees.
- 3) Safety rules should be few in number and care should be taken to differentiate safe job practices from safety rules. Safe job practices will be covered in the Job Safety Analyses (JSA) and Safe Work Procedures.
- 4) Safety rules will have equal application in all appropriate departments and/or plants.
- 5) No safety rule will be published that cannot be enforced.
- 6) Safety rules will be reviewed annually using the same procedures as stated in items 1 and 2.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 9

5. SAFETY MEETINGS

A. GOALS

The goals of this part are:

- ...To understand the significance of safety meetings as a means of imparting individual employee safety responsibility.
- ...To discuss the method, timing and subject matter of safety meetings.

B. SCOPE

In all previous sessions of this Training Course, we have discussed various ways and means of controlling accidents. We also have been in agreement that every employee must assume responsibility for carrying out an accident-free operation.

If we are to expect employees to take an active part in a safety program and to carry out an accident-free operation, then we must make them aware of the job hazards, responsibilities which they must assume and ways of eliminating accidents.

This can be effectively accomplished by a planned program of safety meetings at all levels of employment. In this part, we will attempt to develop an understanding of the purpose and method of conducting safety meetings. We also will discuss the types, the frequency and the subjects of meetings as well as the reasons which make them necessary.

We are convinced that a person capable of supervising also is capable of conducting a good safety meeting.

C. PURPOSE

Safety meetings are used to promote safety consciousness and hazard awareness. They are a method of safety education whereby the desires of management are conveyed to the supervisor. The supervisor continues the program by carrying the message to employees.

This means of communication is used to promote and assure a continuous safety education program. A safety meeting, as we use the term, is a means of conveying a safety thought to a group rather than to an individual.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 10

D. TYPES, FREQUENCY, SUBJECT MATTER

In this part, we are specifically discussing the employee safety meeting in which the supervisor discusses safety with employees. This is primarily the type of meeting you will conduct. The meetings should be regularly scheduled and follow a specified format. Supervisors should conduct a minimum of one meeting every month with all of their employees.

The typical safety meeting agenda is as follows:

- 1) Accidents and Near Misses
- 2) Unsafe Conditions
- 3) Unsafe Acts
- 4) Safe Work Procedures
- 5) JSAs
- 6) Housekeeping Evaluation
- 7) Safety Bulletins
- 8) Employees Safety Training
- 9) Fire Prevention
- 10) Safety Motivation

It is important that supervisors consider all topics on the agenda. This gives their employees and themselves an opportunity to discuss all of the basic items which should be covered in safety meetings. The agenda helps supervisors maintain control of the meetings and assures that all subjects will be covered.

E. CONDUCTING SUCCESSFUL MEETINGS

When preparing to conduct your meetings, remember the following:

- 1) Avoid being the expert.
- 2) Make careful preparation.
- 3) Have a purpose with pre-determined objectives.
- 4) Clearly convey your message.
- 5) Define your objectives.
- 6) Have group participation.
- 7) Achieve group agreement and reaffirm agreement.
- 8) State the plan of action.
- 9) Assign responsibilities.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 11

6. INDIVIDUAL SAFETY CONTACTS

A. GOALS

The goals of this part are:

- ...To emphasize the importance of the personal approach in communicating proper accident prevention attitude.
- ...To demonstrate how the personal approach in communications can serve as one of the best means of safety training.

B. SCOPE

In this part, we will consider the merits of another means of communication related to safety training. We will be concerned primarily with the personal rather than the group approach.

C. PURPOSE

The purpose of individual safety contact is to provide continuing safety training for individual employees. By this means, we provide specific safety training directed toward the particular hazard to which the employee is exposed. Since 9 out of 10 accidents result from the unsafe acts or practices of the individual, a practical way to approach the problem is by means of the individual safety contact.

D. ELEMENTS OF CONTACT

In spite of all advancements which have been made in the field of communications, no adequate substitute has been developed to replace direct person-to-person conversation. Unplanned or idle conversation is not the answer. It requires planned, purposeful discussion of problems with mutual interest.

E. RECORDKEEPING

In order to assure that the contacts are made regularly, a record should be kept of the dates, subjects and the employees contacted.

A written record is assurance of regular contact. All supervisors should make at least one safety contact each week with each employee under their supervision to continue the employee's training and to consolidate their safety knowledge.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 12

F. SUBJECTS TO BE DISCUSSED

The matter to be discussed may be selected by the supervisor because of a particular hazard or an unsafe act which has been observed. This individual contact may deal with any of the following subjects:

- 1) Safety Rules and Regulations
 - a) When violations are noted.
 - b) As a re-acquainting device.
 - c) When new rules and regulations are introduced.
- 2) Conduct Regulations
 - a) Behavior not covered by rules and regulations.
 - b) Actions detrimental to morale.
- 3) Safe Practices
 - a) Constructive suggestions.
 - b) Review of established procedures.
- 4) Hazards of Specific Jobs
 - a) Unusual assignments.
 - b) High hazard operations.
- 5) Recent Accidents
 - a) Detailed reports and review.
 - b) Information pertinent to present job.
- 6) Reporting Injuries
 - a) Information regarding reporting.
 - b) Reprimand for failure to report.
- 7) Safety Suggestions
 - a) Discuss recent suggestions.
 - b) Request suggestions on specific subjects.
- 8) Safety Attitudes
 - a) Encourage good attitudes.
 - b) Attempt to improve poor attitudes.

G. SUMMARY

An individual contact is a planned follow-up training session conducted by the supervisor with the employee. Individual contacts are based upon any safety subject and are the preferred method for developing safety skills and knowledge.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 13

Special emphasis is placed upon the supervisor's choosing a time and a place for the contact in which the chance of interruptions and distractions will be minimized. Remember to put emphasis on "why" as well as "what" and "how". Because the individual plans the subject matter to meet the employee's specific needs, it is this planning which makes individual contact a systematic follow up of the employee's training.

There are some jobs in which two or three employees are required to cooperate so closely that it would be impractical to make separate contacts with them regarding the safety procedures; in such cases, a contact made with the group is considered an individual contact with each employee.

Individual safety contacts are used also to make sure that safety communications between supervisors and their employees have been adequate. Through this type of individual safety contact, management verifies that the proper protective equipment is being worn, that the safe work practices are being followed, that the hazards are understood and that employees are using all of their safety know-how at all times.

Even though all supervisors are continually alert to their employees' safety compliance and immediately correct any unsafe acts or violations which they see, such random checking does not meet the requirements for a planned individual safety contact program. To insure that individual safety contacts are scheduled properly, each supervisor determines at the beginning of each week the employee who will be observed and the particular job operation which should be checked.

The supervisor should keep a record of all individual safety contacts and record this information in the Employee Safety Activity Record. Each entry includes the date and a code notation of what occurred. The Employee Safety Activity Record requires a minimum of clerical work on the part of the supervisor; thus, on any given day complete written records of employees' safety activities are available, and regardless of whether they have ever supervised the employees in question before, supervisors can determine their safety training contacts, violations, etc. This enables the supervisor to plan safety activities to meet the employee's requirements.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 14

7. NEW EMPLOYEE SAFETY TRAINING

A. GOALS

The goals of this part are:

- ...To emphasize the importance of conveying proper accident prevention attitude at the earliest possible time...at employment.
- ...To provide the specific facts that new employees should know.

B. SCOPE

Safety training begins at the time of employment...before the employee physically begins working. An effective Safety & Loss Prevention Program must include a carefully prepared and presented introduction to the Company.

C. IMPORTANCE OF NEW EMPLOYEE SAFETY TRAINING

When new employees come to work, they immediately begin to form attitudes about the Company, the job, the supervisor, and fellow employees. They do so regardless of whether the employer makes any effort to train them. In order that new employees develop the proper attitudes and learn the things which they need to know, it is important that they receive the right kind of start.

