

ETHYL CORPORATION

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FROM: S. A. D'Armond

January 5, 1972

On December 10, 1971, I sent you a letter with an attached memorandum regarding respiratory protection. This memorandum has since been changed due to comments from Mr. Hobgood and the revised memorandum is attached. Please void the previous one.

S. A. D'Armond
S. A. D'Armond

SAD:mmj
Attachment

cc: Messrs. H. O. Bourque
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ETHYL CORPORATION - BATON ROUGE PLANT

MEMORANDUM

RESPIRATORY PROTECTION

EQUIPMENT

The following devices are available for respiratory protection.

AIR MASK

The face piece of this device covers the nose and mouth. Air, under pressure, is fed to the device through reducing valves and a small diameter hose. It is applicable to any situation from which the wearer could escape without serious exposure in the event of air supply failure. Air supply must be free of contaminants. Advantage: Slight air pressure in the face piece prevents inward leakage of contaminated air in the event of poor fit. There is no breathing resistance. Disadvantage: The limited mobility and nuisance resulting from the air hose. Distribution: Virtually Plant wide. Portable manifold-filters are available for use where a permanent manifold-filter system is not provided.

RESPIRATOR

Respirators are of three types; double cartridge and single cartridge that fit over the nose and mouth and the single cartridge mouth piece type. Advantage: Broad application to most organic vapors and chlorine in concentrations up to 1/10th of 1 volume percent and/or to most dusts. Disadvantage: Since the breathing air must be drawn in through the cartridge, any leakage due to poor fit or valve malfunction will result in some degree of exposure. Respirators must not be used in oxygen deficient atmospheres.

Double Cartridge: When equipped with the R-55 cartridge and properly worn, is efficient against organic vapors and against dusts not more toxic than lead. Provides only "escape" protection against methyl chloride, chlorine and HCl and none to methane or carbon monoxide. On occasion it is used with other specific cartridges for protection against other exposures. Distribution: In all areas except Sodium.

Single Cartridge - Face Type: Similar to above except for the single cartridge arrangement. The R-31 cartridge is efficient protection against organic vapor (1/10th of 1 volume percent) but does not have an integral toxic dust filter. A clip-on paper pre-filter is added for spray painting protection. Without the cartridge but with an R-90 "Red Devil" filter pad, protection is provided against dusts not more toxic than lead but not against non-particulates. Distribution: Available but use is decreasing in favor of the double cartridge. Mainly used by non-operating personnel. Some usage in other areas by painters. When equipped with only the filter pad R-90, can be used in all areas for dusty clean up work having no organic exposure potential.

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Single Cartridge - Mouth Piece Type: Specific for use as an "escape" mask and nuisance chlorine protection at Sodium Plant locations. Does protect against organics (1/10th of 1 volume percent) but seldom used where the mouth piece could become contaminated with oral toxics. Must be used with nose clip unless the user is 100% efficient in mouth breathing. Distribution: Only in the Sodium Area. All persons going into Sodium Areas must carry this respirator.

CANISTER TYPE GAS MASKS

Two canister types are available. The yellow canister which protects against concentrations of organic vapors and acid gases up to 2 volume percent (methyl chloride, carbon monoxide and methane excepted) and the red "all-service" canister which protects against carbon monoxide and ammonia plus the materials for which the yellow canister is specific and certain materials employed at CR&D. Canister masks must not be used in oxygen deficient atmospheres. Advantage: Broad application to many exposure situations. Disadvantage: Air must be drawn through the canister. Any inward leakage due to mask condition or fit will result in some degree of exposure. Continuous use imposes a fatigue factor after an hour or so.

The red canister is always fitted with a full face piece covering the mouth, nose and eyes. The yellow canister is fitted with a full face piece for use in most areas -- with a mouth piece arrangement for Sodium cell room applications and with a respirator type face piece for use limited to work on the lead area sludge cranes and during ditch dragging.

OXYGEN BREATHING APPARATUS

Thirty-five of these self-contained units are distributed in and around operating areas for use in the event of an emergency wherein oxygen is lacking or contaminant proportion is high. Each has a spare cylinder of oxygen.

A P P L I C A T I O N

Respiratory protection practices are outlined following.

TRAINING AND INSTRUCTION

The need for following good respiratory protection practices is an important part of new employee indoctrination. Reviews on the subject are given in group safety meetings but not on a scheduled basis. The person in charge of the area or job instructs the employee that respiratory protection of a particular type is needed for a portion or all of the work at hand.

DISTRIBUTION

If the respiratory protection needed for the job or situation is not a personal issue item, it is obtained from nearby storage located in keeping with the degree of the hazard potential. Approximately 600 canister equipped masks are distributed throughout operating areas. Seldom is a person more than 100 feet from an appropriate canister mask for use in the event

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of an emergency. In general, Maintenance employees withdraw appropriate devices from tool room stocks for routine work. Additionally, slightly more than 200 canister type masks are distributed at or near Plant gates or estimated hazard limits for easy availability in the event of an emergency. There is no indication that the distribution of respiratory protective devices is inadequate.

MAINTENANCE

After use of non-personal issue protective devices, the device is sent to Fire Inspection for cleaning, sterilization and inspection. Respirator cartridges are changed as scheduled. Canisters are discarded after two years service if not damaged or reported as faulty in the interim. Canisters of the 200 masks kept in the emergency boxes are replaced when one year old and these canisters see an additional year of normal service. Cartridges of respirators issued employees are replaced on a routine schedule. The area schedules vary with usage and exposure, in keeping with the established need. Foremen maintain stocks of cartridges and/or respirators should there be any indication of need for a change in the interim.