



**Malvern
Panalytical**
a spectris company

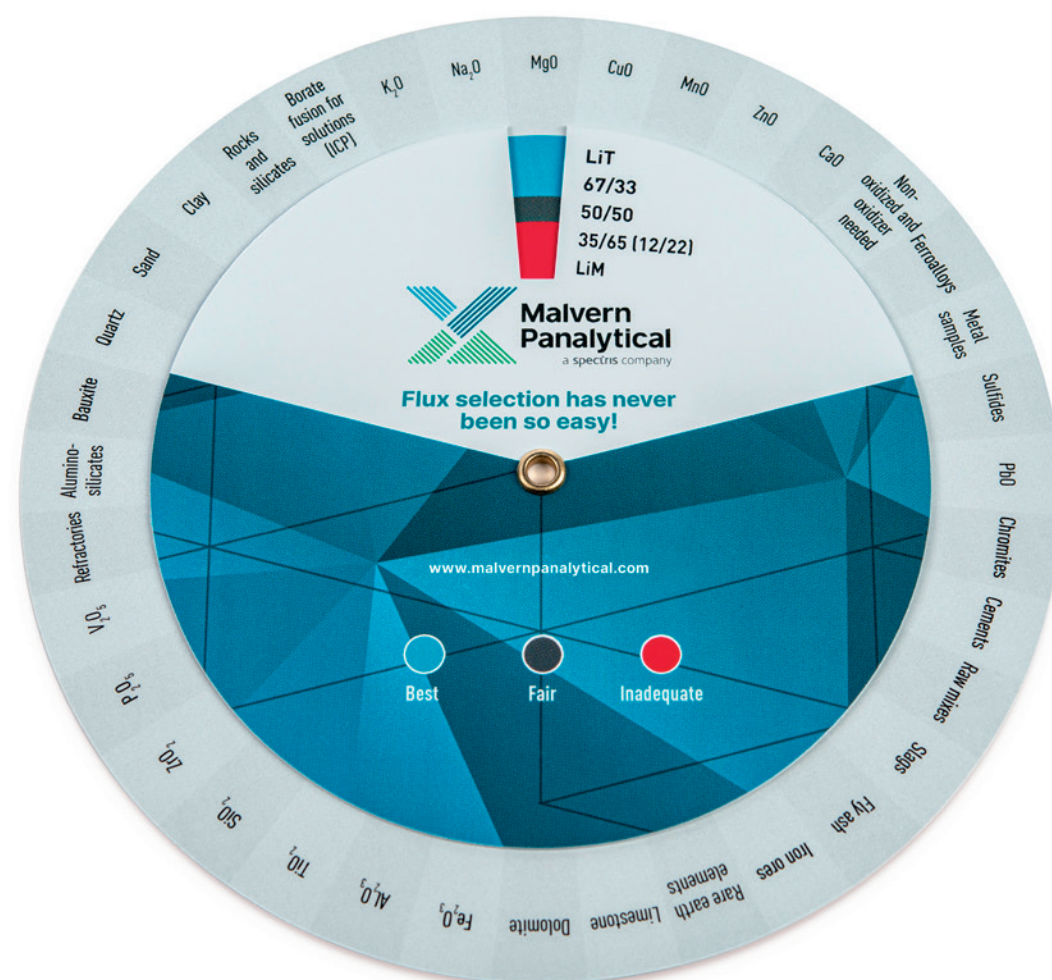
Fluxes and chemicals

Your first choice to fuse samples
for XRF, ICP and AA analysis



Our borate fluxes

The fluxes developed by our experts are homogeneous and offered in powder or bead form. They are sold in two grades of purity (pure 99.98 + % or ultra pure 99.995 + %) and are available with or without integrated non-wetting agents (NWAs).



Custom blends

Claisse offers customized fluxes of any borate ratio. They can be made with NWAs, oxidizers or internal standards. You have special needs in flux preparation? We have the right product for you!