D. PROGRAM GUIDELINE FOR NEW EMPLOYEE SAFETY TRAINING

From the first day of employment, the employee should know the Company's Safety and Loss Prevention Policy. Specifically, they need to know the following items to assure a good safe start with the Company:

- 1) Management is sincerely interested in preventing accidents.
- 2) It is possible to prevent accidents.
- 3) Mechanical safeguarding has been accomplished, and management is willing to expand safeguarding as needs and methods are discovered.
- 4) All employees are expected to report to their supervisor any unsafe conditions which they encounter in their work.
- 5) The supervisor will give job instructions. No employees are expected to take jobs until they have learned how to perform the jobs and are authorized to do so by their supervisor.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

EMPLOYEE SAFETY TRAINING - 15

- 6) Employees should consult with their supervisor before undertaking a job that appears to be unsafe.
- 7) If employees suffer even the slightest injuries, they are required to report them at once.

8. SPECIAL SAFETY TRAINING

A. GOALS

The goal of this part is:

...To discuss some special types of required safety training.

B. SCOPE

Special safety and operating training is required because of certain hazardous operations within the plant. Programs are offered in the following subjects.

C. SUBJECTS

- 1) First Aid
- 2) Mobile Equipment Operation
- 3) Respirator and Breathing Apparatus
- 4) Hearing Conservation
- 5) Fire Brigade
- 6) Welding
- 7) Environmental Hazards
- 8) Cardiopulmonary Resuscitation

D. ORGANIZATION, IMPORTANCE, RECORDS

Your instructor will describe how special safety training can be organized in your particular plant. Emphasis will be given to the importance of this type of training and the importance of keeping the proper records of those employees who have been trained.



1950-1951

SESSION 5

ACCIDENT REPORTING AND INVESTIGATION

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION

1. DEFINING THE GOALS OF THE SESSION

In this session, we will try to achieve the following goals:

- ...Provide an understanding of the purpose of accident investigation.
- ...Provide an understanding of certain basic facts or the nature of accidents.
- ...Provide common definitions of important terms underlying the entire subject of accident investigation. While providing these definitions, we will also be defining the basic elements of all accidents.
- ...Demonstrate the impact of operational error upon the accident and injury process or sequence.
- ...Develop a feel for the actual conduct of accident investigations through the use of slides, films and role playing.
- ...Provide an overview of problems and progress experienced through accident investigation by analyzing trends and evaluations, and to emphasize the "single objective" safety concept.

2. THE PURPOSE OF ACCIDENT INVESTIGATION

There has been an overwhelming number of words used to describe the importance and purpose of accident investigation, but they all really add up to one thingPREVENTION.

It is important to point up here that we must subscribe to the theory that "all accidents are preventable". This is not to say that all accidents can be prevented, but we will come closer to achieving the purpose of accident prevention if we adopt the attitude that all accidents can be prevented.

3. HISTORY OF ACCIDENT INVESTIGATION

As we discussed earlier, prior to 1911 industrial safety was practically non-existent. With no workmen's compensation laws, all states had handled industrial injuries under "common law". After 1911, companies found themselves in a position of having to pay for injuries on the job and decided it would be financially better

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 2

to stop injuries from happening. This decision gave birth to the industrial safety movement.

In these early years companies concentrated heavily, if not entirely on correcting the hazardous physical conditions that existed. Doing this showed remarkable results during the first 20 years.

This reduction came primarily from cleaning up the working conditions.

In 1931, the first edition of H. W. Heinrich's book, Industrial Accident Prevention, was published. This text on industrial safety suggested some revolutionary ideas regarding the causes of accidents. The safety movement had concentrated on the correcting of hazards or unsafe conditions and had shown remarkable results, but Heinrich suggested that unsafe acts of people cause the highest percentage of accidents; in other words, people cause far more accidents than unsafe conditions do. Although what he said was a departure from the safety thinking of the time, what he said made sense and his ideas were accepted. Today, we still work within this framework. This system of identifying the causes of accidents reduced accident rates to new lows but the accident rates in the 1960s began to lose ground.

Let's take a look at this method and re-examine this technique and some of the reasons that cause us to continue to use it only partially. From the beginning we recognized that certain conditions were involved in causing accidents. Heinrich stated it this way:

"The occurrence of an injury invariably results from a completed sequence of factors, the last one of these being the injury itself. The accident which caused the injury is in turn invariably caused or permitted directly by the unsafe act of a person and/or a mechanical or physical hazard".

To illustrate this sequence we use a series of five dominoes standing on edge. These dominoes are labeled:

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 3

- 1) Environmental and Heredity. The social, cultural, educational, etc., environment in which the employee matured, and its impact upon how the employee functions in the work environment. It is a factor involved in the accident process.
The inherited characteristics or traits of the employee and their impact upon how the employee functions in the work environment. It is a factor involved in the accident process.
- 2) Fault of Person. Faults resulting from a culmination of attitudinal and physical characteristics or traits of the employee and their impact upon how the employee functions in the work environment. It is a factor involved in the accident process.
- 3) Unsafe Condition/Unsafe Act. An unsafe condition is any condition, whether physical or non-physical, which is hazardous. An unsafe act is the deviation or departure from an accepted, normal, or correct procedure or practice which is an unnecessary exposure to a hazard.
- 4) Accident. An industrial accident is a sudden unplanned event which interrupts a planned course of action and results in a delay of operations, damage to equipment or materials, injury to personnel, or any combination of these three factors.
- 5) Injury. An industrial injury is the bodily harm resulting from an industrial accident.

Safety professionals have taught this theory many times. If one domino is tipped, it will knock down the other four dominoes. To illustrate the importance of identifying the unsafe act or condition, the domino identified as unsafe acts or unsafe conditions can be removed and stop the tipping sequence. This removal theory is quite clear; simply stated, it says, "If you are to prevent loss, remove the unsafe act or the unsafe condition".

The method is very simple and in many instances has resulted in identifying the unsafe act or condition and having them corrected. However, this method of accident investigation has caused us to take a narrow view of accident investigation. It also encourages the placing of blame on those involved in the accident.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 4

In addition to the domino theory, Heinrich had shown that of all preventable accident causes, 85% were caused by unsafe acts and 15% were caused by unsafe conditions.

When we are only looking for primary or root causes, this would hold to be true. With more emphasis being placed on safety by management, it was only natural that the blame could be placed easily on the employee by the supervisor 8 out of 10 times. Accident investigation became an exercise in fault finding not fact finding.

Realizing that the domino theory had become too narrow and that many contributing causes were left unmentioned, safety professionals have broadened the scope of accident investigation. Accident reports were expanded to include not only the identifying of immediate causes (specific unsafe acts and unsafe conditions which result in an accident) but also contributing causes (acts, omissions or conditions having influence or impact upon the immediate cause of the accidents).

With causes grouped in this way, accidents can be correctly investigated so that corrective action can be taken and the basic purpose of the investigation, i.e., prevention, can be accomplished.

Immediate causes will usually be apparent. As indicated earlier, they are the specific unsafe acts or unsafe conditions which result in the accident. Example: If a cable breaks, dropping a chunk of steel on some crates, the actual snapping of the cable is the immediate cause of the accident.

Contributing causes are more difficult to pinpoint, but you must do it. Pinpointing contributory causes will be facilitated by finding the answers to a few questions:

- ...What was the employee doing prior to the time of the accident?
- ...Did the employee receive proper job safety instruction?
- ...How was the employee's physical condition, i.e., recent illness, etc.

All of this has not been to criticize the domino theory. It is obviously a good approach to safety and is a very practical system for removing things which are causing accidents. The point, however, is that through narrow interpretation of

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 5

the domino theory, we often put blinders on ourselves which have severely limited us in finding and dealing with root causes in accidents.

