



Discover. Synthesize. Analyze. Customize.

Research Chemical Classes

The Acros Organics portfolio offers many solvent grades for a wide range of scientific applications.

General synthesis and delicate procedures during work-up

Solvent categories not assigned to an application	Description	Usage
Pure	<ul style="list-style-type: none">• Minimum specifications: assay and identity• Other possible specifications: water, apha-value appearance, etc.• Certain solvents may require product specific parameters like peroxides for ethers, or free amine for amides, acidity, etc.	Routinely used for basic synthetic steps or cleaning/work-up applications. They can also serve as raw material for further purification.
Extra Pure	These products are analyzed to several important parameters to ensure quality such as identity, assay, color/apha, water (if necessary), non-volatile impurities, etc. Non-volatile impurity measurements by: <ul style="list-style-type: none">• Residue after evaporation (low boiling liquids)• Residue after ignition (flammable liquids and solids) or sulfated ash• Solubility in a suitable solvent (salts, solids) or insoluble matter	Focus on low level of impurities for advanced laboratory work, standard grade for synthesis applications and work-up.
For Analysis	The highest quality for general chemical applications. In addition to the "extra pure" parameters for the analysis grade includes mandatory testing for many trace metals levels and anions to ensure highest quality.	Required for general analytical protocols, for synthetic work requiring the highest purity and for work-up of sensitive and valuable synthetic steps.
ACS or for analysis ACS (ACS: American Chemical Society)	Products that pass American Chemical Society specification and testing procedures for various chemical reagents are graded as "ACS reagents." ACS solvents are regarded as high quality reagents for synthesis in the US market.	Required for general analytical protocols, for synthetic work requiring the highest purity and for work-up of sensitive and valuable synthetic steps.

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AcroSeal® Family for air-and moisture-sensitive reagents

Type	Description	Usage
Extra dry solvents in AcroSeal®	AcroSeal solvent specifications compare with the "extra pure" solvent specifications with a water content < 0.005%. The "extra dry solvents" have a slightly different specification compared with the "extra dry solvents over molecular sieve" as they include the "residue of evaporation." These AcroSeal® solvents are dried over molecular sieves to a water-level ≤50 ppm and then filtered and bottled under nitrogen.	For synthesis with air- and water-sensitive reagents like metalloorganics and other applications necessitating the use of extremely dry and degassed solvents.
Extra dry solvents over molecular sieves in AcroSeal®	The specification of an AcroSeal solvent is comparable with a "pure" specification but with an additional important parameter of water < 0.005%. The "extra dry solvents over molecular sieve" have a slightly different specification compared with the "extra dry solvents" as they do not specify the "residue of evaporation."	Extra dry solvents over molecular sieves are used for the same applications as the extra dry solvents and contain a small amount of additional molecular sieves in the bottle. The molecular sieves absorb any water dissolved in the solvent thus keeping the solvent dry even if some water comes into the solvent.

AcroSeal solvents are a safe and convenient alternative to the time consuming and dangerous solvent drying procedures in the laboratory.

Acros Organics solvent categories assigned to specific applications

Application	Description	Usage
Biochemistry	Very high assay of 99.5+-% and a low level of water, low residue of evaporation, low APHA value (no off-color), low acidity and basicity and a low UV/Vis absorption are typical parameters (extremely strict specifications).	Solvents that are suitable for general biotechnological experiments
Molecular Biology	Robust specifications for a high assay, low APHA and water value. To facilitate experiments with biological material the solvents are also specified to be DNase, RNase, Protease - free, the absence of endotoxins and a very low trace metal level.	Solvents that are used in the handling of DNA, RNA, Protein/Enzymes or living cells. To avoid damage to the biological components the solvent should be completely free from RNase, DNase, Proteases and endotoxins. This is a mandatory requirement for these solvents in addition to the parameters listed for the "for biochemistry" solvents. Used for sensitive protocols in molecular biology.
HPLC/HPLC gradient	To ensure correct analytical results and to protect the HPLC column from damage the solvents need to have specific characteristics: <ul style="list-style-type: none"> • High assay • Very low UV absorbance at different frequencies (if UV detection is used for the sample analysis) • Absence of any fluorescing materials (if fluorescence detection is used) • Absence of dust and non volatile matter (to protect the column) → Filtered • Low water content to avoid any change in the sample and to maintain the solvent elution characteristics. • Gradient elution in HPLC requires high purity solvents with proven suitability for this technique as part of their specifications. 	Solvents that are used mainly for high pressure liquid chromatography (HPLC) and related techniques.
Electronic Use	Common parameters are high purity, very low residue of evaporation and absence of dust and particles.	Designed for cleaning purposes of integrated circuits, microchip wafers and the like. The range lists common solvents with good cleaning and de-greasing ability.
Residue Analysis	Analyzed are based on two categories: halogenated hydrocarbons and polyaromatic hydrocarbons, requiring that the solvents have extremely low impurities of these chemicals. High assay, low alpha and low water. The absence of any impurity that could interfere with the analysis is mandatory: <ul style="list-style-type: none"> • ECD tested: should have low level of electron capturing chemicals • Pesticide residue: low level of pesticides (as lindane) in GC/ECD • Polyaromatics residue: Measured by UV 	Sample preparation in environmental analysis; to extract the chemical from the sample prior to GC analysis
Spectroscopy	High assay, low water and, most importantly, a low UV absorption	Solvents used mainly to dissolve samples for UV-Vis spectroscopy and should not have any impurity that interferes with the analysis
Spectroscopy ACS	Fulfill the American Chemical Society solvents requirements published for spectroscopy test protocols.	Required for general analytical protocols, for synthetic work requiring the highest purity and for work-up of sensitive and valuable synthetic steps.
Pharmacopeia	Solvents for "Pharmaceutical grade" follow specifications according to the requirements of Ph.Eur. (Other pharmacopeias: USP or others might follow).	It should be noted that Acros Organics sells all chemicals FOR LABORATORY USE ONLY, pharmaceutical production use is forbidden. To avoid any misconception Acros pharma solvents are "specified according to the requirements of the pharmacopeia".



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