TABLE OF CHEMICAL HAZARDS

Unless otherwise specified, the flash point values in the Table are closed-cup determinations

Flammable or explosive limits are those concentrations of a vapor or gas in air below or above which propagation of a flame does not occur on contact with a source of ignition The lower limit is the minimum concentration below which the vapor-air mixture is too "lean" to burn or explode The upper limit is the maximum concentration above which the vapor-air mixture is too "rich" to burn or explode.

Flammable or explosive limits are given in the Table in terms of percentage by volume of gas or vapor in air, and, unless otherwise noted, at normal atmospheric pressures and temperatures Increasing the temperature or pressure lowers the lower limit and raises the upper limit Decreasing the temperature or pressure has the opposite effect.

Autoignition temperature of a substance is the minimum temperature required to initiate or cause a self-sustained combustion independent of the heating or heated element Since the composition of the vapor-air or gas-air mixture, size and shape of test container, and other factors can affect the autoignition temperature, it should be regarded as an approximation

Boiling point of a liquid is that temperature at which the vapor pressure of the liquid equals the atmospheric pressure Increasing the liquid temperature causes vapor to be given off more readily

Liquids with low boiling points generally volatilize more readily than those with higher boiling points However, as the data in the Table show, there is no consistent relationship between boiling point and evaporation rate.

Vapor volume is the number of cubic feet of solvent vapor formed by the evaporation of one gallon of a liquid at 75 F.

Evaporation rate is the ratio of the time required to evaporate a measured volume of a liquid to the time required to evaporate the same volume of a reference liquid (ethyl ether) under ideal test conditions. The higher the ratio, the slower the evaporation rate

References

References to publications on chemical safety have been included in the Table as an aid to the safety man who is seeking more information on safe handling of a particular chemical. A brief description of the format and content of each of these publications follows Copies of the publications and further information can be obtained from the organizations listed.

- *NSC Data Sheet*—National Safety Council, 425 North Michigan Ave , Chicago, Ill

The Industrial Data Sheets, Chemical Series, cover the major hazards associated with a single substance or family of substances, discuss methods of controlling or eliminating the hazards, and concisely outline safe and efficient procedures. They are written for the safety engineer, foreman, and other management representatives.

A typical Chemical Series Data Sheet is composed of the following topics.

1. Properties
2. Uses
3. Containers
4. Shipping regulations
5. Storage
6. Personnel hazards
7. Handling
8. Personal protective equipment
9. Ventilation
10. Fire and explosion hazards
11. Electrical equipment
12. Symptoms of poisoning
13. First aid
14. Treatment of burns
15. Toxicity
16. Threshold limit values
17. Medical examinations
18. Waste disposal

- *MCA Data Sheet*—Manufacturing Chemists' Association 1825 Connecticut Ave NW., Washington, D.C.

Of interest to both producers and consumers, the Chemical Safety Data Sheets are based on the recommendations of chemical safety engineers. Topics covered are.

1. Properties
2. Hazards
3. Engineering control of hazards
4. Employee safety
5. Fire fighting
6. Handling; storage
7. Tank and equipment cleaning and repairs
8. Waste disposal
9. Medical mgt.
10. First aid

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