

FORD MOTOR COMPANY
PAINT AND VINYL OPERATIONS
INDUSTRIAL AND CHEMICAL PRODUCTS DIVISION
MOUNT CLEMENS, MICHIGAN

Safety Classification Standards
For Handling & Storage Of
Hazardous Materials

INDUSTRIAL AND CHEMICAL PRODUCTS DIVISION

PAINT & VINYL OPERATIONS
PROTECTIVE EQUIPMENT FOR HANDLING HAZARDOUS MATERIALS

1-1		The equipment shown should be used when handling materials in (P) category as indicated by the markings on the container or label. 
1-2		
1-3		
1-4		

Personnel Services Section
of
Industrial Relations Department

August 1, 1972

UCC
046686

Subject: Safety Classification System and Procedure for Handling Hazardous Materials

I INTRODUCTION

The purpose of instituting these safety standards for handling hazardous materials is to classify the raw materials used by the Mt. Clemens Paint and Vinyl Operations in their Production and Product Development Departments, which require special handling and/or special storage precautions and the proper procedures to be followed when handling them.

II OUTLINE

- A - Basic Safety Rules for handling all raw materials.
- B - Class of Hazard, Type of Hazard, Precautionary Notice, Handling Precautions.
- C - "S" Classification of Raw Materials.
- D - Materials Requiring Formula Notation.
- E - "S" Classification Label on Containers.
- F - Materials Requiring Extra Special Storing or Handling Consideration:
 - 1. Oxidizing Chemicals
 - 2. Combustible Chemicals
 - 3. Unstable Chemicals
 - 4. Water and Air Reactive Chemicals
 - 5. Corrosive Chemicals
 - 6. Toxic Chemicals
- G - Additions and Revisions
- H - Symbols of "S" Classification Protective Equipment Groupings.

A - BASIC SAFETY RULES FOR HANDLING ALL RAW MATERIALS

These are basic safety rules to be observed in handling all raw materials, regardless of their hazard classification. They are as follows:

- 1. No material is to be taken internally.
- 2. Hands must be washed before eating or smoking.
- 3. Food must not be stored or eaten in operating or storage areas, but only in designated lunch rooms or lunch box cribs.
- 4. Material containers must be closed when not in immediate use. Spilled material must be cleaned up immediately.

UCC
046687

BASIC SAFETY RULES FOR HANDLING ALL LIQUIDS (Continued)

5. All unnecessary personal contact with material must be avoided. In case of contact, immediately flush skin or eyes with plenty of water. Eyes must receive immediate medical attention.
6. Avoid breathing irritable concentrations of solvent vapors.
7. Respirators must be worn when working in dusty atmosphere.
8. Clothing contaminated with corrosive or toxic materials must be laundered before re-use.

B - CLASS OF HAZARD, TYPE OF HAZARD, PRECAUTIONARY NOTICE, AND HANDLING PRECAUTIONS

Products varying in kind or degree from those listed must be classified as to class and type of hazard. The following is a guide to aid in preparation of material data sheets:

<u>Class of Hazard</u>	<u>Type of Hazard</u>	<u>Precautionary Notice</u>	<u>Handling Precautions</u>
I	A. Flash Point below 20°F	Avoid heat & open flame. Ventilate, keep container tightly closed.	Store in closed container away from heat, sparks, and open flame.
	B. Flash Point 20°F to 80°F inclusive	Keep away from heat & open flame. Ventilate. Keep container closed when not in use.	Store in closed container away from heat, sparks, and open flame.
	C. Flash Point 80°F to 150°F inclusive	Keep away from heat & open flame. Keep container closed when not in use.	Store in closed container away from heat, sparks, and open flame.
II	Oxidizing Agents	Wear rubber gloves, rubber apron, and splash goggles. Avoid inhalation of fumes.	Avoid contact with all <u>other</u> raw materials to prevent explosive reaction. Store in closed containers.
III	Materials emitting vapors rapidly toxic or extremely irritating or short exposure or low concentration. (1)	Wear self contained air line mask or provide good ventilation with face shield plus synthetic gloves & synthetic apron.	Store in tightly closed container.