If proper emphasis is placed upon contributing causes of accidents, the immediate causes will be minimized. Too often the emphasis is placed upon immediate causes of accidents (unsafe acts or unsafe conditions). Steps are not taken to correct a hazardous condition until an accident occurs.

So remember, when we are investigating an accident, we should accomplish at least two things:

- 1) Determine the contributing and immediate causes of the accident.
- 2) Determine the steps necessary to prevent a recurrence of the same type of accident.

Determination of the cause of accidents is essential to corrective action. The corrective action is the elimination merely of the cause. Proper corrective action cannot be determined until the facts of an accident are known.

Accident investigation is fact finding...not fault finding. The concept or idea that most accidents are caused directly by human error (which we call unsafe acts or practices) is correct. This has caused many plant managers and department managers to throw the blame for an accident on the person involved, and to therefore be absolved of guilt. The reasoning behind this is false, for human beings will always be subject to errors. By blaming the employees for accidents and injuries, the cost of such occurrences is not reduced. The management of the plant is not released from responsibility. Most importantly, this action does not prevent a recurrence of the accident. The best that can be accomplished by placing blame is that the manager's temper is relieved, probably at a cost of lowered plant morale.

At this point, it may be appropriate to discuss the theory of multiple causation and its contrast to the domino theory of the accident process, inasmuch as multiple causation goes deeper into questions involving contributing causes. Daniel Petersen sees as the basic difference between the domino theory and his multiple causation theory as the degree to which contributing causes are overlooked or at least

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 6

unmentioned in most practitioners' interpretation of the domino theory. For instance, when we identify an act and/or a condition which "caused" the accident in the investigation procedures of today, how many other causes are we leaving unmentioned? When we remove the unsafe condition which we identify in our inspection, have we really dealt with the cause of the potential accident?

Today we know that behind every accident there lies many contributing factors, causes and subcauses. The theory of multiple causation is that these factors combine together in random fashion, causing accidents. If this is true, an investigation of accidents ought to identify some of these factors, as many as possible, and certainly more than one act and/or condition.

Let's take a quick look at the difference between the multiple causation theory and our too narrow interpretation of the domino theory. This can best be seen by investigating a common accident: a person falls off a stepladder.

Using present day investigation forms, this would be typical of a supervisor's investigation of this accident under the domino theory:

- ...The Unsafe Act: Climbing a defective ladder.
- ...The Unsafe Condition: A defective ladder.
- ...The Correction: Getting rid of the defective ladder.

Now let's take a look at the same accident in terms of multiple causation. Multiple causation asks more about contributing factors surrounding the accident such as:

- ...Why was the defective ladder not found in normal inspections?
- ...Why did the supervisor allow its use?
- ...Didn't the injured employee know that it should not be used?
- ...Was the employee properly trained?
- ...Was the employee reminded?
- ...Did the supervisor examine the job first?

Some of the results and corrections which could be made possible by providing answers to these questions might include:

- ...An improved inspection procedure.

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 7

- ...Improved training.
- ...A better definition of responsibilities.
- ...Prejob planning by supervisors.

Remember, when we are attempting to determine the multiple causes, we must have the facts. From the facts, we can always determine what caused the accident. There are several facts which we must learn about every accident or injury.

WHO was involved or injured? (Get full name and any identifying information, such as badge number, etc.)

WHERE did accident happen? (Get the exact location. For example, name the department and machinery, if any, involved--No. 207 punch press in Department 42).

WHEN did accident occur? (Get the exact time of day, day of month, etc.)

WHAT were the immediate and contributing causes of the accident?

WHY was the unsafe act or condition permitted? (Was this due to a lack of training, supervision, rule enforcement, maintenance or guarding?)

HOW can a similar accident be prevented? (Every person who investigates an accident must have some idea as to how this accident could have been prevented. When all the facts are known, you can be objective about this. Never list an unspecific cure.)

The responsibility for the initial investigation of accidents is the responsibility of the supervisor. Why? Because the supervisor is most familiar with the work area, machines, and materials. As a result, the supervisor is in the best position to get the facts.

The supervisor is also in the best position to institute immediate corrective action. In many cases, this will be the supervisor's responsibility.

There are, of course, other employees in the Company who share this responsibility. Eventually, as a supervisor, you will encounter situations which are beyond

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 8

your authority. At that point, it may be appropriate for you to contact your supervisor or the local safety staff.

Accidents should be investigated as soon as practical after their occurrence. The less delay the better. The more time that is allowed to lapse before questioning employees involved and witnesses, appraising the scene of the accident, or re-enacting the accident, the greater the risk of not getting the facts.

Delay causes imagination to become fact. The injured person's version of an accident should be taken promptly before memory distorts what really happened. This also applies to witnesses. The scene of the accident should be appraised promptly before clues as to what happened are removed.

There are two circumstances under which it is correct to postpone questioning injured personnel:

- 1) Don't question if doing so delays medical treatment.
- 2) Don't question if the person is extremely upset or in pain.

4. FORMS AND THEIR USE

Accident investigation report forms may differ from company to company, but the information they ask for is quite standard. A sound accident investigation form should be designed to provide the following:

A. IDENTIFYING INFORMATION AND RELATED DETAILS

Here we are trying to determine such things as:

- ...Where did it happen?
- ...When did it happen?
- ...Who had the most control of what inflicted the injury, illness or damage?
- ...Were there related incidents which contributed to the accident?
- ...What object/equipment or substance made the physical contact involved in the actual injury or damage?

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 9

B. A DESCRIPTION OF THE ACCIDENT

In other words, what happened? This is a most critical section to complete since it conveys to any reader the exact sequence of events which led to the accident. This should be carefully written, in step-by-step sequence, according to what happened, and should include everything that contributed to the occurrence of the accident.

C. A COMPLETE CAUSE ANALYSIS

What caused the accident? This could be called the heart of the investigation report since what is said here gives the reader an understanding of the contributing and immediate causes of the accident.

D. AN EVALUATION OF THE PROBLEM

What is the probability that this event could recur, and what is its potential severity of loss if it does? This important evaluation helps determine the extent to which corrective action should be carried. The expenditure of time, energy and resources for corrective action should be guided by this evaluation.

E. AN ACTION PLAN TO PREVENT OR CONTROL RECURRENCE

What actions can prevent or control recurrence of similar accidents? This is really the whole purpose of accident investigation as stated earlier...PREVENTION.

F. PROPER REVIEW SIGNATURES

The policy of BASF Wyandotte is to forward the safety investigation report signed by the supervisor and the Safety Department to an appropriate level of upper management, most frequently the department head and the Corporate Safety Department. This procedure assumes that with both the supervisor and the Safety Department representative's signatures, the content of the report reflects a thorough investigation and effective corrective action. In addition, the signed safety investigation report is often the focal point in major loss reviews and hearings which are attended by executive level officials. When the supervisor signs in the appropriate space, one of the final steps of a major effort in loss control has been completed.

It is important to become familiar with your Safety Investigation Report Forms as soon as possible, certainly before having to use it in a real life situation. A copy of the BWC form is shown in Exhibit 5-1. Being knowledgeable and conversational

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 10

regarding the intent, correct usage and general contents of the Form will facilitate sound fact and data gathering in the actual accident investigation process.

For purposes of this session, knowledge of your forms will be particularly useful since you will soon be asked to complete one for class review and comment. In the actual accident situation, a poorly completed form may be completely worthless. Worse than that, it can be detrimental and reflect on your supervisory ability.

5. GROUP WORK SESSION

The objective of this work session will be to provide development in identifying the immediate causes of accidents and the multiple or contributing causes. It may be helpful before we begin to quickly review the material covering immediate and contributing causes. Some additional facts which you should be aware of in the determination of the accident causes are presented in the following paragraph. They are very important to the successful execution of the accident investigation.

The old philosophy that a few accident-prone people account for most accidents is false. This has been proved simply by the fact that all of us some time or another are involved in accidents; sometimes we have a few at a time. If we adhere to the philosophy of accident proneness, the constant recording of everything we do would prove that we are all accident prone.

