Liquid Flux Selector Guide

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The Multicore range of Liquid Fluxes includes a large number of fluxes developed to meet a wide variety of conditions of use. This Guide is an introduction to the range and shows a selection of fluxes which meet the manufacturing requirements of many customers.
Fluxes in seven broad categories have been included. The categories include 'No Clean' Fluxes which offer the considerable benefits of avoiding the cost and environmental problems of flux residue cleaning processes. This group is enhanced by the VOC-free product which meets all current emissions restrictions on organic compounds.
Conventional rosin fluxes and a Water Washable Flux are also shown.
The Selector Guide indicates some of the chemical and physical properties of fluxes, their suitability for various application methods, thinners types and cleaning recommendations. Reference is given to common international and industry specifications.

The following notes are intended to help interpret the information in the Selector Guide Table:

Solids Content is established by evaporation at a controlled temperature for a specified time. Much lower residue levels are actually left by "No Clean" products.

Halide Content is measured by titration of the halide, expressing the result as the chloride equivalent.

Acid Value is established by titration.

Application Methods are indicated as Foam (F), Dip (D), Spray (S) and Wave (W).

Recommended Thinners should always be used to ensure maintenance of performance.

Residue Cleaning Guide indicates flux requirements as follows:

NOT NECESSARY - flux meets functional requirements without cleaning.

OPTIONAL - residues may require cleaning to meet PCB performance specifications.

MANDATORY - residues from these fluxes are corrosive and must be removed.

CLEANING LIQUID FLUX RESIDUES

Considerable savings in materials and capital equipment may be made if a No Clean flux can be selected. In many applications Multicore's considerable experience in this field usually allows selection of a No Clean flux which is compatible with existing production processes.
Where cleaning is required, CFC based systems can be replaced by the use of Prozone Plus which is a safe, effective material free from ozone depleting chemicals.
Residues of the Water Washable fluxes are corrosive and must always be removed.

TECHNICAL ADVICE AND ASSISTANCE

Multicore Sales Engineers provide full technical support for all products and are always available to discuss particular applications.

Note
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

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Loctite UK Ltd, Watchmead, Welwyn Garden City, Hertfordshire, AL7 1JB
MSL 523

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Product Name	Product Classification			Solids content % w/w	Halide content % w/w on total	Acid value on total	Application methods				Recommended thinners	Residue cleaning guide	Comments
	IPC-SF-818	EN-29454	J-STD-004										
VOC FREE NO CLEAN													
MF101♦	M3CN	1.1.3	ROMO	6.60-7.2	Nil	38-42			S		Not required	Not necessary	No Clean rosin based flux producing virtually no VOC emissions. Unique formulation, reduces solder balling.
MF300♦	M3CN	2.1.3	ORMO	4.60	Nil	37.0	F	D	S	W	Not required	Not necessary	No Clean, virtually no VOC flux with enhanced wetting behaviour.
RESIN FREE NO CLEAN													
X33-12I +	M3CN	2.2.3	OR M0	3.80	Nil	22.5	F	D	S	W	PC70i	Not necessary	Resin-free. Passes SIR, Electromigration without cleaning.
X33F-07*	L3CN	2.2.3	OR L0	2.70	Nil	19.5	F				PC70i	Not necessary	Resin-free foaming flux for oxidised copper.
X33S-07 *	L3CN	2.2.3	OR L0	2.70	Nil	19.5		D	S	W	PC70i	Not necessary	Resin-free spray flux for oxidised copper.
SYNTHETIC RESIN NO CLEAN													
X32-10 *	M3CN	1.2.3	RE M0	2.6	Nil	16.0	F	D	S	W	X732-10*	Not Necessary	Superior No Clean synthetic resin flux.
LOW SOLIDS ROSIN													
MFR301 *	MR3CN	1.1.3	RO MO	5.5-6.5	Nil	40.0	F	D	S	W	PC70i	Optional	Low residue rosin flux.
MILDLY ACTIVATED ROSIN													
6381 +	LR3CN	1.1.2	RO L1	35.00	0.015	52.0	F	D	S	W	PC63	Optional	MIL-F-14256 type RMA sustained activity flux.
ACTIVATED ROSIN													
366A-25 +	MR3CN	1.1.2	RO M1	25.00	0.25	41.0	F	D	S	W	PC70i	Optional	MIL-F-14256 type RA flux.
PC26	MR3CN	1.1.2	RO M1	15.00	0.075	34.0	F	D	S	W	PC70i	Optional	RA general purpose flux.
ORGANIC ACID													
Hydro-X/20	H3C	2.1.2	OR H1	20.00	0.98	24.0	F	D	S	W	PC70i	Mandatory	Organic acid water washable flux.

* Different solvent carrier blends may be specified to meet local conditions and will be identified by a suffix such as i or m.
+ Fluxes of the same composition but delivered at different concentrations are available.
♦ As the solvent in these products is water, they produce a fail result in copper mirror testing. Drying the flux and redissolving the solids in alcohol produces a pass in the test.