The value of Malvern Panalytical fluxes to sample preparation

- They optimize the solubility of the sample
- They ensure glass disk stability
- They prevent the overflow of the molten mixture during agitation
- They lead to the appropriate melting point
- They ensure a better fluidity, which leads to:
 - Accelerated dissolution
 - Better pouring
 - Less sticking
 - Less bubbles

Key characteristics of our fluxes

- Stable
- Non-hygroscopic
- Anhydrous
- High density
- Outstanding fluidity
- No dust
- Granulometry: 100% < 500 µm
- Certificate of analysis available
- Low water content < 0.05 %
- Available with integrated NWAs (LiBr or LiI)
- Available in custom blends
- Available from stock



Applications and choice of flux

Our fluxes can be used to prepare almost any types of samples for XRF and ICP analysis. Our experts will be happy to guide you so you use the right flux for your application and get the best analytical results. A handy flux selection wheel is available to help you make the right choice of chemicals.

Non-wetting agents

Non-wetting agents (NWAs) are halides that can be already prefused with fluxes or that can be added as a salt or as a solution. NWAs affect the tension on the surface of the disk and they decrease the tendency of the molten mixture to stick on the platinumware. Contact your local sales representative for more information on the NWAs available at Claisse.



Comparison table of our borate fluxes

Malvern Panalytical produces different physical forms of borate fluxes to fully adapt to customers’ needs. The table below shows different features and physicochemical characteristics of powder and bead-shaped flux.

Physical form	Powder	Bead
Batch-to-batch consistency	Excellent: Essential to eliminate variability in the analytical results over time Best on the market	
Catalog products available from stock	Yes: Ensures continuous laboratory operation without downtime	
Prefused	No	Yes: Each particle of flux has the exact same composition which eliminates segregation issues and results in consistent fusion preparations
Available with integrated non-wetting agents (LiI or LiBr)	No (standard products) Not prefused with borate flux (custom products)	Yes: Prefused with borate flux; each particle has the same composition ensuring that the same quantity of NWA is present during each fusion, consequently leading to highly repeatable results. No need to weigh this chemical separately – labor time savings
Liquid solution absorption (for various additives requiring separate additions)	Up to 5 mL in 7 g of flux. Allows the addition of dissolved additives to the fusion mixture	No
Loss on drying (2 h, 300 °C)	Typical ≤ 0.5%	< 0.05% Can be used in the lab without pre drying
Density	0.5 g/cm³ Low density	1.4 g/ cm³ Very high density Takes up very little space in the crucible, limiting the possibility of overflow during the fusion process
Purity	Pure grade: 99.98+% Ultra pure grade: 99.995+% Lowest level of contamination for increased analytical performance	
Particle size	100% ≤ 500 um	100% ≤ 500 um No dust content
Appearance	Fluffy powder	Spherical particles
Physical state	Crystalline	Vitreous
Available in custom blends	Yes	

Choosing guide

Find out which type of flux is most appropriate for your needs.

Needs	Best option	
	Powder	Bead
Avoid time-consuming drying step prior to fusion		✓
Eliminate risks of overflow during the fusion process		1st
Eliminate risks of flux dust in the laboratory environment		✓
Use of additives (oxidizers and NWAs) in solution (liquid form)	✓	
Very high fluidity for manual or automated weighing		✓

LeDoser and LeDoser-12

Did you know that Malvern Panalytical offers automated dispensing balances to help you weigh flux? LeDoser and LeDoser-12 save tremendous labour time related to the weighing step and lead to highly repeatable results. Their three weighing modes (sample-to-flux ratio, catch weight and absolute weight) as well as simple data transfer guarantee peace of mind in the laboratory.



Catalog of bead products

Beads		
Description	Part number	
	Bead - Pure	Bead - Ultra pure
LiT	C-0600-00	C-0601-00
LiT/LiBr, 99.50/0.50	C-0600-60	C-0601-60
LiT/LiBr, 99.0/1.0	C-0600-63	C-0601-63
LiT/LiI, 99.50/0.50	C-0600-70	C-0601-70
LiM	C-0610-00	C-0611-00
LiM/LiBr, 98.50/1.50	C-0610-66	C-0611-66
LiT/LiM, 50/50	C-0620-00	C-0621-00
LiT/LiM/LiBr, 49.75/49.75/0.50	C-0620-60	C-0621-60
LiT/LiM/LiBr, 49.50/49.50/1.00	C-0620-63	C-0621-63
LiT/LiM/LiI, 49.75/49.75/0.50	C-0620-70	C-0621-70
Sodium tetraborate	C-0630-00	C-0631-00
LiT/LiM, 67/33	C-0640-00	C-0641-00
LiT/LiM/LiBr, 66.67/32.83/0.50	C-0640-60	C-0641-60
LiT/LiM/LiI, 66.67/32.83/0.50	C-0640-70	C-0641-70
LiT/LiM, 35/65 (12/22)	C-0650-00	C-0651-00
LiT/LiM/LiBr, 34.83/64.67/0.50 (11.94/21.89/0.17)	C-0650-60	C-0651-60
LiT/LiM/LiI, 34.83/64.67/0.50 (11.94/21.89/0.17)	C-0650-70	C-0651-70