To begin with, the word carelessness has no meaning when used as a reason for cause of an accident, because it does not suggest any way to prevent recurrence of the accident. It does not tell us what happened. When a supervisor uses the word, the intention is to remove personal blame and responsibility and to place it onto the shoulders of the employee. Perhaps the employee was careless, but the reason for the carelessness may have been due to insufficient supervision, training, instruction and due to not being observed in unsafe methods and procedures on the job. Had the employee been sufficiently supervised, trained and observed, there probably would not have been a careless act. Remember, when accepted as the accident cause, the

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 11

word "carelessness" immediately places the responsibility for the accident with the employee and places the failure to investigate with the supervisor. This action will also terminate any attempt to learn the actual cause.

Many times, management and supervisory failure can be related to the causes of accidents. Unsafe acts, unsafe conditions, and accidents are symptoms that something is wrong in the management system. We have discussed that behind any accident are many contributing causes, but that our previous accident investigation has suggested that we select one of these as the cause of the accident, or that we select one unsafe act or unsafe condition. Then we remove that condition or act. However, the theory of multiple causation and contributing factors is that we trace back all the underlying causes.

For instance, the suffocation of a maintenance man cleaning carbon out of a vessel might start with the unsafe act (entering vessel before putting on air line) and an unsafe condition (hydrogen purge in vessel). Tracing back from this point might lead into why the worker in poor physical condition was selected for the job, why the workers were not trained in the correct vessel entry procedure, why the vessel was designed and constructed to cause entry into it to be hazardous, why their supervisor selected the worker, why the supervisor was poorly trained, why management allowed the condition.

This principle suggests not that we find a single factor, but rather that we widen our findings to as many factors than are applicable. If unsafe acts, unsafe conditions and accidents are symptoms of operational or management error, then we must ask in every accident investigation WHAT caused these symptoms and WHY the unsafe act or condition was permitted. WHETHER supervision and management had the safety knowledge to prevent the accident.

The US Corps of Engineers demonstrated the extent of operational error in a study of 1,700 accidents. These accidents involved civilian employees and not Army personnel.

73% indicated some form of supervisory management failure. Three out of five occurred when the supervisor was not at the scene of the accident. The breakdown of the 73% is as follows:

BASF



Safety & Loss
Prevention

Supervisor's Safety Training Program

ACCIDENT REPORTING AND INVESTIGATION - 12

- 29% failed to enforce safety rules and their management failed to hold them responsible for enforcing rules.
- 22% failed to inspect for hazards and their management failed to have a program requiring the inspection.
- 20% of the supervisors gave insufficient instructions.
- 2% were for other reasons.

A large percentage of accidents would not occur if:

- Safety rules are enforced.
- Safe working conditions are provided and maintained.
- Workers were trained in safe work procedures.

Let's also remember that being specific is the key to good effective accident prevention.

6. ACTUAL INVESTIGATION OF ACCIDENTS

(TO BE CONDUCTED BY INSTRUCTOR)

Safety Investigation Report

BASF Wyandotte Corporation

[illegible]

OVER

GUIDE FOR DETERMINING RESPONSIBLE CONDITION

RECORD ONLY ACTUAL FACTS

1. What Caused The Incident? _____

2. Was The Incident Caused By Defective Equipment, Machinery Or Materials? _____

3. Was The Existing Standard Met? _____ Was It Adequate? _____
4. Does The Present JSA Cover This Situation? If Not, Will JSA Be Revised? _____

5. Was The Incident Caused By An Unsafe Act On The Part Of An Employee Or Employees? Refer To Below. Check Application Cause Or Causes.

☐ PERSONAL PROTECTIVE EQUIPMENT

- ☐ EYES AND FACE
- ☐ EARS
- ☐ HEAD
- ☐ HANDS AND ARMS
- ☐ FEET AND LEGS
- ☐ RESPIRATORY SYSTEM
- ☐ TRUNK

☐ POSITIONS OF PEOPLE

- ☐ STRIKING AGAINST
- ☐ STRUCK BY
- ☐ CAUGHT BETWEEN
- ☐ FALLING
- ☐ TEMPERATURE EXTREMES
- ☐ ELECTRIC CURRENT
- ☐ INHALING
- ☐ ABSORBING
- ☐ SWALLOWING
- ☐ OVEREXERTION

☐ ACTIONS OF PEOPLE

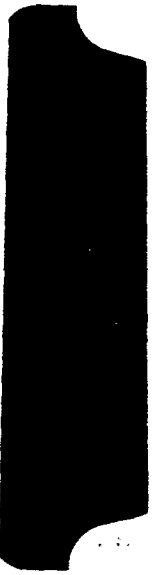
- ☐ ADJUSTING PERSONAL PROTECTIVE EQUIPMENT
- ☐ CHANGING POSITION
- ☐ REARRANGING JOB
- ☐ STOPPING JOB
- ☐ ATTACHING GROUNDS
- ☐ LOCKOUTS

☐ TOOLS AND EQUIPMENT

- ☐ RIGHT FOR THE JOB
- ☐ USED CORRECTLY
- ☐ IN SAFE CONDITION

☐ PROCEDURES AND ORDERLINESS

- ☐ ADEQUATE (REVIEWED AND UPGRADED)
- ☐ ESTABLISHED (UNDERSTOOD)
- ☐ MAINTAINED



SESSION 6

PERSONAL ACCOUNTABILITY

- MANAGEMENT
- EMPLOYEE

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

PERSONAL ACCOUNTABILITY

1. ACCEPTANCE OF PERSONAL ACCOUNTABILITY

The passing of laws, the promulgation of safety and health regulations, the threat of penalties for violation, the issuing of safety policies and programs will not of themselves assure safety at the workplace. Much of the safety of employees depends upon their own conduct and upon management interest and example.

A. MANAGEMENT ATTITUDE AND EXAMPLE

Employees will not accept personal accountability unless management takes the lead by:

- Setting a good example. For instance, if operations require employees to wear goggles or personal protective equipment in certain areas, supervision must conform to these regulations when they visit the areas.
- Properly applying discipline.
- Regular attendance at safety meetings.
- Reviewing and acting upon the safety records (good or bad) of different operating units.
- Making sure that every production discussion recognizes that safe operation is efficient operation.
- Demonstrating an interest through notices, bulletin boards, announcements and other related publicity.

B. MOTIVATION

Some people believe that maintaining interest in safety and loss prevention is unnecessary if the workplace is engineered for safety, if work procedures are safe and if supervisors train employees thoroughly and enforce safety rules. Even with optimum conditions, safety basically depends upon motivation of employees to work safely. Therefore, it becomes necessary to create and maintain their interest in the importance of safety. If safety has been engineered into the equipment, it is the human factor that must be dealt with to prevent accidents.

Modern advertising and merchandising have much in common with the selling of safety. Just as most products and services require steady and imaginative sales promotion, safety likewise requires constant and skillful promotion.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

PERSONAL ACCOUNTABILITY - 2

C. INDICATIONS OF NEED FOR PROGRAM

Various yardsticks can indicate the attitude of supervisors and employees toward safety and loss prevention, and thus gauge the need for a program to create and maintain interest in safety. Increased frequency of injuries, accidents, or near misses may be an indication that a program to create employee interest is needed. If no explanation for such an increase can be found in engineering methods, training, or supervision, the reason is likely to be that employees are ignoring work rules, failing to follow safety procedures, failing to stay alert, or taking chances. This is when a program designed to maintain interest will help reverse this trend.

If housekeeping is deteriorating, or if protective equipment or guards are not being used, it is time to increase the effectiveness of supervision and to promote more interest in safety among supervisors.

Incomplete or missing accident reports, failure of employees to report minor injuries in First Aid reports, etc., also indicate a declining interest among supervisors. Motivation to assure better cooperation is needed.