UCC
048688

- 3 -

B - CLASS OF HAZARD, TYPE OF HAZARD, PRECAUTIONARY NOTICE, AND HANDLING PRECAUTIONS (Continued)

<u>Class of Hazard</u>	<u>Type of Hazard</u>	<u>Precautionary Notice</u>	<u>Handling Precautions</u>
IV	Materials giving vapors hazardous from prolonged or repeated exposures, or exposure to high concentrations.	Use in well ventilated areas. Avoid prolonged or repeated exposure to vapors.	Store in a closed container.
V	Gases and Vapors physiologically inert.	Use in well ventilated area. Keep container tightly closed. In High concentrations, wear self contained air line masks.	Store in well ventilated area in closed container.
VI	Materials in dust form - inhalation or contact. (3) (4)	Wear leather gloves, and cartridge filter respirator.	Store in a closed container.
VII	Corrosive skin irritant. (1) (2) (4)	Wear leather gloves, and synthetic apron, and plastic face shield or add goggles.	Store in a closed container.
VIII	Materials causing skin irritation after prolonged or repeated contact.	Avoid skin contact. Wash well with soap and water after handling.	Store in closed container.
IX	Materials toxic through skin absorption.	Wear synthetic gloves, synthetic apron, and plastic face shield. In case of contact, remove all contaminated clothing.	Store in closed container.
X	Materials toxic if swallowed.	Avoid all physical contact and do not breath dust or vapors, wash well with soap and water after handling.	Store in closed container.

EXPLANATION OF NOTES (1), (2), (3), & (4) in "Type of Hazard" Column

Note (1): If materials include both "Class Hazards" III and VII (Highly Toxic Vapors and Corrosive Irritant) or include all three "Class Hazards" III, VII, and X, (Highly toxic vapors / Corrosive Irritant / Toxic if Swallowed) then the following "Precaution Notice" should be used on the raw material specification sheets:

EXPLANATION OF NOTES (1), (2), (3), & (4) in "TYPE OF HAZARD" Column (Continued)

"When vapors are present wear self contained air line mask or provide adequate ventilation with face shield plus synthetic gloves and synthetic apron. Keep container closed when not in active loading. Wash well with soap and water after handling."

- Note (2): If materials include both "Class Hazards" VII & X (Corrosive Skin Irritant / Toxic if Swallowed) the following "Precaution Notice" should be used on the raw material specification sheets:

"When vapors or dust are present wear synthetic gloves, synthetic apron, cartridge filter type respirator and plastic face shield, or add goggles. Wash well with soap and water after handling."

- Note (3): If materials include both "Class Hazards" VI & IX, (Dust Hazard / Toxic Through Skin Absorption) the following "Precaution Notice" should be used on the raw material specification sheets:

"Wear leather gloves, and cartridge filter type respirator. In case of contact, immediately remove all contaminated clothing. Wash clothing before re-use."

- Note (4): If materials include both "Class Hazards" VI & VII (Dust Form plus Corrosive Skin Irritant) or VI, VII, and X (Dust Form plus Corrosive Skin Irritant plus toxic if swallowed) the following "Precaution Notice" should be used on the raw material specification sheets:

"Wear synthetic gloves, synthetic apron, and respirator goggle or plastic face shield, plus cartridge filter type respirator."

C - "S" CLASSIFICATION

The raw materials listed in the "Raw Material Codes" compiled March 29, 1966, plus the Vinyl Plant material will be assigned as "S" Classification.

The "S" Classification is a system devised to classify materials in accordance with hazards presented, and provide for indicating the proper protective equipment to be worn, as follows:

<u>Class</u>	<u>Protective Equipment</u>
S-0	Basic safety rules observed - No protective gear required except that required in area
S-1	Synthetic* gloves plus cartridge filter respirator.
S-2	Synthetic* gloves plus adequate ventilation.**
S-3	Synthetic* gloves plus synthetic apron plus acid goggles or face shield.

C - "S" CLASSIFICATION (Continued)

<u>Class</u>	<u>Protective Equipment</u>
S-4	Synthetic* gloves plus synthetic apron plus respirator, respirator-goggles or acid goggles plus cartridge filter respirator.
S-5	Air line mask or adequate ventilation with face shield and synthetic gloves plus synthetic apron plus synthetic boots.
S-6	Air line mask or adequate ventilation with face shield and synthetic gloves plus synthetic apron plus synthetic boots.
S-7	Full suit plus air line mask plus synthetic gloves and synthetic boots and adequate ventilation.

* The term "synthetic" covers rubber, polyethylene, and other impervious materials, such as "Neoprene."

** Adequate ventilation specified should be such that the threshold limit values (TLV) of the material in question established by the American Conference of Governmental Industrial Hygienists (May - 1965) is not exceeded. Where such TLV's are not established, the ventilation should be that dictated by the best information available.

The "S" Classifications must be based on:

- A - Type of hazard presented by the respective material
- B - Processing system or method involved
- C - Quantity involved (production V.S. Laboratory)

Such considerations may require modification of a listed "S" Classification, although careful analysis must be made in order to retain adequate safeguards. Care should be taken to insure that the reason for the modification is thoroughly understood by the Personnel involved, so that activity in this direction does not undermine respect for the overall system.

Wherever exceptions are taken, they should be approved by the Department Manager and recorded in their Procedures, to prevent misunderstanding with the concurrence of the Safety Engineer.

A picturization chart of "S" Classification, Protective Equipment Groupings is attached to this procedure for handling hazardous materials.

