

# REFINERY (SOLUTION)

by Ong Kah Kien

The first step is to solve the two sets of thirteen clues. The flavortext that the spice are “mixed up” and “need to be sorted”, and some of the clues also appear somewhat oddly-phrased. The aha is that each listed clue is mixed up with the given front half from one actual clue, and a back half (and answer enumeration) from another actual clue. To aid solvers in sorting out the clues, the mixed up halves of both sets of clues form a chain and closed loop. Solving the sorted clues with the help of the given answer enumerations would yield two sets of answers. The flavortext also hints that the spice are mixed “with impurities” and need to be “distilled”. The two sets of answers represent spice at two stages of the refining process. Each answer from the first set can be matched to a corresponding answer from the second set by a transdeletion (delete one letter and anagram). The deleted letters (“impurities”), in the chain order of the first set of clues, hides a clue phrase READ SPICE CTRS.

The table below summarizes the sorted clues in the chain order of the first set of clues, and matched to the corresponding answers of the second set, and the deleted letters:

Sorted first set of clues in its chain order	Answers to first set of clues	Matching second set of clues	Matching answers to second set of clues	Deleted letters
Not / forgetting	RECALLING	Stellar product topping / PS Audio sales	GAIN CELL	R
Tom-tom / sounds	DRUMBEATS	Catastrophic structural failure of / a water barrier	DAM BURST	E
Recesses / in a room	ALCOVES	Superstore’s / Rory	SCOVEL	A
Deposited / in drachmas?	GREEK-FUNDED	One who eats flavored algae / in Artemis?	GUNK-FEEDER	D
Morphed rock with / a sedimentary protolith, like quartzite	METASANDSTONE	How news reports would prefix / an anonymous eye-witness account	ONE MAN STATED	S
It strikes / a bell	CLAPPER	Large / mail package	PARCEL	P
Without any / success	ALL IN VAIN	Species of sea urchin / used on Spock	NIVALLAN	I
Tear into / pieces	PICK APART	Indiana service sorority with / awkward initials	TRI KAPPA	C
Most abundant / trisaccharide	RAFFINOSE	Former thief in film / Beau Geste	RASINOFF	E
Euler's published work on / motion	MECHANICA	Poet Mkrkich / from Armenia	ACHEMIAN	C
Engine with a / low weight-to-horsepower ratio	OPPOSED-TYPE	Green-dough turnovers from / Pizza Plant	POPEYE PODS	T
Followed / behind	TRAILED	Report / with close attention to small elements	DETAIL	R
State of / preparation	READINESS	Left part of vehicle in / the UK	NEARSIDE	S

So the “distillation” process of transdeletion can be applied again recursively to the second set of answers to remove another set of impurities and obtain thematically the names of thirteen culinary spices. Reading the center letters of these spices, this time in chain order of the second set of clues, reveals the answer clue phrase FORTY-EIGHT TSP. As hinted in the flavortext, the refining process only produces small quantities of pure spice, the clued measurement of 48 teaspoons is equal to a **CUP**, which is the answer for this puzzle.

The table below summarizes the second set of sorted clues in its chain order, and spices obtained after the transdeletions, and the extracted centers of those spices:

Sorted second set of clues in its chain order	Answers to second set of clues	Spices after refining/transdeletion again	Extracted center letters
Former thief in film / Beau Geste	RASINOFF	SAFFRON	F
Superstore’s / Rory	SCOVEL	CLOVE	O
Indiana service sorority with / awkward initials	TRI KAPPA	PAPRIKA	R
Catastrophic structural failure of / a water barrier	DAM BURST	MUSTARD	T
Green-dough turnovers from / Pizza Plant	POPEYE PODS	POPPYSEED	Y
Stellar product topping / PS Audio sales	GAIN CELL	NIGELLA	E
Species of sea urchin / used on Spock	NIVALLAN	VANILLA	I
One who eats flavored algae / in Artemis?	GUNK-FEEDER	FENUGREEK	G
Poet Mkrtych / from Armenia	ACHEMIAN	ANAHEIM	H
Report / with close attention to small elements	DETAIL	DATIL	T
How news reports would prefix / an anonymous eye-witness account	ONE MAN STATED	ANNATTO SEED	T
Left part of vehicle in / the UK	NEAR SIDE	ANISEED	S
Large / mail package	PARCEL	CAPER	P

#### Constructor’s notes:

One initial direction for this puzzle was to thematically involve chemistry. However, I didn’t manage to come up with a good idea around that (beyond say using chemical elements/symbols and the periodic table), and a chemistry puzzle might also be a little niche for the SGPH solvers. The other thematic idea for refinery was this concept of wordplay transformations. I added another thematic idea of mixed double type clues to make the solving step more interesting, and the chaining also provided an elegant ordering for both clue phrases without the need for additional information.