D. THE WELL-PLANNED PROGRAM--POTENTIAL AND LIMITATIONS

A well-planned program will create and maintain interest in safety and loss prevention, but cannot be expected to accomplish everything. As examples, it can:

- 1) Help develop safe work habits and safe attitudes, but cannot compensate for unsafe conditions and unsafe procedures.
- 2) Focus attention on specific causes of accidents, although by itself cannot eliminate them.
- 3) Supplement safety and loss prevention training, yet cannot be considered a substitute for a good training program.
- 4) Give employees a chance to participate in accident prevention facilities, such as suggesting safety improvements in job procedures.
- 5) Facilitate communications between workers and management, since accident prevention is certainly a common meeting ground.
- 6) Improve employee, customer, and public relations by demonstrating good faith efforts to prevent accidents.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

PERSONAL ACCOUNTABILITY - 3

2. SAFETY POSTERS

A. VALUE

Let's look at some of the individual values of safety posters which assist in safety communication and motivation.

- 1) Remind employees of common human traits which cause accidents.
- 2) Impress people with good sense to work safely.
- 3) Suggest behavior patterns which help prevent accidents.
- 4) Inspire friendly interest in the Company safety efforts.
- 5) Foster the attitude that accidents are mistakes and safety is a mark of skilled performance.
- 6) Remind employees of specific hazards.

B. HOW TO USE

Posters also are useful in supporting special campaigns, such as maintaining good housekeeping, offering safety suggestions, and promoting traffic, home and pedestrian safety. Posters should be changed at least monthly.

3. SAFETY BULLETINS

A. RESPONSIBILITY

Safety bulletins will be written and distributed by your Safety and Loss Prevention Department or other designated members of management as required.

B. PURPOSE AND OBJECTIVES

Safety bulletins will be used to call attention to specific hazards or safety instructions. They also will keep employees informed of pertinent Company accident and safety activities.

C. HOW TO USE

When safety bulletins are posted, they should be discussed at safety meetings to insure compliance and utilization of safety data.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

PERSONAL ACCOUNTABILITY - 4

4. SPECIAL SAFETY MEETINGS

A. PURPOSE AND OBJECTIVES

Special safety meetings in addition to regular safety meetings may be conducted for supervisors, employees, or other groups. But in every case, the purpose is to stimulate and maintain interest. If meetings fail to achieve this, they should be dropped, or the format or content should be changed sufficiently to make them effective.

B. TYPES OF MEETINGS

Among the various types of safety meetings which are commonly held to arouse and maintain interest in accident prevention are the following:

- 1) Mass meetings with all employees.
- 2) Departmental meetings to discuss special problems and hazards.
- 3) Small group meetings to plan a day's work in order that it can be done safely, discuss specific accidents, or to review safety instructions.

5. SAFETY CAMPAIGNS, CONTESTS AND INCENTIVES

A. PURPOSE AND OBJECTIVES

Meaningful demonstrations of management's interest, sincerity and responsibility greatly help to obtain the active participation of supervisors and workers. Safety contests are operated purely for their interest and awareness creating value. A contest which creates a favorable attitude is valuable. One that does not create interest is worthless.

B. TIMING

Safety campaigns or contests should be used only after the basic steps in a Safety and Loss Prevention program have been taken, a record system adopted and equipment safeguarded.

C. OPERATING PRINCIPLES

In a typical contest, the competing groups are departments of the same plant. Generally, contests have been based on accident experience and are operated over a stated period with prizes awarded according to the contest rules. Contests are important, and a well-established group of operating principles should be adopted.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

PERSONAL ACCOUNTABILITY - 5

D. DURATION

Contests may run for various periods ranging from a few months to a year. Some believe that sustained interest over a longer period of time prompts safe work habits. It is our belief that greater interest can be aroused and maintained during short periods. Contests of different durations should be tried to determine which is most effective.

6. AWARD PROGRAMS

A. PURPOSE AND OBJECTIVES

An award program has many purposes. It is an inducement, a builder of good will, a continuing reminder, and a basis for publicity. However, an award must be meaningful to serve these purposes.

B. VALUE

The value of awards exists in their appeal to basic interest factors, such as pride, need for recognition, urge to compete, and the desire for financial gain.

C. TIMING

When safety milestones or contests are completed which deserve recognition, your Safety and Loss Prevention Department notifies the group or unit and appropriate awards are specified.

7. GIMMICKS

Although they are no substitute for a safety and loss prevention program, promotional techniques, i.e., "gimmicks", can be very useful in promoting and sustaining safety awareness and enthusiasm.

A discussion of several "gimmick" ideas will be held during the Session.



SESSION 7

BASF WYANDOTTE CORPORATION SAFETY AND LOSS PREVENTION PROGRAM

BASF**Safety & Loss
Prevention**

Supervisor's Safety Training Program

SAFETY AND LOSS PREVENTION PROGRAM

1. ELEMENTS AND PHILOSOPHY

A successful safety and loss prevention program is aimed at preventing accidents and the resulting injuries, property losses and lost time. Although inadequate supervision, weak maintenance programs and human imperfections prevent any employer or manager from being completely assured that all hazards are under control, he can have a successful accident program to the degree he follows the seven basic elements of an effective program we have discussed in the previous sessions. In review, these elements are:

- Management Commitment and Support
 - Written
 - Demonstrated
- Assignment of Responsibility, Authority and Accountability
- Maintenance of Safe Working Conditions
- Safety Training
- Accident Reporting and Investigation
- Emergency Procedures and Programs
- Acceptance of Personal Accountability

A. THE MAKE UP OF A SUCCESSFUL SAFETY AND LOSS PREVENTION PROGRAM

In order to achieve a successful safety and loss prevention program, the following factors are emphasized.

- 1) Employ all of the basic elements in our Safety and Loss Prevention Program.
- 2) The basic elements must be used with continuity. To leave out one element or to put too much emphasis on another can weaken the program. However, if any element is weaker than another, initially strengthening that element will require special effort.
- 3) Develop a program structure which will guarantee the use of all of the basic program elements with continuity.
- 4) Have complete participation in the program.

B. PARTICIPANTS

All employees should participate if they accept their responsibilities. By every employee, we include officers, all other exempt, non-exempt and hourly employees, regardless of job classification.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SAFETY AND LOSS PREVENTION PROGRAM - 2

Although top management should assume top level responsibility and render strong support for the program, all personnel should assume responsibility within the scope of their authority. However, everyone's responsibility has the danger of becoming no one's responsibility. We must have good organization to prevent this potentially serious problem.

C. IMPORTANCE OF GOOD ORGANIZATION

Good organization requires that someone or some group be assigned primary responsibility for implementing and administering all phases of the Safety and Loss Prevention Program. This reduces confusion and duplication of effort.

Let's consider the responsibilities of the entire organization from Top Management to the employees.

3. SAFETY OR OTHER COMMITTEES

A. TOP MANAGEMENT

Duties and responsibilities:

- Review and determine safety policy.
- Audit acceptance of safety responsibility.
- Review safety performance and initiate corrective action when performance makes it necessary.
- Participate in all phases of the Safety and Loss Prevention Program.
- Establish Safety and Loss Prevention goals and objectives.

B. OPERATIONS MANAGEMENT

Duties and responsibilities:

- Review and determine safety and loss prevention policy.
- Audit acceptance of safety and loss prevention responsibility.
- Coordinate implementation of safety and loss prevention policy.
- Establish safety and loss prevention goals and objectives for their respective organizations.
- Participate in all areas of the Safety and Loss Prevention Program.

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SAFETY AND LOSS PREVENTION PROGRAM - 3

C. SUPERINTENDENTS AND SUPERVISORS

Duties and responsibilities:

- Work toward fulfillment of stated department objectives.
- Participate in all areas of the Safety and Loss Prevention Program.
- Implement the Company Safety and Loss Prevention Policy.
- Report to management any safety and loss prevention problems which are not within their scope of authority.

