MIKE’S CHEMICALS | CRYSTAL SLIDE REFERENCE

Leeds Microscopical Society • inventory 1–14 of 28 • for dry preparations examined under crossed polars

No.	Chemical / vial label	Formula	Description / expected crystal habit	Suggested use & suitability
1	Potassium hydroxide	KOH	Strong, moisture-absorbing alkali; unsuitable for lasting slides.	EXCLUDE – corrosive.
2	Silver nitrate	$AgNO_3$	Light-sensitive inorganic salt; crystals may darken.	EXCLUDE – oxidiser; serious eye hazard.
3	Vitamin C (alcoholic)	$C_6H_8O_6$	Ascorbic acid; possible needles and plates.	TRIAL – verify solvent and concentration; dry naturally.
4	Benzotriazole (alcoholic)	$C_6H_5N_3$	Organic compound; may form needles or plates.	EXCLUDE – unsuitable for public handling.
5	Boric acid (aqueous)	H_3BO_3	Typically plates; may show subdued polarised-light effects.	RESTRICT – do not use for open practical without assessment.
6	Thiourea dioxide	$CH_4N_2O_2S$	Reducing agent; white solid.	EXCLUDE – decomposition/reactivity concerns.
7	Phenidone (alcoholic)	$C_9H_{10}N_2O$	Photographic developer; possible fine crystals.	EXCLUDE – sensitisation/hazard concerns.
8	Hydroquinone	$C_6H_6O_2$	Developer; may darken on ageing.	EXCLUDE – harmful/sensitising.
9	Urea (aqueous)	CH_4N_2O	May form needles, branching or feathery structures.	PRIORITY – one small drop; air-dry.
10	Vitamin C (aqueous)	$C_6H_8O_6$	Possible plates, needles and branching deposits.	PRIORITY – compare with no. 3.
11	Salicylic acid (alcoholic)	$C_7H_6O_3$	May form needles and branching aggregates.	RESTRICT – leader-only after solvent/SDS check.
12	Glutamine (aqueous)	$C_5H_{10}N_2O_3$	Amino acid; possible small prisms or needles.	PRIORITY – slow air-drying.
13	Glycine (aqueous)	$C_2H_5NO_2$	Amino acid; potentially distinct crystalline aggregates.	PRIORITY – thin drop; compare crystal shapes.
14	Caffeine	$C_8H_{10}N_4O_2$	Can form needles; vial form unknown.	TRIAL – identify physical form before use.

Interpretation: “Priority” = potentially suitable after label/SDS and condition checks; “Trial” = test individually; “Restrict” = do not offer for unsupervised handling; “Exclude” = remove from general practical. Crystal habits are possibilities, not verified observations.

MIKE’S CHEMICALS | CRYSTAL SLIDE REFERENCE

Leeds Microscopical Society • inventory 15–28 of 28 • for dry preparations examined under crossed polars

No.	Chemical / vial label	Formula	Description / expected crystal habit	Suggested use & suitability
15	Sodium thiosulphate	$Na_2S_2O_3$*	Salt; may form prisms or hydrated crystals.	TRIAL – check form; dilute aqueous solution.
16	Paracetamol (alcoholic)	$C_8H_9NO_2$	Potential needles and plates; polarised-light colours.	TRIAL – leader-controlled; alcohol precautions.
17	Citric acid (aqueous)	$C_6H_8O_7$	Possible radiating or prismatic textures.	PRIORITY – small drop; dry naturally.
18	Menthol (alcoholic)	$C_{10}H_{20}O$	Potentially striking radial or needle-like crystals.	TRIAL – leader-controlled; flammable solvent.
19	Tartaric acid (aqueous)	$C_4H_6O_6$	Can give prisms or branching forms.	PRIORITY – compare with citric acid.
20	Inositol (aqueous)	$C_6H_{12}O_6$	Polyol; can give prisms or plates.	PRIORITY – slow evaporation.
21	Malic acid	$C_4H_6O_5$	Hygroscopic organic acid; may resist drying.	TRIAL – first confirm solid/solution.
22	Beta-alanine (aqueous)	$C_3H_7NO_2$	Amino acid; possible prisms or needles.	PRIORITY – identity requires confirmation.
23	Magnesium sulphate (aqueous)	$MgSO_4$*	Hydrated salt; needles or prisms possible.	PRIORITY – allow evaporation; observe changes.
24	Betaine hydrochloride (aqueous)	$C_5H_{12}ClNO_2$	Organic salt; potential plates/prisms.	TRIAL – check moisture sensitivity.
25	Stearic acid (alcoholic)	$C_{18}H_{36}O_2$	Long-chain fatty acid; needles/plates possible.	TRIAL – leader-controlled; alcohol precautions.
26	Erythritol (aqueous)	$C_4H_{10}O_4$	Polyol; often well-defined crystalline forms.	PRIORITY – useful for colour/shape comparisons.
27	Oxalic acid (alcoholic)	$C_2H_2O_4$	Potential needles; harmful acid.	EXCLUDE – toxicity and eye hazard.
28	Benzotriazole (aqueous)	$C_6H_5N_3$	As no. 4; low aqueous solubility.	EXCLUDE – unsuitable for public handling.

Abbreviations: Aq = aqueous; Alc = alcoholic (exact alcohol unknown). *Sodium thiosulphate and magnesium sulphate are commonly supplied as hydrates ($Na_2S_2O_3·5H_2O$ and $MgSO_4·7H_2O$); confirm actual form. “Phemidone” is interpreted as phenidone; “B Alamine” as beta-alanine.

Safety: Old/borrowed vials must be positively identified and checked for condition, concentrations, solvent and current safety data before use. Do not use unlabelled/deteriorated solutions. Use eyewear, small quantities, ventilation, suitable disposal and no naked flames. No tasting, heating or mixing chemicals.