D - MATERIALS REQUIRING FORMULA NOTATION

Formulas must show the applicable "S" Classification for raw materials used, except in cases where an unusual hazard requires more specific precautions on the formula.

HANDLING & STORAGE PRECAUTIONS ON CONTAINERS

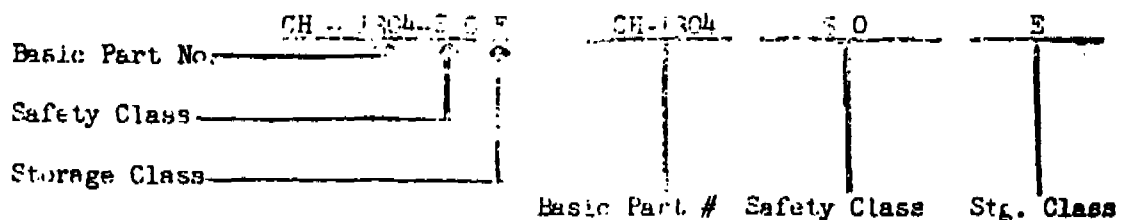
Purchasing Service personnel will make arrangements with Manufacturers and Suppliers to provide the required appropriate prominent label bearing the "S" Classification S-1, S-2, etc. and storage codes as outlined in the following paragraph. These "S" labels on the containers should be in Alert Orange. Where Alert Orange does not provide sufficient contrast (as on Orange or Yellow pigment bags) Black should be used as an alternate color.

The storage codes have the following designations:

- A - Materials which must be stored in the Initiator Building.
- B - Materials which must be stored in the Special Liquids Building.
- C - Materials which are received in bulk and must be stored in outside underground Tank Farm.
- D - Materials which are received in 55-gallon steel drums and must be stored outside.
- E - Materials which may be received and stored in the Manufacturing Bldg.
- F - Materials which may be stored in the Ford Fabrics Bldg.
- G - Liquid materials which are received in bulk and stored in outside tanks above ground (liquids - alcohol, formaldehydes, etc.)
- H - Solid materials which are received in bulk and stored in outside silos.

Example:

CH 1304 becomes



In addition, all aluminum paste and zinc dust containers must be labeled to indicate that for safety and quality, the containers are to be kept carefully sealed and dry, and opened only as needed, in accordance with ANSI Standard Z12.19 1971 "Processing and Finishing of Aluminum 1970" and NFPA 491M, Aluminum.

When such a material is transferred to another container, regardless of shape or size, for samples, test, or lab work, it must be marked with the proper "S" code. This will serve as a reminder that special handling precautions must be taken.

UCC
046692

F - HANDLING & STORAGE PRECAUTIONS FOR HAZARDOUS (Continued)

Purchasing service personnel will not order materials that are not classified and entered on the "S" Classification list.

Product Development and Production Management must first obtain Data Sheets on all materials presently used and proposed materials from the Manufacturing Chemist Association, Inc., or the Manufacturer or Supplier. These Data Sheets are to be submitted to the Safety Engineer for "S" Classification.

When the material is classified, the Purchasing Services is so notified and the material is entered on the "S" Classification list. The Purchasing Services can then require the Supplier to provide the proper "S" label on the material to be delivered. Upon receipt of the material, it will be identifiable and indicate safe handling procedures.

After "S" Classifications are established and prior to the establishment of a procedure which will require suppliers to label their products with an "S" label, Production Control personnel will be required, when necessary, to attach "S" Classification Sticker and/or to stencil or otherwise mark legibly and permanently on each container, the appropriate classification (S-1, S-2, etc.), as indicated by the "S" Classification list that is received in the Operations without the proper "S" Classification Code.

F - MATERIALS REQUIRING EXTRA SPECIAL STORING OR HANDLING CONSIDERATION

The following types of Hazardous Materials will require special labeling as indicated in Section B, Notes (1), (2), and (3):

- 1 - Oxidizing Chemicals
- 2 - Combustible Chemicals
- 3 - Unstable Chemicals
- 4 - Water and Air Reactive Chemicals
- 5 - Corrosive Chemicals
- 6 - Toxic Chemicals

G - ADDITIONS AND REVISIONS

The "S" Classification list will be re-evaluated at least semi-annually for the purpose of deleting obsolete materials. New materials will be added to the list as requests for purchase are made, and the material is classified.

Materials will be classified, and master copies of the "S" Classification and Material Data Sheets will be maintained by:

J. Edwards - Purchasing - Vinyl
K. E. Jansen - Manager - Vinyl Research & Development
G. Kranz - Purchasing - Paint
J. O'Donnell - Supervisor - Industrial Relations
J. B. Sherba - Safety Engineer
A. W. Vos - Manager - Paint Research & Development
W. J. Piccolo - Division - Industrial Relations

UCC
046693