D. EMPLOYEE

Duties and responsibilities:

- Participate in all areas and activities of the Safety and Loss Prevention Program in accordance with the prescribed agenda.
- Implement the Company Safety Policy.
- Report to supervision any safety and loss prevention problems or information which will assist the Company in the successful implementation of its Safety and Loss Prevention Program.

4. BASF WYANDOTTE CORPORATION SAFETY AND LOSS PREVENTION PROGRAM

The overall Corporate Safety and Loss Prevention Program has been established utilizing the same basic elements of an effective program we have reviewed. Exhibits 7-1 through 7-14 highlight the BWC Safety and Loss Prevention Program by each of the seven basic elements. In addition, the results of our 1981 program are reviewed and the Goals and Objectives for 1982 are defined.

5. REVIEW OF THE SAFETY GUIDE SECTIONS

This Safety Guide has been developed with three purposes in mind. Section I that has been used for the training program will serve as a reference source. Section II will be used for your individual unit Safety and Loss Prevention Program. Section III will be used as a safety workbook which will record your assigned safety duties and action plans. This section will also provide an efficient means to self-audit your

BASFSafety & Loss
Prevention

Supervisor's Safety Training Program

SAFETY AND LOSS PREVENTION PROGRAM - 4

safety and loss prevention activities and program. Your management and the Safety and Loss Prevention Department also will audit this section.

Your instructor will review Sections II and III in more detail and discuss any questions before concluding the training program.

EXHIBIT 7-1
BASF WYANDOTTE CORPORATION
SAFETY & LOSS PREVENTION PROGRAM
BASIC ELEMENTS

1. MANAGEMENT COMMITMENT AND SUPPORT
(DECLARATION OF MANAGEMENT POLICY)
2. ASSIGNMENT OF RESPONSIBILITY, AUTHORITY
AND ACCOUNTABILITY
3. MAINTENANCE OF SAFE WORKING CONDITIONS
4. TRAINING
5. ACCIDENT REPORTING, ANALYSIS AND RECORD
6. EMERGENCY PROCEDURES AND PROGRAMS
7. ACCEPTANCE OF PERSONAL ACCOUNTABILITY

EXHIBIT 7-2

ATTACHMENT I

BASF WYANDOTTE CORPORATION SAFETY & LOSS PREVENTION

1981 GOALS AND RESULTS

- Conduct expanded Safety & Loss Prevention Audits of all units.
 - Forty-seven audits were conducted.
 - Reaction to expanded audits has been unanimously positive.
- Emphasize emergency procedures and programs during the Audits.
 - Emphasis has upgraded overall unit programs.
 - Continued emphasis will be made during 1982 to assure compliance with OSHA Sub Part L.
- Standardize the work permits at each site for the key Safety & Loss Prevention Standards.
 - Line breaking permits were standardized.
 - This will be a continuing program.
- Establish national accounts for safety equipment to reduce costs and obtain better service.
 - Ten-to-fifteen percent savings are available for safety shoes and other personal protective equipment through two suppliers.
 - Service in general has been good.
- Conduct BWC Supervisor's Safety Training Program for remaining Pigments Division supervisors.
 - All Pigments Division supervisors have attended the two-day seminar.
 - In addition, a session was conducted at Wyandotte.
- Complete three audio-visual safety training programs.
 - These programs were again postponed as a cost reduction item in 1981.

Safety & Loss Prevention
1981 Goals and Results

- Continue to provide functional loss Prevention support to all units.
 - Credibility regarding Loss Prevention efforts was maintained and strengthened with our insurer's account engineers.
 - One hundred nineteen Appropriation Requests were reviewed and approved with appropriate comments from the safety and loss prevention viewpoint.
 - Special reviews were held on all major new projects.
- Further formalize the project review schedule to assure corporate and/or site safety and loss prevention viewpoint.
 - A standard form covering Safety & Loss Prevention aspects was issued and is part of the appropriation review package.
- Provide support and guidance to each unit, Division and/or Group as may be necessary, to assure a Corporate Injury Index Rate Goal of 75.
 - Corporate Injury Index Rate was 145 primarily due to a fatal accident at Geismar. However, all other categories showed significant improvement.
 - Recordable injuries were reduced to 41 in 1981 from 83 in 1980, a 51% reduction. The 41 recordable injuries resulted in an outstanding incidence rate of 0.97 and compares very favorably with the CMA nine-month average of 2.61, the latest CMA data available.
 - Total lost workday cases were reduced to 12 in 1981 from 22 in 1980, a 45% reduction. The 12 lost workday cases resulted in an incidence rate of 0.28 and compares very favorably with the CMA nine-month average of 1.06, the latest CMA data available.
 - Days away from work cases were reduced to 5 in 1981 from 6 in 1980.
- Total controllable costs were 9% below budget.

K. C. Kilponen
1-15-82

EXHIBIT 7-3

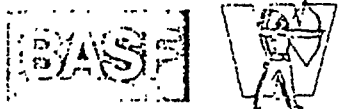
ATTACHMENT II

BASF WYANDOTTE CORPORATION SAFETY & LOSS PREVENTION

1982 GOALS AND OBJECTIVES

- Conduct expanded Safety & Loss Prevention Audits of all units.
- Continue to emphasize emergency procedures and programs during the Audits.
- Continue to standardize the work permits at each site for the key Safety & Loss Prevention Standards.
- Evaluate additional national accounts for safety equipment to reduce costs and obtain better service.
- Coordinate BWC Supervisor's Safety Training Program for Geismar Works supervisors.
- Review and update Corporate Safety & Loss Prevention standards.
- Continue to provide functional Loss Prevention support to all units.
- Further formalize loss recording and reporting.
- Provide support and guidance to each unit, location and Group, as may be necessary, to assure a Corporate Injury Index Rate Goal of 75.

K. C. Kilponen
1-15-82



BASF Wyandotte Corporation

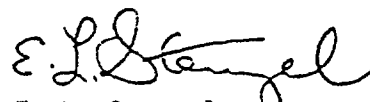
SAFETY AND LOSS PREVENTION POLICY

THE SAFETY AND LOSS PREVENTION POLICY of BASF Wyandotte Corporation is based on the firm conviction that accidents which cause personal injury and/or loss of assets can be prevented. No phase of Company business is of greater importance than the safety of our employees.

THE COMPANY will provide and maintain a safe and healthy working environment at all locations and will establish operating practices designed to assure the safety of all employees.

EACH EMPLOYEE is responsible for his individual safety performance. Each supervisor also has the responsibility to create a climate of safety awareness. Safety and loss prevention must be considered as an integral part of every job. It is the responsibility of each employee to comply with safety rules and to work in such a manner as to prevent injuries to himself and his fellow employees.

THE PREVENTION of accidents is in the best interest of employees, their families and the Company. Safety and loss prevention performance will be considered in determining an employee's overall performance. Only through constant mutual effort and cooperation can we achieve an accident-free work environment.


