REGULATIONS GOVERNING THE CLEANING, SCALING AND REPAIRING OF STORAGE TANKS WHICH HAVE CONTAINED LEADED GASOLINE

INTRODUCTION

GENERAL

The regulations contained in this booklet are to be regarded as supplementary to any existing regulations for the avoidance of fire, explosion, and toxic hazards, in handling gasoline, as enforced by individual oil companies or other agencies. They represent the minimum requirements for the avoidance of lead exposure.

When cleaning, scaling or repairs are to be carried out inside a storage tank or tanker compartment by the employees of a contractor (and not under the direction and supervision of the owners of the tank or vessel), the owner shall inform such contractor of the hazards associated with such work, and acquaint him with the regulations under which the work is to be done.

All storage and mixing tanks which have at any time contained leaded gasoline, and which have not been thoroughly cleaned must bear warning notices located directly above each manhole cover reading as follows:-

THIS TANK HAS CONTAINED LEADED GASOLINE OBSERVE SPECIAL PRECAUTIONS WHEN CLEANING.

SOURCE AND NATURE OF THE HAZARD

The source of hazard is as follows;

(1) SLUDGE on the tank bottom, and

(2) RUST SCALE on the inside surfaces of the tank.

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(1) SLUDGE on the tank bottom, and

(2) RUST SCALE on the inside surfaces of the tank.

The SLUDGE presents by far the more serious hazard. Volatile lead compounds in a very small percentage are always present in the sludge on the tank bottom and inhalation of vapour from the sludge can cause serious illness which in cases of prolonged exposure may prove fatal.

The RUST SCALE on the inside surfaces of the tank contains traces of lead and inhalation of dust from this scale must be avoided.

Changing the product in a tank which has contained leaded gasoline without first cleaning out the sludge, does not remove the hazard. Once a tank has contained leaded gasoline the hazards referred to above will persist until the tank has been cleaned.

DEGREE OF CLEANING REQUIRED

1. SLUDGE

The instructions to be followed when cleaning out sludge from the tank bottom are set out in Section 1(A) of these regulations.

2. RUST SCALE

The instructions to be followed when removing rust scale from the inside surfaces of the tank are set out in Section 1(B) of these regulations.

3. REPAIR OPERATIONS

The instructions to be followed when carrying out repair operations inside a tank are set out in Section 1(C) of these regulations.

For the purposes of these regulations a "clean" tank may be defined as one from which all sludge has been cleaned out and all loose material removed from that portion of the tank that has been in direct contact with the sludge.

Attention is drawn to the possibility that sludge may be deposited on projections or in crevices in the tank, or it may seep under the bottom plates if there is a leak in the tank bottom. It shall be the duty of the responsible person in charge of cleaning operations to see that these sources of vapour are removed before declaring the tank to be clean.

A POSITIVE PRESSURE AIRLINE MASK MUST BE WORN BY ANYONE ENTERING A TANK BEFORE IT HAS BEEN CLEANED.

SECTION 1. RE ENTRY

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A POSITIVE PRESSURE BREATHING MASK MUST BE WORN BY ANYONE ENTERING A TANK BEFORE IT HAS BEEN CLEANED.

S E C T I O N 1.

STORAGE AND MIXING TANKS.

The tanks considered under this section include all Storage and Mixing Tanks which have at any time contained leaded gasoline. The regulations as set out herein are to be regarded as the minimum requirements for the avoidance of lead exposure.

A. CLEANING OF TANK BOTTOM.

1. All workmen must change into special clothing, consisting of clean overalls, shirts, underwear (in cold weather) and socks; also heavy rubber or acid-proof gloves and rubber boots of good quality and in sound condition.

2. A positive-pressure full face-piece airline mask must be worn by any person entering the tank. This applies not only to tank cleaners but to all others who go into the tank for any purpose.

3. Hoselines for air masks have a limited life and must be kept clean. If a workmen notices any odour such as gasoline while wearing his mask, he must leave the tank at once and find and remedy the cause.

4. Before taking any meals the face and hands must always be washed and outside clothing must be changed.

5. Clothing must be changed (and washed) and a bath must be taken every day either at the end of each day's work or when the job has been finished.

6. At the end of each day and after the job has been completed respirators, boots, gloves and tools must be thoroughly cleaned.

7. SLUDGE is dangerous to handle, even after it has been taken out of the tank. Inhalation of vapour from sludge must be avoided. It should be kept wet and buried at once, in a place where it will not be uncovered later.

B. SCALING OF TANK WALLS.

1. The removal of Rust Scale from the inside surfaces of a tank must not be undertaken until the tank has been passed as clean (for definition of a clean tank see page).

2. All workmen must wear overalls.

3. The inside surfaces of the tank should be kept wet.

4. A positive pressure airline mask or a full face-piece cannister type respirator must be worn by any person entering a tank which is being descaled.

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2. All workmen must wear overalls.

3. The inside surfaces of the tank should be kept wet.

4. A positive pressure airline mask or a full face-piece cannister type respirator must be worn by any person entering a tank which is being descaled.

NOTE. It is recommended that the breathing tube of the respirator be of a sufficient length to allow the cannister to be worn on the back where it will cause least inconvenience to the wearer.

5. Filters in respirator cannisters have a limited life and must be renewed after hours of use.

6. RUST SCALE removed from a tank should be kept wet and buried at once in a place where it will not be uncovered later.

C. REPAIR OPERATIONS

1. Repair operations inside a tank must not be undertaken until the tank has been passed as clean (for definition of a clean tank see page).

2. If WELDING OR OTHER HOT WORK is to be undertaken then the area to be heated must first be brushed down to clean metal.

3. During any work which may result in dust being present in the atmosphere the inside surfaces of the tank should be kept wet. If the type of work does not permit this then all workmen and others entering the tank must wear a full face-piece cannister type respirator.

4. Filters in respirator cannisters have a limited life and must be renewed after hours of use.

5. Work conducted on the outside of a tank or on any component thereof must be undertaken under conditions of adequate natural or artificial ventilation and in such a manner as to avoid exposure to dust, sludge, vapour or fumes.

S E C T I O N 2.

PIPE LINE OPERATIONS

Storage tanks employed in connection with the pumping of leaded gasoline through trunk pipelines, such as Surge, Balancing, or Settling Tanks, etc., are subject to the regulations set out in Section 1.

Deposits which may periodically be removed from separators should be buried promptly whilst in the wet state. Similarly, when renewing the charges of filtering medium in separators, the old charges should be disposed of promptly by burying.

Any work carried out on pipeline filters or separators must be undertaken under conditions of adequate natural or artificial ventilation, and in such a manner as to avoid exposure to dust, sludge, vapour or fumes.

S E C T I O N 3

GARAGE AND FILLING STATION TANKS

If for any reason a tank has to be entered, then the regulations set out in Section 1 must be followed.

Work conducted on the outside of a garage or filling station tank, or on any component thereof, must be undertaken under conditions of adequate natural or artificial ventilation, and in such a manner as to avoid exposure to dust, sludge, vapour or fumes.

S E C T I O N 4

RAIL AND ROAD TANK WAGONS

The only special precautions required under this heading are those prescribed for sealing and repair operations as set out in Section 1(B) and Section 1(C).

S E C T I O N 5

CLEANING AND SCALING BARGES

The only special precautions required under this heading are those prescribed for sealing and repair operations as set out in Section 1(B) and Section 1(C).