Baron·Blakeslee

A Wholly-Owned Subsidiary of Service Filtration Corporation

Technical Information: *Safety Information*

IMPORTANT GUIDELINES FOR VAPOR DEGREASING

1) No drafts at entrance and exit of equipment. **DRAFTS = SOLVENT LOSS.**

2) The equipment should be up to temperature (condensation of heated solvent at condensing coils) before processing any work.

3) Speed of travel for work entering, leaving, or while in vapor zone is 11 feet per minute maximum. The main reasons are minimization of solvent drag-out losses and cleaner parts.

4) If spray is required, only spray in the vapor zone.

5) Parts should be racked so that solvent drains off readily and does not collect in recessed areas. Parts can trap solvent and bring solvent vapors out of the Degreaser, creating a possible health hazard and undesired solvent losses.

6) Never lift part(s) above vapor zone when transferring from one sump to another.

7) Never let liquid level get below top of heat source. Keep an adequate supply of solvent on hand. The equipment should always be filled to proper operating levels.

8) Size and type of load to be processed can be critical to efficient operation of the Degreaser. If vapor line lowers rapidly and requires extra time to recover, the load is too great for the machine and should be reduced to the machine's design limits.

9) Machine maintenance: A clean-out schedule should be established for the removal of contamination (sludge) from the boil sump(s) at regular intervals to eliminate undesired and unsafe conditions and to maintain efficient cleaning operation.

10) Never locate a Degreaser near open flames, baking ovens, or any arc welding operations.

11) Never place hands below vapor line! Use hooks or long-handled baskets to place parts in solvent. Do not use absorbent materials such as cloth, wood, rope, etc. to handle work in a Degreaser.

12) Refrigeration system should remain on at all times to minimize solvent losses. It is our experience that maintaining the "cold barrier" is the most effective means of keeping the solvent from escaping from the degreaser. The refrigeration system will cycle on and off during down times in order to maintain a constant temperature on the cooling coils – this is normal.

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SAFETY INFORMATION

1) Any degreaser pit that is more than 2 feet deep should be exhausted at a minimum rate of twice its air volume per minute. Ventilate at least 10 minutes before entering.

2) Allow solvent to cool before draining. Make sure that all solvent and vapor have been removed before entering or welding in/on a degreaser. **DO NOT** enter the machine unless all clean-out doors have been removed. All solvent must be expelled and the unit purged with air by using fan forced or compressed air from above. **ENTER ONLY** with a life-line and NIOSH/MESA approved breathing apparatus, and then **ONLY** when another person similarly equipped is watching you.

3) Do not smoke in the vicinity of a degreaser.

4) **IF SOLVENT GETS INTO EYE,** hold eye open, flush with water for at least 15 minutes, and call a physician. If solvent contacts skin, immediately flush with plenty of water. Consult solvent MSDS for more specific recommendations.

5) **IF SOLVENT SHOULD SOAK CLOTHING,** remove clothing at once and aerate thoroughly. Use soap and water to wash parts of the body that have been wet with solvent, and then apply a lanolin type cream. Remove contaminated shoes. Consult solvent MSDS for more specific recommendations.

6) **IF SOLVENT IS SWALLOWED,** induce vomiting by sticking finger down throat or by giving soapy water, or strong salty water to drink (1TBS. per glass). Repeat until vomit is clean. **NEVER** induce vomiting or give anything by mouth to an unconscious person, or a person having convulsions. Call a doctor immediately.

7) **IF A PERSON IS OVERCOME BY EXCESSIVE EXPOSURE,** remove person to fresh air and call a doctor. If breathing stops, give artificial respiration. When patient starts to breathe again, give oxygen. **HIGH VAPOR CONCENTRATION CAN LEAD TO UNCONSCIOUSNESS OR DEATH.**

NOTE TO PHYSICIAN

Overexposure to most chlorinated solvents, especially if accompanied by anoxia, may temporarily increase cardiac irritability. Maintain adequate oxygenation until recovery. Avoid sympathomimetic amines, such as epinephrine, which may precipitate arrhythmias.

8) Stop distillation before heating elements surfaces become exposed. Liquid level should never be lower than the top of the electric heating elements.

9) Never add solvent to hot oil solvent mixtures. Sudden expansion can splash solvent out of the Degreaser and possibly harm the operator.

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PERSONAL PROTECTION (From the Occupational Safety and Health Act)

"All employees working in and around open-surface tank operations must be instructed to the hazards of their respective jobs, and in the personal protection and first aid procedures applicable to these hazards."

FILLING

"Whenever there is a danger of splashing, for example, when additions are made manually to the tanks, or when acids and chemicals are removed from the tanks, the employees so engaged shall be required to wear either tight fitting chemical goggles or an effective face shield."

EMERGENCIES

"When, during emergencies, workers must be in areas when concentrations of air contaminants are greater than the threshold limit of solvent, or oxygen concentrations are less than 19.5 percent, they shall be required to wear respirators adequate to reduce their exposure to a level below these limits, or to provide adequate oxygen. Such respirators shall also be provided in marked, quickly accessible storage compartments for the purpose, when there exists the possibility of an accidental release of hazardous concentrations of air contaminants. Respirators shall be approved by the U.S. Bureau of Mines, U.S. Department of the Interior (see 30 CFR Part 11) and shall be selected by a competent industrial hygienist or other technically qualified source. Respirators shall be used in accordance with Section 1910.134 (a), (b), and (c), and persons who may require them shall be trained in their use."

SPLASHING

"Near each tank containing a liquid which may burn, irritate, or otherwise be harmful to the skin if splashed upon the worker's body, there shall be a supply of clean cold water. The water pipe (carrying a pressure not exceeding 25 pounds) shall be provided with a quick opening valve, and at least 48 inches of hose not smaller than ¾", so that no time may be lost in washing off liquids from the skin or clothing. Alternatively, deluge showers and eye flushes shall be provided in cases where harmful chemicals may be splashed on the body."

OPERATION

-- Avoid excessive speed of work in and out of degreaser
-- Prevent liquid drag-out by orientation or parts
-- Avoid contamination of solvent with water and other materials
-- Keep proper heat balance

SPRAY CLEANING AND DEGREASING

In vapor degreasing, spraying takes place in an air-free atmosphere within the vapor blanket so that evaporative losses due to the mixing of solvent and air are negligible. However, care should be taken to always remove parts only when dry.

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COVERS

We recommend suitable covers for degreasers to reduce vapor emissions when not operating and/or condenser coils are not functioning. For larger machines, roll top covers or power covers are available to facilitate their use. In addition, secondary freeboard chillers are very effective in minimizing solvent emissions. The principle used in this case is the creation of a heavy, thick, cold air blanket over the solvent vapor by means of refrigeration devices.

WELDING IN VICINITY

“Degreasing or other cleaning operations involving chlorinated hydrocarbons shall be so located that no vapors from these operations will reach or be drawn into the atmosphere surrounding any welding operation. In addition, Trichloroethylene and Perchloroethylene should be kept out of atmospheres penetrated by the ultraviolet radiation of gas shielded welding operations.”

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