E. L. Stenzel
President

April 1979

EXHIBIT 7-5

BWC MANAGEMENT SAFETY INSPECTION

- IT IS NOT WHAT YOU EXPECT, BUT WHAT YOU INSPECT THAT MAINTAINS YOUR STANDARDS OF PERFORMANCE.
- INSPECTORS
 - GROUP VICE PRESIDENTS
 - DIRECTORS OF MANUFACTURING
 - STAFF DEPARTMENT DIRECTORS
- FREQUENCY - AT LEAST ONE, ONE-HOUR INSPECTION OF A UNIT PER MONTH.
- UNITS ARE SAME AS FOR ANNUAL SAFETY AUDITS

EXHIBIT 7-6



BWC MANAGEMENT SAFETY INSPECTION

MANAGER _____		POOR	NEEDS IMPR	ACC	ABOVE AVG	EXC.
1. <u>SAFETY ATTITUDE OF MANAGEMENT</u> UNIT SAFETY POLICY AND RULES POSTED. ASSUMPTION OF RESPONSIBILITY FOR SAFETY. UP-TO-DATE PROCEDURES. SAFETY AUDIT ACTIONS. EMPHASIZED BY SETTING EXAMPLE.						
2. <u>SAFETY ATTITUDE AND AWARENESS OF WORKERS</u> WEARING OF SAFETY EQUIPMENT. KNOWLEDGE OF SAFE JOB PROCEDURES. AWARENESS OF LOCATION OF SAFETY EQUIPMENT. KNOWLEDGE OF EMERGENCY PROCEDURES.						
3. <u>UNSAFE ACTS OF PEOPLE</u> (ONE UNSAFE ACT OBSERVED SCORES "0" POINTS)						
4. <u>HOUSEKEEPING - GENERAL</u> TRASH CONTAINERS EMPTIED. YARD AREAS CLEAN. BUILDINGS AND GROUNDS MAINTAINED. ROADWAYS AND WALKS CLEAN.						
5. <u>HOUSEKEEPING - WORK AREAS</u> HOSES COILED. AISLES CLEAR. EVIDENCE OF MATERIAL LEAKAGE OR SPILLS. FLOORS UNCLUTTERED AND CLEAN.						
<u>MAINTENANCE OF SAFETY EQUIPMENT</u> SAFETY SHOWERS AND EYE WASH OPERABLE WITH FREE ACCESS. FIRE FIGHTING EQUIPMENT MAINTAINED. RESPIRATORY EQUIPMENT MAINTAINED AND AVAILABLE.						
7. <u>SAFE WORKING CONDITIONS</u> SAFETY PROCEDURES FOLLOWED. LIGHTING. LADDERS. SAFETY SIGNS. HOLES BARRICADED. SCAFFOLDING. GUARDS IN PLACE. WALKING SURFACES IN GOOD CONDITION. FUMES. DUST						
8. <u>MATERIALS STORAGE AND HANDLING</u> ORDERLY. ACCESS. CONDITION OF PALLETS AND CONTAINERS. EQUIPMENT SUITABLE FOR JOB. EXCESSIVE ONE-MAN LIFTS.						
9. <u>TOOLS AND VEHICLES</u> TOOLS - IN PLACE, CLEAN, GOOD CONDITION. VEHICLES - LIGHTS, HORNS, BRAKES, ALARMS.						
10. <u>TRAINING AND DOCUMENTATION</u> SAFETY OR SPECIAL SKILLS TRAINING. SAFETY MEETINGS.						

SCORING: EXC-10.0; ABOVE AVG-7.5; ACC-5.0;
NEEDS IMPR-2.5; POOR-0.0.

TOTAL POINTS

INSPECTOR _____

DATE _____

Original to S&LP Dept.-Papy, 1cc Manager, 1cc Inspector, 1cc Site Safety Dept.

EXHIBIT 7-7

2) ASSIGNMENT OF RESPONSIBILITY, AUTHORITY, AND
ACCOUNTABILITY

- JOB DESCRIPTIONS
- MEASURABLE GOALS AND OBJECTIVES
- REGULAR EVALUATION OF RESULTS
- SAFETY AS PART OF PERFORMANCE APPRAISALS
- LINE ORGANIZATION RESPONSIBILITY

EXHIBIT 7-8

3) MAINTENANCE OF SAFE WORKING CONDITIONS

- ENGINEER HAZARDS OUT DURING DESIGN
- EFFECTIVE MAINTENANCE & PM PROGRAMS
- INSPECTIONS IDENTIFY HAZARDS
- INSPECTIONS MUST BE MADE BY:
 - TOP MANAGEMENT
 - MIDDLE MANAGEMENT
 - FIRST LINE SUPERVISION
 - EMPLOYEES
 - SAFETY AND LOSS PREVENTION PROFESSIONALS

EXHIBIT 7-9

SAFETY & LOSS PREVENTION AUDITS

- INCLUDE ONE-TO-THREE DAYS IN-DEPTH INSPECTION BY SAFETY AND LOSS PREVENTION DEPARTMENT, FOLLOWED BY A ONE-DAY CLOSING CONFERENCE.
- OBJECTIVE IS TO IDENTIFY UNSAFE ACTS AND UNSAFE CONDITIONS AND TO PROVIDE PLANT MANAGER WITH DETAILED EVALUATION OF ONGOING PROGRAM.
- CORRECTIVE ACTION FOLLOW UP WILL BE DONE THROUGH INTERNAL PLANT PROGRAMS.
- PLANT MANAGER WILL INVOLVE OTHERS AS HE DETERMINES NECESSARY.

SAFETY & LOSS PREVENTION AUDIT SUMMARY

EXHIBIT 7-9A

UNIT: _____

RATED BY: _____

MGP _____

F3861

RATING*					ELEMENT OF SAFETY PROGRAM
UA	NI	AC	AA	EX	
					1) <u>MANAGEMENT COMMITMENT AND SUPPORT</u>
					2) <u>ASSIGNMENT OF RESPONSIBILITY, AUTHORITY AND ACCOUNTABILITY</u>
					3) <u>MAINTENANCE OF SAFE WORKING CONDITIONS</u>
					4) <u>TRAINING</u>
					5) <u>ACCIDENT REPORTING, ANALYSIS AND RECORD</u>
					6) <u>EMERGENCY PROCEDURES AND PROGRAMS</u>
					7) <u>ACCEPTANCE OF PERSONAL ACCOUNTABILITY</u>
					OVERALL RATING

*EX = EXCELLENT AA = ABOVE AVERAGE AC = ACCEPTABLE NI = NEEDS IMPROVEMENT UA = UNACCEPTABLE

EXHIBIT 7 - 10

4) SAFETY TRAINING

- NEW EMPLOYEE INDOCTRINATION
- NEST (NEW EMPLOYEE SAFETY TRAINING)
- STOP (SAFETY TRAINING OBSERVATION PROGRAM)
- SIMULATOR
- SUPERVISOR'S SAFETY TRAINING GUIDE

EXHIBIT 7-11

5) ACCIDENT REPORTING AND ANALYSIS

-- IN-DEPTH INVESTIGATION OF ALL INCIDENTS

-- ANALYSIS OF SAFETY STATISTICS

EXHIBIT 7-12

6) EMERGENCY PROCEDURES AND PROGRAMS

-- PREPLACEMENT EXAMINATIONS

-- PERIODIC EXAMINATIONS

-- FIRST AID PROCEDURES

-- EMERGENCY PLAN

-- EVACUATION PROCEDURES

EXHIBIT 7-13

7) ACCEPTANCE OF PERSONAL ACCOUNTABILITY

- MANAGEMENT MUST TAKE THE LEAD
- SET GOOD EXAMPLES BY CONFORMING TO ALL RULES AND REGULATIONS
- PROPERLY APPLY DISCIPLINE
- ATTEND SAFETY MEETINGS REGULARLY
- REVIEW SAFETY PERFORMANCE. ENCOURAGE GOOD PERFORMANCE AND INSURE TIMELY ACTIONS TAKEN TO CORRECT POOR PERFORMANCE
- START ALL MEETINGS WITH SAFETY DISCUSSIONS
- BEGIN REPORTS WITH SAFETY DISCUSSION
- DEMONSTRATE INTEREST IN SAFETY BY PARTICIPATING IN PUBLICITY REGARDING SAFETY IN YOUR UNIT.