All of our bead fluxes are prefused and sold in 1 kg (except when specified otherwise).
LiBr = Lithium bromide, LiI = Lithium iodide, LiT = Lithium tetraborate, LiM = Lithium metaborate

Catalog of powder and additives products

Powder fluxes		
Description	Part number	
	Pure	Ultra pure
LiT, 500 g	C-0600-10	C-0601-10
LiM, 500 g	C-0610-10	C-0611-10
LiT/LiM, 67/33, 500 g	C-0640-10	C-0641-10
LiT/LiM, 35/65 (12/22), 500 g	C-0650-10	C-0651-10

Additives	
Description	Part number
Ammonium iodide, NWA pills, 30 mg (500 / bottle)	C-0500-00
Boric acid, ultra pure, 500 g	C-0685-00
Lithium carbonate, powder flux, ultra pure, 500 g	C-0690-00
Sodium carbonate, ultra pure, 500 g	C-0695-00
Potassium iodide, NWA, crystal, 100 g	C-0700-00
Potassium iodide, NWA, crystal, 250 g	C-0700-01
Potassium iodide, NWA, solution, 15 mL bottle	C-0701-00
Potassium iodide, NWA, solution, 15 mL bottle, (pack of 10)	C-0701-01
Lithium bromide, NWA, crystal, 100 g	C-0710-00
Lithium bromide, NWA, crystal, 250 g	C-0710-01
Lithium bromide, NWA, solution, 15 mL bottle	C-0711-00
Lithium bromide, NWA, solution, 15 mL bottle, (pack of 10)	C-0711-01
Lithium iodide, NWA, crystal, 100 g	C-0720-00
Lithium iodide, NWA, crystal, 250 g	C-0720-01
Sodium iodide, NWA, crystal, 100 g	C-0740-00
Sodium iodide, NWA, crystal, 250 g	C-0740-01
Lithium fluoride, crystal, 100 g	C-0800-00
Lithium fluoride, crystal, 250 g	C-0800-01
Lithium nitrate, powder, 500 g	C-0900-00
Sodium nitrate, powder, 500 g	C-0910-00

About Malvern Panalytical

We draw on the power of our analytical instruments and services to make the invisible visible and the impossible possible.

Through the chemical, physical and structural analysis of materials, our high precision analytical systems and top-notch services support our customers in creating a better world. We help them improve everything from the energies that power us and the materials we build with, to the medicines that cure us and the foods we enjoy.

We partner with many of the world's biggest companies, universities and research organizations. They value us not only for the power of our solutions, but also for the depth of our expertise, collaboration and integrity.

We are committed to Net Zero in our own operations by 2030 and in our total value chain by 2040. This is woven into the fabric of our business, and we help our employees and customers think about their part in creating a healthier, cleaner, and more productive world.

With over 2300 employees, we serve the world, and we are part of Spectris plc, the world-leading precision measurement group.

Malvern Panalytical. We're BIG on small™

Service & Support

Malvern Panalytical provides the global training, service and support you need to continuously drive your analytical processes at the highest level. We help you increase the return on your investment with us, and ensure that as your laboratory and analytical needs grow, we are there to support you.

Our worldwide team of specialists adds value to your business processes by ensuring applications expertise, rapid response and maximum instrument uptime.

- Local and remote support
- Full and flexible range of support agreements
- Compliance and validation support
- Onsite or classroom-based training courses
- e-Learning training courses and web seminars
- Sample and application consultancy



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