



A LIST OF ODOR DESCRIPTORS AND CHEMICALS THAT POSSILY MATCH THOSE DESCRIPTIONS

Note that the chemicals listed in this document are representative and are not specific for the Houston area and may or may not be produced, used, or transported through Houston. There are several million chemicals available and cannot all be listed in this document. This document was prepared using several reliable resources that are easily available on the internet or in local technical book stores. This list is general and non-specific. It is possible to prepare a more specific list for a particular area using available EPA and TCEQ data and the odor wheel provided in this document. Also note that various chemicals have more than one description and may be listed more than once. Not all persons perceive or describe odors in the same way, though the description wheel may help to hone down a description. Intensity (concentration) and duration may also cause odors to be perceived differently. Though an odor may be described as "Medicinal, alcohol" one could not say with any certainty that it was absolutely "2-pentanol" until the source of the odor is identified. Use this list as a guide and example only.

MEDICINAL

- Alcohol
 - **2-pentanol** alcoholic, ethery, fruity, nutty, raspberry,
 - **3-methylbutanol (isoamyl alcohol)** alcoholic, banana, green, malt, sweet, vinous,
 - **2-methylbutanol** alcoholic, banana, iodoform, vinous,
 - **ethanol** alcoholic, strong,
 - **pentanol** alcoholic, ethereal, iodoform, sweet, wine,
 - **2-methylpropanol (isobutyl alcohol)** alcoholic, grassy alcoholic, sweet,
 - **2-butanol** alcoholic
 - **propylene oxide**
- Chlorine
 - **chlorine**
 - **perchloroethylene** chlorine, solvent
 - **bromine** bleachy, penetrating
- Ammonia
 - **trimethylamine** ammonia, fishy
 - **dimethylacetamide** ammonia
 - **ammonia** ammonia, pungent, irritating
 - **diethylamine** fishy, ammoniacal
 - **ethanolamine** ammonia
 - **ethylenediamene** musty, ammoniacal
 - **isopropyl amine** pungent, ammonia
- Vinegar
 - **acetic acid** acidic, vinegar
- Camphor
 - **cyclohexanol**
 - **t-butyl alcohol**
- Misc
 - **3-methylphenol (m-cresol)** dry, leather, medicinal, phenolic, tarry
 - **4-methylphenol (p-cresol)** medicinal, phenolic, smoky, tarry,
 - **4-ethylphenol** heavy cider, horse manure, leather, medicinal, phenolic, woody,

FLORAL

- Almond
 - **furfural (2-furaldehyde)** almond, bread, caramel, cinnamon, meat, oily, pungent, rancid, sweet
 - **2-octenal** almond, fatty, fruity, green, nutty
 - **3-methylbutanal** almond, cheese, chocolate, malt
 - **2-methylbutanal** almond, burnt, choking, cocoa, estery apple, extreme dilution fruity, fermented, fruity, green grass, iodoform, malt, powerful, sickly, sour