EXHIBIT 7-14

EFFECTIVE SAFETY DISCIPLINE

- 1) EMPLOYEES MUST HAVE INFORMATION TO SUPPORT ACTION REQUIRED.
- 2) REQUIREMENTS MUST BE REASONABLE.
- 3) REQUIREMENTS SHOULD INCLUDE EMPLOYEE INPUT.
- 4) RULES MUST BE CLEAR AND UNDERSTANDABLE.
- 5) RULES MUST BE STRICTLY ENFORCED.
- 6) CORRECTIVE ACTIONS MUST BE UNIFORM AND REASONABLE.
- 7) MANAGEMENT MUST CONTINUOUSLY SET GOOD EXAMPLES.



Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

SECTION II
Safety & Loss Prevention Program

BASF WYANDOTTE CORPORATION
SAFETY GUIDE FOR SUPERVISORS

SECTION II

SUPERVISOR'S SAFETY AND LOSS PREVENTION PROGRAM

PROGRAM ORGANIZATION.....	1
DECLARATION OF POLICY.....	2
ASSIGNMENT OF RESPONSIBILITY, AUTHORITY AND ACCOUNTABILITY.....	3
MAINTENANCE OF SAFE WORKING CONDITIONS.....	4
TRAINING.....	5
ACCIDENT RECORD SYSTEM.....	6
FIRST AID AND MEDICAL PROGRAM.....	7
ACCEPTANCE OF PERSONAL ACCOUNTABILITY.....	8

1. Safety Program Organization

10-1-10



Safety & Loss
Prevention

Safety & Loss Prevention Program

PROGRAM ORGANIZATION



Safety Guide For Supervisors

Notes and Comments

This image shows a full page of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook or legal stationery. There are no margins, text, or other markings on the page.

**2. Declaration of Safety &
Loss Prevention Policy**

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program

DECLARATION OF POLICY



Notes and Comments

3. Assignment of Safety Responsibility

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program
ASSIGNMENT OF RESPONSIBILITY, AUTHORITY
AND ACCOUNTABILITY



Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**4. Maintenance of Safe
Working Conditions**

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program

MAINTENANCE OF SAFE WORKING CONDITIONS



Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

5. Safety & Loss Prevention Training

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program

TRAINING



Safety Guide For Supervisors

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

6. Accident Record System

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program

ACCIDENT RECORD SYSTEM



Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

7. First Aid & Medical Program

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program

FIRST AID AND MEDICAL PROGRAM



Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a standard ruled sheet of paper. There is no handwriting or other markings on the page.

8. Personal Accountability

BASF



Safety & Loss
Prevention

Safety & Loss Prevention Program

ACCEPTANCE OF PERSONAL ACCOUNTABILITY



Safety Guide For Supervisors

Notes and Comments

1998

SECTION II

NOV 10 1998

BASF WYANDOTTE CORPORATION
SAFETY GUIDE FOR SUPERVISORS

SECTION III

SAFETY & LOSS PREVENTION RECORDS

MONTHLY SAFETY ACTIVITIES	1
SPECIAL WORK PROCEDURES	2
JOB SAFETY ANALYSES (JSAs)	3
EMPLOYEE SAFETY RECORDS	4
SAFETY BULLETINS	5
FIRE & EMERGENCY PROCEDURES	6
GENERAL SAFETY INFORMATION	7
OTHER	8

CONFIDENTIAL



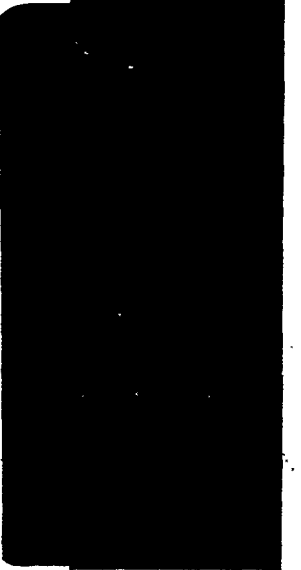
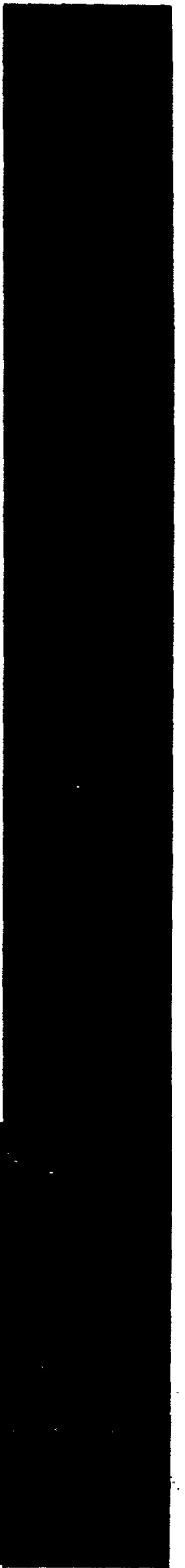
Safety Guide For Supervisors

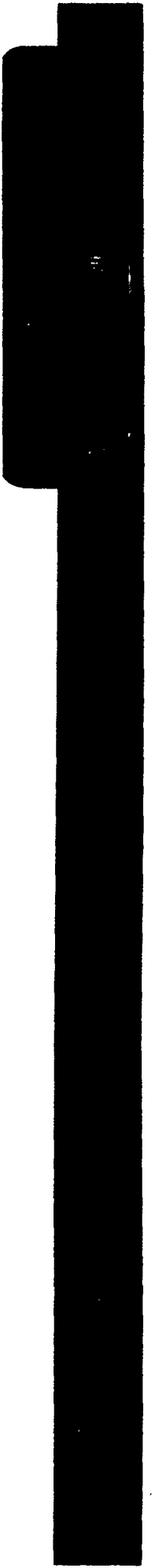
Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.











10

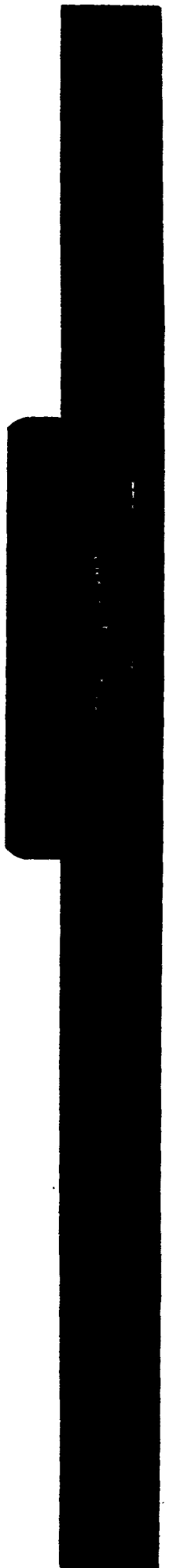




2011



00000000





Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Safety Guide For Supervisors

Notes and Comments

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Safety Guide For Supervisors

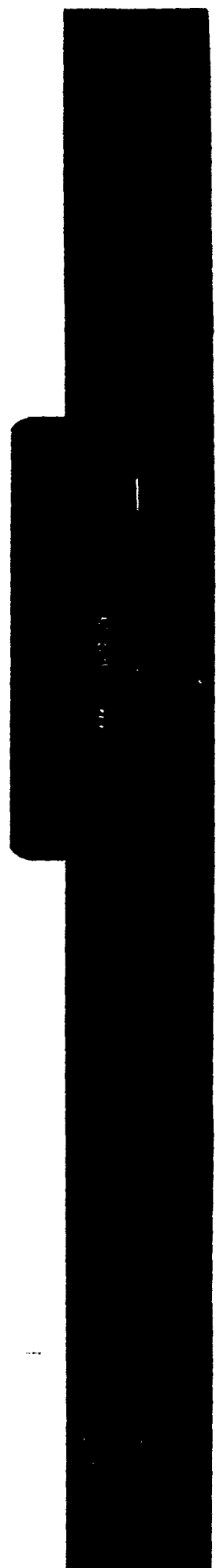
Notes and Comments



Safety Guide For Supervisors

Notes and Comments

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Safety Guide For Supervisors

Notes and Comments

[illegible]



Safety Guide For Supervisors

Notes and Comments

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.