

The Asteraceae Family of Allergens

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LEARNING ALLERGEN NAMES can be a challenge; word association and matching games have been generated and found to be valuable learning tools in our training program. (Puzzles can be generated through free online tools such as Wordsearch [available at: <http://www.armoredpenguin.com/wordsearch>] or Puzzlemaker [available at: <http://puzzlemaker.school.discovery.com/WordSearch>]). This puzzle on the Asteraceae (or Compositae) family of allergens represents one of the teaching tools used in our clinic. Although the puzzle does not contain all Asteraceae allergens, this educational tool highlights common sensitizers in this botanical family, introduces the International Nomenclature of Cosmetic Ingredients names used for ingredient disclosures (Table

1), and presents the Cosmetic, Toiletry and Fragrance Association botanical cross-reference list.

Directions: Find all the words in the word list, and circle them on the puzzle grid. The words run in a straight line and may be written horizontally, vertically, diagonally, forward, and backward.

Z E C H I N A C E A A I W O S
E K O H C I T R A R R S A O Q
K C O D R U B L E E G N T S R
E Y U S H Y A C V B T E I E G
M M R T O Q S H I R Q E R C R
U T A H T M K A D E I Z E M A
I M G R L E S M N G L E W X P
A F W A I M L O E T C W O G F
I Z E F O G I M C E H E L F N
A I E V X L O I B J I E F O C
V N D V E W P L Q X C D N P P
B N P D O R N E D L O G U U P
L I N K I N F P N K R H S V M
S A F F L O W E R M Y S I A D
D A H L I A U O W O R R A Y R

- ARNICA
- ARTICHOKE
- ASTER
- BURDOCK
- CHAMOMILE
- CHICORY
- CHRYSANTHEMUM
- COSMOS
- DAHLIA
- DAISY
- DANDELION
- ECHINACEA
- ENDIVE
- FEVERFEW
- GERBERA
- GOLDENROD
- LETTUCE
- MARIGOLD
- RAGWEED
- SAFFLOWER
- SNEEZEWEED
- SUNFLOWER
- YARROW
- ZINNIA

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Table 1. International Nomenclature of Cosmetic Ingredients Names Used for Ingredient Disclosures of Asteraceae Plants

Common Name	INCI Name [†]	Common Name	INCI Name [†]
ARNICA	<i>Arnica montana</i>	ENDIVE	<i>Cichorium endivia</i>
ARTICHOKE	<i>Cynara scolymus</i>	FEVERFEW	<i>Tanacetum parthenium</i>
ASTER	*	GERBERA	*
BURDOCK	<i>Arctium lappa</i>	GOLDENROD	<i>Solidago odora</i>
CHAMOMILE	<i>Chamomilla recutita</i>	LETTUCE	<i>Lactuca sativa</i>
CHICORY	<i>Cichorium intybus</i>	MARIGOLD	<i>Calendula officinalis</i>
CHRYSANTHEMUM	<i>Chrysanthemum parthenium</i>	RAGWEED	*
COSMOS	<i>Cosmos sulphureus</i>	SAFFLOWER	<i>Carthamus tinctorius</i>
DAHLIA	*	SNEEZEWEED	<i>Centipeda cunninghamii</i>
DAISY	<i>Bellis perennis</i>	SUNFLOWER	<i>Helianthus annuus</i>
DANDELION	<i>Taraxacum officinale</i>	YARROW	<i>Achillea millefolium</i>
ECHINACEA	<i>Echinacea purpurea</i>	ZINNIA	*

INCI = International Nomenclature Cosmetic Ingredients.

*Not listed under the International Nomenclature of Cosmetic Ingredients (INCI).

[†]INCI names are searchable in the botanical cross-reference lists of the Cosmetic, Fragrance and Toiletry Association (available at: http://www.ctfa-online.org/pls/ctfa/ctfa_display.botanical_ref) as a benefit of membership in the American Contact Dermatitis Society.

Solution to the Puzzle

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+ E C H I N A C E A A + + + +
E K O H C I T R A R R S + + +
K C O D R U B + E E + N T + +
+ + U S + Y + C V B + E I E +
+ M R T O + S H I R + E R C R
+ + A + T M + A D E + Z E + A
+ + G R + E S M N G + E W + +
+ F W + I + L O E T C W O + +
+ Z E + + G I M C + H E L + +
+ I E V + L O I + + I E F + +
+ N D + E + + L + + C D M + +
+ N + D O R N E D L O G U U +
+ I N + + + F + + + R + S + M
S A F F L O W E R + Y S I A D
D A H L I A + + W O R R A Y +

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(Over, down, direction)

- ARNICA (10, 1, SE)
- ARTICHOKE (9, 2, W)
- ASTER (11, 1, SE)
- BURDOCK (7, 3, W)
- CHAMOMILE (8, 4, S)
- CHICORY (11, 8, S)
- CHRYSANTHEMUM (3, 1, SE)
- COSMOS (9, 9, NW)
- DAHLIA (1, 15, E)
- DAISY (15, 14, W)
- DANDELION (1, 15, NE)
- ECHINACEA (2, 1, E)
- ENDIVE (9, 8, N)
- FEVERFEW (2, 8, SE)
- GERBERA (10, 7, N)
- GOLDENROD (12, 12, W)
- LETTUCE (7, 8, NW)
- MARIGOLD (2, 5, SE)
- RAGWEED (3, 5, S)
- SAFFLOWER (1, 14, E)
- SNEEZEWEED (12, 2, S)
- SUNFLOWER (13, 13, N)
- YARROW (14, 15, W)
- ZINNIA (2, 9, S)

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