- **2,3-pentanedione** almond, burnt, burnt butter, butter, butterscotch, diacetyl, estery apple, fruity, grain, malt, oily buttery, pungent, sickly,
- **5-methylfurfural** almond, burnt, slightly caramellic, slightly meaty, spicy, sweet, warm,
- **benzaldehyde** almond, bitter almond,
- **benzoinitrile** almond
- **chlorobenzene** sweet, almond-like
- **hydrogen cyanide** bitter almonds
- Cinnamon
 - **furfural (2-furaldehyde)** almond, bread, caramel meat, oily, pungent, rancid, sweet
- Coconut
 - **2-octanol** coconut, mushroom, oily, rancid, walnut
 - **2-decanol** aniseed, coconut,
 - **2-nonanol** coconut
- Fragrant floral
 - **2-octanone** floral, fruity, ketone, musty, soapy
 - **2-undecanone** dusty, floral, fruity, green, ketone, musty, rose, tallow,
 - **hexanol** fatty, floral, green
 - **linalool** aniseed, citrus, floral, floral fragrant citrus, terpene
 - **citronellal (dimethyl-6-octenal)** citrus, fatty, floral
 - **1-butanol** floral, fragrant, fruity, sweet
 - **2-octyl acetate** floral, fruity
 - **2,5-dimethoxy-3,6-dimethylpyrazine** ethereal, floral, green (bell pepper), nutty
 - **nonanal aldehyde**, citrus, fatty, floral, green, green grass, slightly pungent, soapy, tallow, wax
 - **2-phenylacetaldehyde** floral
 - **decanal aldehyde**, fatty, floral, green, orange peel, soapy, wax,
 - **methyl acetate** fragrant, floral
 - **toluene** floral, pungent
- Perfumy
 - **2-phenylethanol** perfumy, rose,
 - **ethyl nicotinate** grain, perfumy, slightly papery
 - **3-methylbutyl hexanoate** caprylic, fruity, perfumy, solvent
 - **ethyl butanoate** apple, butter, ester, fruity, papaya, peardrops, perfumy, sweet,
- Rose-like
 - **citronellyl acetate** dusty, musty, rose,
 - **2-phenyl acetate** apple, honey, rose, sweet,
 - **2-phenylethanol** perfumy, rose,
- Vanilla
 - **2,3-dihydroxybenzaldehyde** almond, vanilla,
 - **4-acetyl-2-methoxyphenol (acetovanillone)** vanilla,
 - **4-hydroxy-3-methoxybenzaldehyde (vanillin)** vanilla

FRUITY

- Apple
 - **2-pentenal** apple, green
 - **3-methylbutanal (isovaleraldehyde)** apple, burnt, caramel, cheese, cherry, cocoa, extreme dilution fruity, fragrant, green, malt, penetrating, powerful, sickly, unripe banana,
 - **2-phenyl acetate** apple, honey, rose, sweet
 - **ethyl decanoate** apple, caprylic, fruity, solvent
 - **ethyl butanoate** apple, butter, ester, fruity, papaya, peardrops, perfumy, sweet,
 - **3-methylbutyl acetate** apple, banana, ester, solvent
 - **ethyl hexanoate** aniseed, apple, fruity, green, sweet, unripe,
 - **ethyl octanoate** apple, fruity, sweet,
- Citrus
 - **citronellal (dimethyl-6-octenal)** citrus, fatty, floral,
 - **nonanal aldehyde**, citrus, fatty, floral, green, green grass, slightly pungent, soapy, tallow, wax,
 - **limonene** citrus, ethereal, fruity,
 - **decanol** citrus, soapy, unripe fruit
- Banana
 - **pentanal (valeraldehyde)** aldehyde, banana, grass, lower aldehyde, oily green, pungent,

