

# Catalog Metadata

## Catalogs as FITS BINTABLES

The keywords listed below are required or recommended for all FITS files in both primary (P) and extension (E) headers that contain catalogs.

The following table(s) of HLSP metadata, to be included in science products, are color-coded:

	Required
	Recommended
	Suggested

File headers must also include the [basic structural FITS keywords](#) and the list of [common keywords](#).

	Keyword	HDU	Notes
	TUNIT	E	Brightness unit for column containing values of physical quantities
	RADESYS	E	Mnemonic for celestial coordinate reference system (typically 'FK5' or the preferred 'ICRS').
	<Filt>MAG0	E	Flux corresponding to zero magnitude in the <Filt> passband. Note that the last character is a capital "oh", not a zero.

## Catalog Fields

Most of the metadata in catalogs is often in the definition of the database fields, or table column names, units, and numeric types. Below are the recommended fields for source catalogs, where text in brackets is entirely user-defined.

	Name	DataType	Notes
	DEC	double	Declination coordinate of source
	RA	double	Right ascension coordinate of source
	SOURCE	string	Alphanumeric identifier of source
	<Filt>	float	Brightness of source in the passband named <Filt>, with NULL value (NaN) indicating no measurement
	<Filt>_err	float	Uncertainty in source brightness.
	<Filt>_flag	int	Applicable, encoded flags that apply to the brightness in the named passband, with the convention that zero indicates no pathologies.