Highly flammable solvents should be transported and used in approved safety containers equipped with flash-back arrestors.

Dip and wash tanks should be equipped with fire screens or fusible link covers. Supply tanks and portable containers should be electrically connected and effectively grounded during filling operations. Use pumping systems rather than gravity flow for transferring solvents.

Arrange for safe and approved disposal of waste solvent. Solvents must not be dumped in to sewer or drainage systems; never in scrap or rubbish containers.

All sources of ignition should be eliminated from areas where flammables are stored or used. This should include open flames, static electricity, excessive heat, and sparks from electrical devices.

Good housekeeping is essential where solvents are stored, handled, and used. Spills should be cleaned up promptly by workers wearing necessary personal protective equipment. Solvent soaked rags or absorbent should be placed in closed metal containers and removed daily from the plant.

To summarize, the use of organic solvents present three potential hazards: health, skin irritation (dermatitis), and fire and explosion.

Acute or chronic systemic poisoning may result from breathing excessive vapors or from absorption through the skin.

Solvents cause contact dermatitis because they remove the natural oils from the skin and cause chemical irritation of the sensitive underlying tissues.

Flammable solvents present a potential fire and explosion hazard when used in close proximity to sources of ignition.

Potential health, dermatitis, and fire and explosion hazards can be controlled through:

1. *Educating* supervisors and workers so that they know the hazards associated with the handling and use of solvents, and the importance of following safe use procedures.
2. *Providing* safe equipment and processes with necessary enclosures and exhaust ventilation to assure safe operation.
3. *Supplying* the worker with any needed personal protective equipment or clothing to protect him from exposure to toxic vapors and minimize contact with the liquid solutions.

REFERENCES

For further information of the properties of solvents, health and fire hazards, evaluation and control of exposures:

Handbook of Organic Industrial Solvents, Technical Guide No. 6, National Association of Mutual Casualty Companies, 20 N. Wacker Drive, Chicago, Ill.

Hazardous Chemicals Data NFPA No. 49M, National Fire Protection Association, 6 Batterymarch, Boston, Mass.

Threshold Limit Values for 1966, American Conference of Governmental Industrial Hygienists, 1014 Broadway, Cincinnati, O.

National Safety Council Data Sheets, National Safety Council, 425 North Michigan Avenue, Chicago, Ill.

Flammable Liquid Trade Name Index, NFPA 325A, National Fire Protection Association, 60 Batterymarch Street, Boston, Mass.