

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

INTRODUCTION

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, sealing 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 manhole covers normally used for regular access to the tank, reading as follows:-

S. T. O. P.

THIS TANK HAS CONTAINED LEADED GASOLINE.

IT MUST NOT BE ENTERED UNLESS THE
PRESCRIBED REGULATIONS ARE COMPLIED WITH.

NATURE OF THE HAZARD

source of hazard is as follows;

- (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 are always present in the sludge on a 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 a 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. TANK BOTTOM - REMOVAL OF SLUDGE.

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

2. SCALING OF TANK WALLS - REMOVAL OF RUST SCALE.

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

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(1) SLUDGE on the tank bottom

RUST SCALE on the inside

It presents by far the most serious hazard

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age can cause serious illness

fatal.

The RUST SCALE on the inside surface
lead and inhalation of dust from this scale

Changing the product in a tank which
without first cleaning out the sludge, does
tank has contained loaded gasoline the hazard
until the tank has been cleaned.

DEGREE OF CLEANING REQUIRED

1. TANK BOTTOM - REMOVAL OF SLUDGE.

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

2. SCALING OF TANK WALLS - REMOVAL OF

The instructions to be followed when
inside surfaces of a tank are set out in Section 1(B)

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 REPAIRING A TANK BEFORE IT HAS BEEN "CLEANED".

SECTION 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 and have not been "cleaned". The regulations as set out herein are to be regarded as the minimum requirements for the avoidance of lead exposure.

1. CLEANING OF TANK BOTTOM - REMOVAL OF SLUDGE.

1. All men 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. Hoses for air masks have a limited life and must be kept clean. If a workman notices any odor such as gasoline while wearing his mask, he must leave the tank at once and report the reason forthwith to the supervisor in charge of cleaning operations who should find and remedy the cause.

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

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

6. At the end of each day's work and when the job has been completed masks, boots, gloves and tools must be thoroughly cleaned.

7. Sludge is dangerous to handle, even after it has been taken out of a tank. It should be kept wet and buried at once in a place where it will not be uncovered later. Men engaged in the handling and disposal of sludge outside a tank must wear the special clothing prescribed in paragraph 1 hereof and a full face-piece canister type respirator.

B. SCALING OF TANK WALLS - REMOVAL OF RUST SCALE.

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" by the responsible person in charge of cleaning operations (for definition of a "clean" tank see page).

2. All workmen must wear overalls.

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

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

4. Respirator canisters have a limited life and must be renewed after hours of use.

5. The inside surfaces of the tank must be kept wet.

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" by the responsible person in charge of cleaning operations (for definition of a "clean" tank see page).

2. If WELDING OR OTHER HOT WORK is to be undertaken then the area to be

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gasoline through tank pipelines, such as surge, balancing, or settling Tanks, etc., are, for the purpose of these regulations, to be regarded as 'Storage and Mixing Tanks' and the regulations set out in Section 1(A), 1(B) and 1(C) hereof must be followed.

Any work carried out on pipelines, 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.

Deposits which may periodically be removed from separators are dangerous to handle. They should be kept wet and buried at once in a place where they will not be uncovered later. Men engaged in the handling of such deposits must wear the special clothing prescribed in Section 1(A) paragraph 1 and a full face-piece canister type respirator.

SECTION 3.

GARAGE AND FILLING STATION TANKS

If for any reason a tank has to be entered, then the regulations set out in Sections 1(A), 1(B) and 1(C) hereof must be followed.

SECTION 4.

RAIL AND ROAD TANK WAGGONS AND BARGES.

If for any reason a tank has to be entered then the regulations set out in Sections 1(A), 1(B) and 1(C) hereof must be followed.

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PIPE LINE OPERATIONS

Storage tanks employed in connection with the pumping of loaded gasoline through trunk pipelines, such as Surge, Balancing, or Settling Tanks, etc., are, for the purpose of these regulations, to be regarded as 'Storage and Filling Tanks' and the regulations set out in Section 1(A), 1(B) and 1(C) hereof must be followed.

Any work carried out on pipelines, 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.

Deposits which may periodically be removed from separators are dangerous to handle. They should be kept wet and buried at once in a place where they will not be uncovered later. Men engaged in the handling of such deposits must wear the special clothing prescribed in Section 1(A) paragraph 1 and a full face-piece canister type respirator.

SECTION 3.

GAS AND FILLING STATION TANKS

If for any reason a tank has to be entered, then the regulations set out in Sections 1(A), 1(B) and 1(C) hereof must be followed.

SECTION 4.

RAIL AND ROAD TANK WAGGONS AND BARGES.

If for any reason a tank has to be entered then the regulations set out in Sections 1(A), 1(B) and 1(C) hereof must be followed.

SECTION 5.

OCEAN TANKERS.

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