- **2-methylbutanol** alcoholic, banana, iodoform, vinous
- **2-methylbutyl acetate** banana, ester, solvent, sweet,
- **2-methylpropanal** baked potato, banana, grain, green, green malt, harsh, melon, pungent, repulsive, sour, sweet, varnish,
- **3-methylbutyl acetate** apple, banana, ester, solvent
- **3-decanone** banana, sweet,
- **isoamyl acetate** fruity, banana, pear
- Mint
 - **acetone** minty chemical, sweet
- Orange
 - **3-methylbutyl octanoate** fruity, hot (spicy), orange, pear,
- Sweet
 - **menthol** carraway, sweet,
 - **2-methyl-1-butanol** fusel oil, sweet
 - **phenylacetaldehyde** honey, sweet
 - **4-heptenal** biscuit, cream, fatty, fishy, sweet,
 - **3-methyl-3-butenic acid** arctic bramble, sweet,
 - **2-phenylacetic acid** honey, sweet,
 - **2-methylpropyl acetate** banana, fruity, sweet,
 - **ethyl octanoate** apple, fruity, sweet
 - **3-phenyl-4-propylpyridine** fermented earthy, mint, sweet,
 - **furfural (2-furaldehyde)** almond, bread, caramel, cinnamon, fatty, honey, meat, oily, pungent, rancid, sweet,
 - **pyrazine** corn with bitter note, pungent, strong, sweet
 - **5-butyloxazole** green, sweet, vegetable
 - **2-methylthiophene** gasoline, green, onion, onion (heated), paraffinic, sulfurous, sweet,
 - **ethyl acetate** fruity, solvent, sweet
 - **ethyl 3-methylbutanoate** fruity, grape, isovaleric, sweet
 - **ethyl butanoate** apple, butter, ester, fruity, papaya, peardrops, perfumy, sweet,
 - **2-methylbutyl acetate** banana, ester, solvent, sweet,
 - **3-methylbutanol (isoamyl alcohol)** alcoholic, banana, green, malt, sweet, vinous,
 - **2-phenyl acetate** apple, honey, rose, sweet,
 - **ethanal** ethereal, green, nauseating, penetrating, pungent, sour greenhouse, sweet,
 - **2-methoxythiazole** bread, caramel, oatmeal, phenolic, roasted, sweet,
 - **2,6-dimethylpyrazine** ester, ether, ether with corn note, fried potato, malt, nutty, oxidized, paper, roasted, sweet,
 - **1-butanol** floral, fragrant, fruity, sweet
 - **ethyl 2-methylbutanoate** artificial flavored candy, fruity, grape, sweet
 - **3-propylpyridine** beany, musty, sweet
 - **propylcyclohexane (or isopropylcyclohexane)** boiled meat, butter, sweet,
 - **3-decanone** banana, sweet,
 - **pentanol** alcoholic, ethereal, iodoform, sweet, wine
 - **2-methylpropanal** baked potato, banana, grain, green, green malt, harsh, melon, pungent, repulsive, sour, sweet, varnish
 - **acetone** minty chemical, sweet
 - **acrylic acid** rancid, sweet
 - **carbon tetrachloride** pungent, sweet
 - **chlorobenzene** sweet, almond-like
 - **cresol** sweet, tar
 - **dicyclopentadiene** sharp, sweet
 - **benzene** sweet, solventy
 - **isobutyl acrylate** sweet, musty
 - **carbon disulfide** almost herbaceous, cabbage, slightly green, sulfurous, sweet, vegetable,
 - **carbon tetrachloride** sweet, pungent
 - **ethyl ether** sweet, ether-like
 - **ethylene oxide** sweet, olefinic
 - **ethylene glycol** sweet
 - **methyl ethyl ketone** sweet, acetone like
 - **Phenol** medicinal, sweet
 - **Xylene** sweet

VEGETABLE

- Garlic
 - **acrylonitrile** onion-garlic, pungent
 - **ethyl mercaptan** earthy, egg, garlic, leek, onion, rubber, sulfurous
 - **parathion** garlic-like
 - **ethylthioethane (ethyl sulfide)** cooked vegetable, garlic, onion, sulfurous,
 - **dipropyl trisulfide (propyltrithiopropene)** garlic, onion, penetrating and repulsive, very powerful and diffusive
 - **diethyl disulfide** burnt rubber, garlic, hydrogen sulfide (in beer),
 - **methyl isothiocyanate** garlic
- Cabbage
 - **methanethiol (methyl mercaptan)** boiled cabbage, cabbage, cooked cabbage, egg, rotten cabbage, sickly, sulfurous, very diffusive
 - **carbon disulfide** almost herbaceous, cabbage, slightly green, sulfurous, sweet, vegetable
 - **dimethyl sulfide (methylthiomethane)** asparagus, cabbage, cooked vegetable (corn), corn, cowy, molasses, reminiscent of wild radish, sharp, sickly, sulfurous, vegetable
 - **1-propanethiol** cabbage, penetrating and diffusive, sulfurous, very powerful
- Onion
 - **acrylonitrile** onion-garlic, pungent
 - **phosphine** onion, mustard, fish
 - **ethanethiol (ethyl mercaptan)** earthy, egg, garlic, leek, onion, rubber, sulfurous
 - **ethylthioethane** cooked vegetable, garlic, onion, sulfurous
 - **dimethyl trisulfide (methyltrithiomethane)** burnt, cabbage, cooked cabbage, cooked vegetable, diffusive, fresh onions, onion, penetrating, powerful, sulfurous,
 - **dimethyl disulfide (methylthiomethane)** cooked cabbage, cooked vegetable, fecal sulfurous, intensively onion, nonlachrymatory, onion, rubber, sickly, sulfurous, very diffusive

