



# REFMIX Factsheet

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## REFMIX: A Search Tool for Locating Mixture Property Data in Published Literature

REFMIX is an efficient online tool for searching the published literature for data on the properties of chemical mixtures. Included in this comprehensive compilation are over 28,000 peer-reviewed references for 70,000 binary and ternary mixtures consisting of 10,615 organic, organometallic and inorganic compounds: industrial chemicals, pharmaceuticals, sugars and nucleosides, ionic liquids, amino acids, PCBs and other bioactive compounds such as pollutants and toxins.

### REFMIX Mixture Reference Search

Step 1. Specify Binary or Ternary System Components

[=>Continue to Property Selection Screen](#)

Notes: (1) Use Find buttons - Do not the use Enter key. (2) Enter a 3rd Component search term to search for Ternary systems.

<b>1st Component Search Term[Binary/Ternary]:</b> <input type="text"/>
Enter a CAS# (including hyphens), a Formula, a Chemical Name or a Name Fragment
<a href="#">Find Chemicals Matching 1st Search Term</a> <a href="#">Clear 1st Component</a>
<b>Current Selection:</b> binary
<b>Formula:</b> C6H12O5 CASRN: 154-17-6
<b>Name:</b> Glucopyranose, 2-deoxy-
<b>Common Name(s):</b> 2-Deoxyglucose

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<b>2nd Component Search Term[Binary/Ternary]:</b> <input type="text"/>
Enter a CAS# (including hyphens), a Formula, a Chemical Name or a Name Fragment
<a href="#">Find Chemicals Matching 2nd Search Term</a> <a href="#">Clear 2nd Component</a>
<b>Current Selection:</b> binary
<b>Formula:</b> H2O CASRN: 7732-18-5
<b>Name:</b> Water
<b>Common Name(s):</b> Hydrogen oxide

**Figure 1: Users enter the components of a binary or ternary system and continue to the property selection screen**

REFMIX is updated *regularly* by Dr. James Sangster a recognized authority in the field. The citations retrieved date from as far back as 1848 and continue through to the present. Chemists and engineers whose work requires reliable chemical mixture data, can benefit greatly from REFMIX's powerful search capabilities.

Manual search methods are often laborious since many of the references retrieved lack the valuable experimental data sought. REFMIX provides a cost-effective solution that saves precious time. The citations retrieved contain data only for the chemicals and properties specified by the user.

REFMIX Properties	
Phase Equilibria	Vapor-Liquid Equilibrium Azeotropes Solid-liquid equilibrium Liquid-liquid equilibrium Solid-vapor(fluid) equilibrium Activity coefficients and excess Gibbs energy Enthalpy and excess enthalpy Heat capacity and excess heat capacity Enthalpy of Dilution
Properties at Infinite Dilution	Activity coefficients Henry's Law constant Partition coefficients Gibbs energy of solution Enthalpy of solution Partial molal volume Partial molal heat capacity
Physicochemical properties	Density and excess volume Viscosity

**Figure 2: After specifying a binary or ternary system, users select properties of interest.**

REFMIX search strategies are efficient yet flexible. Users specify a component of interest by entering either its CAS Registry Number, chemical formula, chemical name or name fragment. Should multiple hits occur, the component of interest is selected easily from a list of possible candidates.

REFMIX provides the molecular formula, IUPAC name, common name(s), CAS Registry Number and a generic SMILES notation for each chemical. This helps users verify the identity each chemical component retrieved. Once the user specifies the components and the desired properties of a mixture, a list of matching references is displayed and the citations of interest can be retrieved rapidly.

**To try the fully interactive REFMIX Demo go to:**  
<http://refmix.tdsonline.com/unirdemo/rlogin.html>

**The Demo version has the same functionality as the full program except that only the number of references and the and properties included are provided.**

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