

ACS CCSE EXAM SINGLE ATTRIBUTE LIST - REFERENCE COMPANION

DESCRIPTOR	TYPICAL CLASS	CATEGORY	FLAVOR STANDARD / REFERENCE EXAMPLES	FLAVOR STANDARD DESCRIPTION
caramel	Heterocycles	ROASTED	caramelized sugar	milk caramel, sweet, burnt sugar
malty			2-acetyl pyridine, grape nuts in milk	malty, biscuity, sweet bread
toasted			2-acetyl thiazole, dry popcorn	popcorn, roasted, nutty, savory
roasted-nutty			2,5-dimethylpyrazine, roasted peanut oil	dark roasted peanuts,
meaty			2-ethyl-5-methyl pyrazine, beef bouillon	meaty, roasted beef, cooked meat
stewed cabbage	Thiols	VEGETAL	dimethyl disulphide DMDS	rotten vegetable, sulfurous, pungent, cabbage-like
allium / onion / garlic			dimethyl trisulphide DMTS	onion, pungent, sulfurous, sharp, slightly sweet
sulfur			hydrogen sulphide H2S, hardboiled eggs	eggy, rotten eggs
geosmin / earthy	Alcohols		geosmin, boiled beets	beets, musty, soil-like, slightly sweet
grassy			cis-3-hexenol, freshly cut grass	cut leaves or cut grass
mushroom			octan-1-ol, fresh button mushroom	earthy, fresh white mushroom, metallic
brothy	Aldehydes		methional, canned potato	boiled or canned potato, vegetable broth
hay		GREEN	nonanal, dry hay	hay, grassy, slightly sweet, slightly earthy
acetaldehyde / green apple			acetaldehyde, green apple skin	green apple, emulsion paint, white wine
green-nutty			benzaldehyde, bitter almond oil	almond, nutty, sweet, marzipan, cherry
cereal			isobutyraldehyde	grainy, cereal-like, slightly sweet, slightly nutty
metallic			epoxydecenal, blood	citrus, metallic, mammalian blood
oxidized fat			t,t-2,4-DDE, food fryer oil	fried-fatty, oxidized, oily, rancid, slightly sweet, nutty
methyl ketone	Ketones	DAIRY	methyl ketone (2-octanone)	blue cheese
diacetyl / buttery			diacetyl (butanedione), butter	cultured butter, butter flavoring
isovaleric / sweat	Fatty Acids		isovaleric acid (3-methylbutanoic acid)	cheesey, sweat, socks, pecorino romano
butyric			butyric acid (butanoic acid)	butyric, rancid butter, baby spit-up
caprylic			caprylic acid (octanoic acid)	waxy, oily, cheesey, goaty, fatty, rancid

acetic	Organic Acids	DAIRY	acetic acid, white vinegar	like vinegar
whey			lactic acid	like lactic acid, whey, fermented
cooked	Milk Stress		skim milk cooked to 185°F for 30 min	includes sulfurous, sweet and browned notes.
scorched			skim milk heated to 249°F for 25 min	includes sulfurous, smoky, burnt notes
milkfat	Lactones		gamma-nonalactone, heavy cream	coconut, sweet, tropical, creamy, slightly fatty
peach		FRUITY	gamma-undecalactone, peach flavoring	peach, fruity, sweet, slightly floral, slightly creamy
banana	Esters		isoamyl acetate, banana flavoring	banana-like, fruity, sweet
pineapple			ethyl butyrate, tinned pineapple	ethyl butyrate, fruity, apple-like, pineapple-like, sweet
fruity / red apple			ethyl hexanoate, apple juice	apple juice, red apple, fruity
honey	Amines	FLORAL	ethyl phenylacetate, raw honey	honey, sweet, floral, slightly fruity
floral			indole, jasimine oil	floral to wet musty, fishy or fecal, mothball in higher concentrations
fishy	Nitrogen Compound	ANIMAL	phenethylamine (PEA), fish oil	fishy, floral
ammonia			NH3, ammonia	ammonia, glass cleaner
catty-sulfur			Thiols	4MMP (4-Mercapto-4-methyl-2-pentanone)
citrus	Terpenes	CITRUS	limonene, lemon zest	zesty, citrusy
herbal		WOODY	thymol, thyme oil	herbaceous, resinous, woody, spicy
pine resin			alpha-pinene, pine needles	pine resin, spruce, woody, resinous, sweet, turpentine
compost			2-methylisoborneol MIB, wet soil	earthy, compost, soil, decaying leaves, damp
phenolic / cowy	Aromatics		p-cresol, manure	barnyard, band-aid, cow pie
musty			2,4,6-trichloroanisole TCA, old books	musty, damp cellar, old books, wet wood, earthy
smoky		guaiacol, liquid smoke	smoky, smoky meats, smoked fish	
vanilla		SPICE	vanillin, vanilla extract	vanilla, sweet, creamy, custard-like, slightly floral
anise	trans-anethole, anise seed		aniseed, sweet, licorice-like, slightly spicy, slightly warm	
horseradish	Isothiocyanates		allyl isothiocyanate, grated horseradish	mustard, horseradish, wasabi
solvent	Ethers	CHEMICAL	2-furfuryl ethyl ether, paint thinner	chemical, petroleum, plastic, rubber, paint thinner
burnt			2-thiophenethiol, burnt coffee	burnt rubber, burnt caramel, roasted coffee
soapy	Esters		ethyl decanoate, unscented soap	soapy, waxy, fatty, slightly sweet, slightly floral