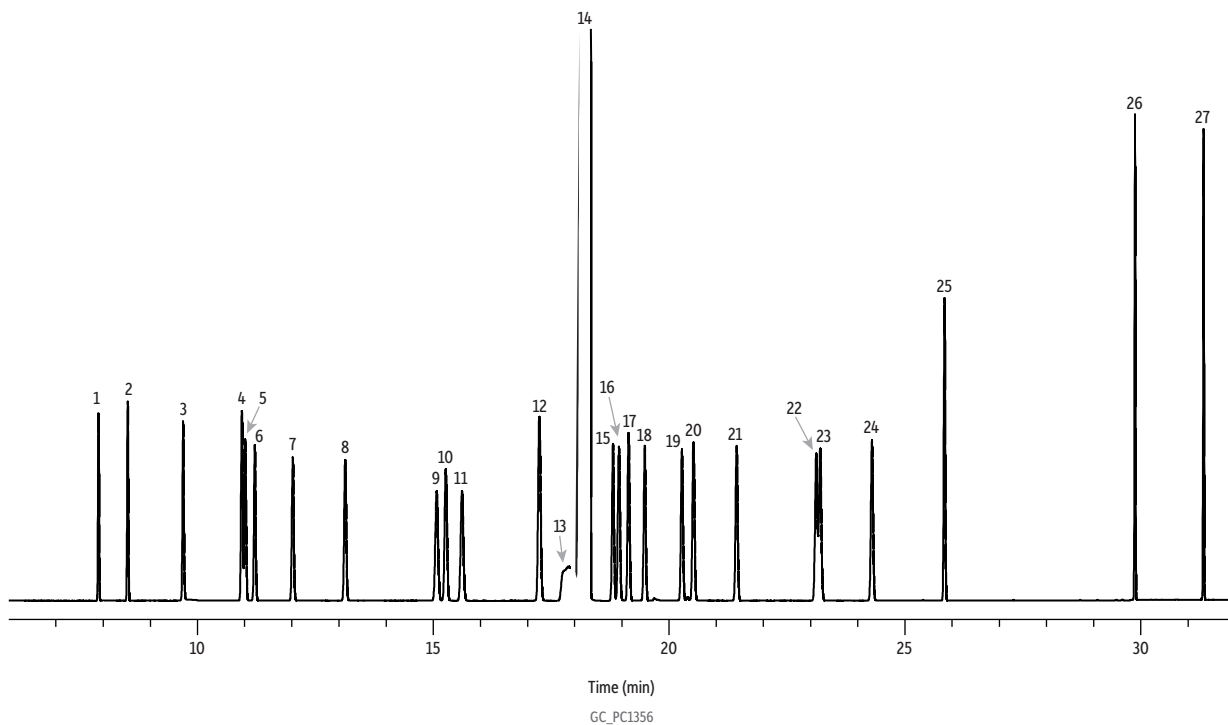


Impurities in Commercial Cyclohexane on Rtx-DHA-100



Peaks	Peaks
1. Isopentane	14. Cyclohexane (solvent)
2. <i>n</i> -Pentane	15. 2-Methylhexane
3. 2,2-Dimethylbutane	16. 2,3-Dimethylpentane
4. Cyclopentane	17. 1,1-Dimethylcyclopentane
5. 2,3-Dimethylbutane	18. 3-Methylhexane
6. 2-Methylpentane	19. 3-Ethylpentane
7. 3-Methylpentane	20. Isooctane
8. <i>n</i> -Hexane	21. <i>n</i> -Heptane
9. 2,2-Dimethylpentane	22. <i>cis</i> -1,2-Dimethylcyclopentane
10. Methylcyclopentane	23. Methylcyclohexane
11. Benzene	24. Ethylcyclopentane
12. 2,4-Dimethylpentane	25. Toluene
13. 3,3-Dimethylpentane	26. <i>p</i> -Xylene
	27. Isopropylcyclohexane

Column	Rtx-DHA-100, 100 m, 0.25 mm ID, 0.50 μ m (cat.# 10148)
Sample	Impurities commonly found in commercial cyclohexane
Diluent:	Cyclohexane
Injection	
Inj. Vol.:	0.6 μ L split (split ratio 100:1)
Liner:	Topaz 4.0 mm ID Precision inlet liner w/wool (cat.# 23305)
Inj. Temp.:	250 °C
Oven	
Oven Temp.:	35 °C (hold 15 min) to 65 °C at 5 °C/min (hold 5 min) to 200 °C at 20 °C/min (hold 2 min)
Carrier Gas	He, constant flow
Flow Rate:	2.4 mL/min
Detector	FID
Instrument	Agilent 7890B GC
Notes	Sample is a synthetic blend prepared with impurities known to be present in cyclohexane at concentrations expected to be found in commercial samples.

Note that the distorted peak shape of 3,3-dimethylpentane is an example of "solvent effect." Solvent effect occurs when the analytical starting temperature is much lower than the boiling point of the solvent. When that occurs, the solvent peak affects the chromatography of compounds eluting near it. Peak shape for the compounds eluting prior to the solvent peak are usually distorted, while compounds eluting after the solvent peak will have somewhat increased retention.