EARTHY

- Musty
 - **2-octanone** floral, fruity, ketone, musty, soapy,
 - **2-heptanone** blue cheese, fruity, musty, peardrops, soapy
 - **2-nonanone** blue cheese, fatty, fruity, green, ketone, musty, varnish,
 - **butanoic acid (butyric acid)** butter, butyric, cheese, green, musty, oily,
 - **trimethylpyrazine** bread, burnt, green malt, musty,
 - **acetophenone** glue, musty
 - **2-decanone** fruity, musty,
 - **butyl acrylate** sweet, musty
 - **2-ethyl butanol** musty, sweet
 - **2-ethyl hexanol** musty
 - **ethylene diamine** ammoniacal, musty
- Grassy
 - **phosgene** musty hay, grassy, green corn
 - **hexanal** aldehyde, grass, green, green grass, leaves, vinous
 - **2-methylpyrazine** chocolate, grass, green, nutty, roasted,
 - **pentanal (valeraldehyde)** aldehyde, banana, grass, lower aldehyde, oily green, pungent,
- Mold
 - **3-hydroxy-2-butanone (acetoin)** butter, fresh, fruity, green, mould, slightly rancid, woody,
- Woody
 - **4-ethylphenol** heavy cider, horse manure, leather, medicinal, phenolic, woody,
 - **5-isopentyl-2-methoxy-3-methylpyrazine** licorice, walnut, woody,
 - **3-hydroxy-2-butanone (acetoin)** butter, fresh, fruity, green, mould, slightly rancid, woody
- Smoke
 - **furan** ethereal, nasty, sickly, slightly cinnamon, smoky, spicy,
 - **4-methylphenol (p-cresol)** medicinal, phenolic, smoky, tarry,
 - **2-ethylpyridine** green, planty, smoky
- Dirty Socks
 - **pentanoic acid (valeric acid)** dirty socks, parmesan cheese, sweaty

- Stale
 - **2-aminoacetophenone** grain, grape, lime blossom, stale, wax,
 - **2-nonenal** bast, cardboard, cucumber, fatty, green, oxidized, paper, stale, tallow,

OFFENSIVE

- Septic/Sewer
 - **Sewage**
- Rancid
 - **furfural (2-furaldehyde)** almond, bread, caramel, cinnamon, fatty, honey, meat, oily, pungent, rancid, sweet,
 - **2-octanol** coconut, mushroom, oily, rancid, walnut,
 - **3-methyl-2-butenoic acid** rancid,
 - **acrylic acid** rancid, sweet
 - **buteraldehyde** rancid, sweet
- Acrid
 - **ethyl acrylate** earthy, acrid, plastic
 - **toluene 2,4 diisocyanate** sweet, fruity, acrid
 - **maleic anhydride**
- Rotten eggs
 - **hydrogen sulfide** boiled egg, chockingly repulsive, eggy, rotten eggs, sulfurous,

FISHY

- Amine
 - **diethyl ethanolamine** amine
 - **dibutylamine** fishy, amine
 - **diisopropyl amine** fishy, amine
 - **trimethylamine** fishy, amine
- Fishy
 - **trimethylamine** ammonia, fishy,
 - **4-heptenal** biscuit, cream, fatty, fishy, sweet,
 - **dibutylamine** fishy, amine
 - **diisopropyl amine** fishy, amine
 - **trimethylamine** fishy, amine
 - **butylamine** ammonia, fishy
 - **diethylamine** fishy, ammoniacal
 - **dimethylacetamide** fishy, ammoniacal
 - **methylamine** fishy, pungent
 - **phosphine** onion, mustard, fish

