

PROCEDURE BULLETIN — TEXAS CITY PLANT P-0138

SUPERHAZARDOUS MATERIALS

PLAINTIFF'S EXHIBIT

MON-1419

I. PURPOSE

The purpose of this bulletin is to define, list and designate special handling procedures for certain chemicals which are classified as superhazardous chemicals at the Texas City location.

II. POLICY

Superhazardous materials are those chemicals whose unique toxicity constitutes an immediate hazard to the lives of people. Substances which fall into this category will be designated by the Texas City Loss Prevention and Safety Department and the involved departments. The purpose of the definition is: (1) to insure special identification of the equipment/piping handling these materials outside and/or inside battery limits, (2) to specify the minimum acceptable special personnel protective devices to be used where exposure could be expected and (3) to designate where special engineering and fabrication standards must be met.

III. RESPONSIBILITY

The manufacturing superintendent or equivalent is responsible for carrying out this procedure in his area. The Loss Prevention and Safety Superintendent, along with the affected department superintendent, will determine which chemicals should be covered by this procedure.

IV. SCOPE

This bulletin covers all operating and nonoperating areas at the Texas City location.

V. PROCEDURE

A. Chemicals Designation

1. It is the responsibility of the Texas City Loss Prevention and Safety Department in conjunction with the affected operating department to designate which products are to be covered under this classification.
2. At the present time, the products falling in this classification are hydrogen cyanide, acetone cyanohydrin, lactonitrile and liquid chlorine.

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ORIGINAL ISSUE: 5/3/78

REVISED: 1/20/81

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B. Out of Battery Pipeline Highlighting and Monitoring

1. All out of battery pipelines must be painted and marked in a special method for highlighting. For the present, superhazardous products will be highlighted as follows:
 - a. HCN - Pipe and/or outer covering to be painted yellow with black tape or stripe every 50 feet and at every bend and flange and HCN sign designations every 100 feet and at four posters.
 - b. ACY - Pipe to be painted yellow with an orange band with a black tape or stripe every 50 feet and at every bend and flange and ACY signs every 100 feet and at four posters.
 - c. LN - Pipe to be painted yellow with a Lactonitrile Legend every 100 feet and at every four posters.
 - d. Liquid Chlorine - Pipe to be painted yellow with a Chlorine Legend sign every 100 feet and at every four posters.
 - e. All lines which normally contain or may contain greater than 0.5% free HCN will be painted yellow and labeled "HCN Containing" every 100 feet and at four posters.
2. All superhazardous out of battery pipelines are to be self-supported in the rack. At no time should these lines be used to support other lines or equipment.
3. All superhazardous ex-battery lines are to be inspected by the Corrosion & Inspection Department every six months (under ground every year) and any necessary repairs needed are to be reported to the appropriate supervisors and to Loss Prevention and Safety.
4. All superhazardous ex-battery pipelines must be inspected monthly by the owning department for possible mechanical damage. More frequent inspections may be required in areas where possible mechanical damage could occur, such as near roads and intersections. Every effort should be made to install superhazardous pipelines above ground so they can be properly monitored.

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5. A written dated record of all inspections and repairs or revisions to these lines will be maintained by the inspecting department.

C. In-Battery Equipment & Pipeline Highlighting and Monitoring

1. Superhazardous lines within the battery limits must be treated the same as outside battery pipelines as in paragraphs B. 2 and 4 above. Highlighting will be determined by specific needs of the operating unit.
2. All instruments in the plant which contain or may contain greater than 0.5% free HCN or any superhazardous materials, must be painted yellow and wrapped with black tape as a special designation. Yellow and black tape may be used as an alternative to painting.
3. A written dated record of all inspections and repairs or revisions to these lines will be maintained by the inspecting department. Inspection frequency will be determined by the operating department in cooperation with Corrosion and Inspection Department.

D. Personnel Protective Devices Required for Expected Exposures

1. HCN

- a. All samples which contain greater than 2% free HCN must be sampled in a box with the operator wearing the required personal protective equipment including a respirator and using a backup operator. The box must be adequately designed and constructed assuring removal of vapors and minimizing the possibility of spills. A backup operator is defined as a second person positioned upwind at a suitable distance to observe the actions of the mechanic/operator. The backup operator will carry the required personal protective equipment, breathing protection, and appropriate communications equipment.
- b. With the exception of samples taken from a plant simulation bench unit (PSBU), all other samples between 500 ppm and 2% HCN (wt. %) must be taken in a sample box. Procedures for sampling PSBU streams must be based on safe laboratory practices, reviewed by appropriate laboratory supervision and Loss Prevention and Safety personnel.

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- c. Samples containing 500 ppm free HCN or greater must be labeled with the yellow and black label and clearly identified as to contents. These samples will be stored and handled in designated hoods.
- d. During the breaking of first flanges including hoses on any equipment or lines and marine loading arm connections which normally contain or may contain greater than 0.5% free HCN, the mechanic/operator must wear breathing protection and required protective clothing and have a backup operator in attendance. As technology permits, every effort must be made to determine the extent of contamination prior to breaking flanges. This includes the use of portable analyzers, Draeger tubes, etc.

2. ACY, LN

If the ACY or LN content of a stream is greater than 2.0% ACY or LN, the HCN rules for personnel protective devices in No. 1 should apply.

3. Liquid Chlorine

- a. When breaking connections to and from chlorine tank car unloading facilities, the person making the connection must wear required personal protective equipment including respirator and have a backup person with the same type of protective equipment.
- b. When breaking any connection greater than 3/8", which has contained liquid chlorine, the mechanic/operator must wear the required protective equipment designated in 3.a. above.

E. Special Engineering & Fabrication Standards

1. In selecting equipment and piping for use in HCN, LN, ACY or AN services, the following criteria should be used:

a. Equipment (1)

- (1) Equipment containing streams which exceed the following limits will be designed for LETHAL SERVICE.

- (1) For equipment design specifications refer to ASME Boiler and Pressure Vessel Code, Section VIII.

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Liquid Streams	Wt. % HCN
Below 80°F	1.0
80° - 200°F	0.5
Above 200°F	0.1
Vapor Streams	7.5

- (2) All other equipment containing liquid streams with HCN concentrations below the above levels will be designed for toxic service.

b. Piping (2)

HCN-containing streams which exceed the following limits will use only LETHAL or Class A service piping. All other for ACY, LN and HCN will use TOXIC or Class B specification.

	Wt. % HCN
Liquid Streams	0.01 - 5 Toxic, Class B 5.00 - 100 Lethal, Class A
Vapor Streams	0.01 - 60 Toxic, Class B 60.00 - 100 Lethal, Class A

c. Existing Equipment and Piping

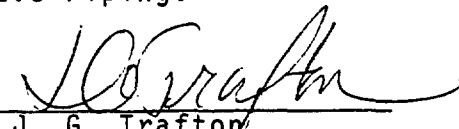
Existing equipment and piping not in accordance with the above specifications should be monitored closely for evidences of failure. When such evidence does appear, the equipment and/or piping should be changed to meet the specified design.

2. In selecting equipment and piping for use in liquid chlorine service, the recommendations of the Chlorine Institute will be followed.

- (2) For piping design specifications refer to the Chemical Plant and Petroleum Refining Piping Code, ANSI B 31.3-Piping.

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