

Gas Compatibility Data

The compatibility data* shown on the following pages has been compiled to assist in evaluating the appropriate materials to use in handling various gases. It is extremely important that all gas control equipment be compatible with the gas being passed through it. The use of a device that is not compatible with the service gas may damage the unit and cause a leak that could result in property damage or personal injury. To reduce potentially dangerous situations, always check for compatibility of materials before using any gases in your gas control equipment.

Since combinations of gases are virtually unlimited, mixtures (except for Ethylene Oxide/Halocarbon and Ethylene Oxide/CO₂ sterilizing gas mixtures) are not listed in the Compatibility Chart. Before using a gas mixture or any gas not listed in the chart, we strongly urge you to contact your nearest Advanced Representative for information and assistance.

Directions

To use this chart, proceed as follows:

1. Locate the gas you are using in the first column.
2. Compare the materials of construction for the equipment you intend to use with the "materials of construction" shown in the Compatibility Chart. Then use the "Key to Materials Compatibility" to determine compatibility.

Key to Materials Compatibility

S: Satisfactory for use with the intended gas.

U: Unsatisfactory for use with the intended gas.

I: Insufficient data available to determine compatibility with the intended gas.

C1 thru C8: Conditionally acceptable for use with the intended gas as follows:

C1: Satisfactory with brass having a low (65–70% maximum) copper content. Brass with higher copper content is unacceptable.

C2: Satisfactory with acetylene; however, cylinder acetylene is packaged dissolved in a solvent (generally acetone) which may be incompatible with these elastomers.

C3: Compatibility varies depending on specific Kalrez® compound used. Consult E.I. DuPont for information on specific applications.

C4: Satisfactory with brass, except where acetylene or acetylides are present.

C5: Generally unsatisfactory, except where specific use conditions have proven acceptable.

C6: Satisfactory below 1000 psig.

C7: Satisfactory below 1000 psig where gas velocities do not exceed 30 ft./sec.

C8: Material compatibility depends on condition of use.

* This chart has been prepared for use with dry (anhydrous) gases at normal operating temperature of 70°F. Information may vary if different operating conditions exist. Systems and equipment used in oxidizer gas service (e.g., Oxygen or Nitrous Oxide) must be cleaned for oxidizer service.

Important

This information is for experienced operators who know the general principles and the safety precautions to be observed in handling specialty gases and associated equipment. If you are not certain you fully understand these safety precautions, we urge you to obtain and read the applicable Material Safety Data Sheet (MSDS) and Equipment Instruction Booklet.

The information contained in the Compatibility Chart has been compiled by Advanced from what it believes are authoritative sources and it is offered solely as a convenience to its customers. While Advanced believes that this information is accurate and factual as of the date of this publication, this information is intended to be used only as a guide in providing general information with respect to the products mentioned; and, therefore, it is not to be taken as a warranty or representation for which Advanced assumes legal responsibility.

Since the user's product formulation, specific use application, and conditions of use are all outside Advanced's control, Advanced makes no warranty or representation regarding the result which may be obtained by the user. It shall be the responsibility of the user to determine the suitability of the user's gas control equipment for use with the products mentioned.