CHEMICAL

- Paint/Paint thinner
 - **2-ethylhexanoic acid** paint, varnish,
 - **2,3-dimethylpentanal (2,3-dimethylvaleraldehyde)** green, paint,
 - **2-butyl acetate** iodoform, paint thinner, plastic glue,
- Solvent
 - **3-methylbutyl hexanoate** caprylic, fruity, perfumy, solvent
 - **2-methylbutyl acetate** banana, ester, solvent, sweet,
 - **3-methylbutyl acetate** apple, banana, ester, solvent
 - **ethyl decanoate** apple, caprylic, fruity, solvent,
 - **ethyl acetate** fruity, solvent, sweet
 - **pyridine** burnt, diamine, pungent, solvent
 - **benzene** sweet, solventy
 - **perchloroethylene** chlorinated solvent
 - **styrene** solvent, rubbery
- Gasoline
 - **gasoline**
 - **octane**
 - **pentane**
 - **heptane**

- **butyl toluene**
- Natural gas/gassy
 - **butylene gassy**
 - **2-methylpropene gassy**
 - **assorted mercaptans**
- Sulfur/sulfide
 - **methyl mercaptan sulfidy**
 - **methyl methacrylate acrid, fruity, sulfidy**
 - **sulfur dioxide**
 - **ethylthioethane cooked vegetable, garlic, onion, sulfurous,**
 - **hydrogen sulfide boiled egg, chockingly repulsive, eggy, rotten eggs, sulfurous,**
 - **ethanethiol (ethyl mercaptan) earthy, egg, garlic, leek, onion, rubber, sulfurous,**
 - **carbon disulfide almost herbaceous, cabbage, slightly green, sulfurous, sweet, vegetable,**
 - **1-propanethiol cabbage, penetrating and diffusive, sulfurous, very powerful**
 - **1-butanethiol (butyl mercaptan) diffusive, powerful, reminiscent of cabbage, skunky, sulfurous**
 - **dimethyl disulfide (methyldithiomethane) cooked cabbage, cooked vegetable, fecal sulfurous, intensively onion, nonlachrymatory, onion, rubber, sickly, sulfurous, very diffusive,**
 - **dimethyl sulfide (methylthiomethane) asparagus, cabbage, cooked vegetable (corn), corn, cowy, molasses, reminiscent of wild radish, sharp, sickly, sulfurous, vegetable**
 - **benzyl mercaptan (benzylthiol) sulfurous**
- Acidic
 - **acetic acid acetic, acidic, vinegar,**
 - **3-butenyl isothiocyanate acidic, rubber**
- Mothball
 - **2,3-diethylpyrazine burnt, caramel, chemical, mothball, prickling, roasted hazelnuts,**
 - **naphthalene mothball, tar-like**
 - **dichlorobenzene mothballs**
 - **toluene rubbery, mothballs**
- Tar
 - **3-methylphenol (m-cresol) dry, leather, medicinal, phenolic, tarry,**
 - **4-methylphenol (p-cresol) medicinal, phenolic, smoky, tarry,**
 - **naphthalene mothball, tar-like**
- Aromatic/ethereal/olefinic
 - **ethanal ethereal, green, nauseating, penetrating, pungent, sour greenhouse, sweet,**
 - **pentanol alcoholic, ethereal, iodoform, sweet, wine,**
 - **3-octanone earthy, ethereal, ketone, mushroom, resinous,**
 - **furan ethereal, nasty, sickly, slightly cinnamon, smoky, spicy,**
 - **limonene citrus, ethereal, fruity,**
 - **3-acetylpyridine aromatic, burnt, groundnut,**
 - **acetonitrile ether-like**
 - **cumene sharp aromatic**
 - **cyclohexane sweet, aromatic**
 - **1,4-dioxane ethereal**
 - **ethyl benzene aromatic**
 - **ethyl bromide ether-like**
 - **ethyl ether ether-like, sweet**
 - **ethylene olefinic**
 - **ethylene dioxide sweet, olefinic**
 - **isopropyl ether sweet, sharp, ether**
 - **methyl chloride ether-like, sweet**