TABLES OF MAXIMUM INCREMENTAL REACTIVITY (MIR) VALUES

SUBCHAPTER 8.6 MAXIMUM INCREMENTAL REACTIVITY

Article 1. Tables of Maximum Incremental Reactivity (MIR) Values

94700. MIR Values for Compounds.

Organic Compound	MIR Value [Effective Date*]
Carbon Monoxide	0.06
Methane	0.01
Ethane	0.31
Propane	0.56
n-Butane	1.33
n-Pentane	1.54
n-Hexane	1.45
n-Heptane	1.28
n-Octane	1.11
n-Nonane	0.95
n-Decane	0.83
n-Undecane	0.74
n-Dodecane	0.66
n-Tridecane	0.62
n-Tetradecane	0.58
n-Pentadecane	0.56
n-C16	0.52
n-C17	0.49
n-C18	0.47
n-C19	0.44
n-C20	0.42
n-C21	0.40
n-C22	0.38
Isobutane	1.35
Isopentane	1.68
Neopentane	0.69
Branched C5 Alkanes	1.68
2,2-Dimethyl Butane	1.33
2,3-Dimethyl Butane	1.14
2-Methyl Pentane (Isohexane)	1.80

Organic Compound	MIR Value [Effective Date*]
3-Methyl Pentane	2.07
Branched C6 Alkanes	1.53
2,2,3-Trimethyl Butane	1.32
2,2-Dimethyl Pentane	1.22
2,3-Dimethyl Pentane	1.55
2,4-Dimethyl Pentane	1.65
2-Methyl Hexane	1.37
3,3-Dimethyl Pentane	1.32
3-Methyl Hexane	1.86
Branched C7 Alkanes	1.63
2,2,3,3-Tetramethyl Butane	0.44
2,2,4-Trimethyl Pentane (Isooctane)	1.44
2,2-Dimethyl Hexane	1.13
2,3,4-Trimethyl Pentane	1.23
2,3-Dimethyl Hexane	1.34
2,4-Dimethyl Hexane	1.80
2,5-Dimethyl Hexane	1.68
2-Methyl Heptane	1.20
3-Methyl Heptane	1.35
4-Methyl Heptane	1.48
Branched C8 Alkanes	1.57
2,2,5-Trimethyl Hexane	1.33
2,3,5-Trimethyl Hexane	1.33
2,4-Dimethyl Heptane	1.48
2-Methyl Octane	0.96
3,3-Diethyl Pentane	1.35
3,5-Dimethyl Heptane	1.63
4-Ethyl Heptane	1.44
4-Methyl Octane	1.08
Branched C9 Alkanes	1.25
2,4-Dimethyl Octane	1.09
2,6-Dimethyl Octane	1.27
2-Methyl Nonane	0.86
3,4-Diethyl Hexane	1.20
3-Methyl Nonane	0.89
4-Methyl Nonane	0.99
4-Propyl Heptane	1.24

Organic Compound	MIR Value [Effective Date*]
Branched C10 Alkanes	1.09
2,6-Dimethyl Nonane	0.95
3,5-Diethyl Heptane	1.21
3-Methyl Decane	0.77
4-Methyl Decane	0.80
Branched C11 Alkanes	0.87
2,3,4,6-Tetramethyl Heptane	1.26
2,6-Diethyl Octane	1.09
3,6-Dimethyl Decane	0.88
3-Methyl Undecane	0.70
5-Methyl Undecane	0.72
Branched C12 Alkanes	0.80
2,3,5,7-Tetramethyl Octane	1.06
3,6-Dimethyl Undecane	0.82
3,7-Diethyl Nonane	1.08
3-Methyl Dodecane	0.64
5-Methyl Dodecane	0.64
Branched C13 Alkanes	0.73
2,4,6,8-Tetramethyl Nonane	0.94
2,3,6-Trimethyl 4-Isopropyl Heptane	1.24
3,7-Dimethyl Dodecane	0.74
3,8-Diethyl Decane	0.68
3-Methyl Tridecane	0.57
6-Methyl Tridecane	0.62
Branched C14 Alkanes	0.67
2,4,5,6,8-Pentamethyl Nonane	1.11
2-Methyl 3,5-Diisopropyl Heptane	0.78
3,7-Dimethyl Tridecane	0.64
3,9-Diethyl Undecane	0.62
3-Methyl Tetradecane	0.53
6-Methyl Tetradecane	0.57
Branched C15 Alkanes	0.60
2,6,8-Trimethyl 4-Isopropyl Nonane	0.76
3-Methyl Pentadecane	0.50
4,8-Dimethyl Tetradecane	0.58
7-Methyl Pentadecane	0.51
Branched C16 Alkanes	0.54
2,7-Dimethyl 3,5-Diisopropyl Heptane	0.69
Branched C17 Alkanes	0.51

Organic Compound	MIR Value [Effective Date*]
Branched C18 Alkanes	0.48
Cyclopropane	0.10
Cyclobutane	1.05
Cyclopentane	2.69
Cyclohexane	1.46
Isopropyl Cyclopropane	1.52
Methylcyclopentane	2.42
C6 Cycloalkanes	1.46
1,3-Dimethyl Cyclopentane	2.15
Cycloheptane	2.26
Ethyl Cyclopentane	2.27
Methylcyclohexane	1.99
C7 Cycloalkanes	1.99
1,3-Dimethyl Cyclohexane	1.72
Cyclooctane	1.73
Ethylcyclohexane	1.75
Propyl Cyclopentane	1.91
C8 Cycloalkanes	1.75
C9 Bicycloalkanes	1.57
1,1,3-Trimethyl Cyclohexane	1.37
1-Ethyl-4-Methyl Cyclohexane	1.62
Propyl Cyclohexane	1.47
C9 Cycloalkanes	1.55
C10 Bicycloalkanes	1.29
1,3-Diethyl Cyclohexane	1.34
1,4-Diethyl Cyclohexane	1.49
1-Methyl-3-Isopropyl Cyclohexane	1.26
Butyl Cyclohexane	1.07
C10 Cycloalkanes	1.27
C11 Bicycloalkanes	1.01
1,3-Diethyl-5-Methyl Cyclohexane	1.11
1-Ethyl-2-Propyl Cyclohexane	0.95
Pentyl Cyclohexane	0.91
C11 Cycloalkanes	0.99
C12 Bicycloalkanes	0.88
C12 Cycloalkanes	0.87
1,3,5-Triethyl Cyclohexane	1.06
1-Methyl-4-Pentyl Cyclohexane	0.81
Hexyl Cyclohexane	0.75
C13 Bicycloalkanes	0.79
Organic Compound	**MIR Value [Effective Date*]**

1,3-Diethyl-5-Pentyl Cyclohexane	0.99
1-Methyl-2-Hexyl Cyclohexane	0.70
Heptyl Cyclohexane	0.66
C13 Cycloalkanes	0.78
C14 Bicycloalkanes	0.71
1,3-Dipropyl-5-Ethyl Cyclohexane	0.94
1-Methyl-4-Heptyl Cyclohexane	0.58
Octyl Cyclohexane	0.60
C14 Cycloalkanes	0.71
C15 Bicycloalkanes	0.69
1,3,5-Tripropyl Cyclohexane	0.90
1-Methyl-2-Octyl Cyclohexane	0.60
Nonyl Cyclohexane	0.54
C15 Cycloalkanes	0.68
1,3-Dipropyl-5-Butyl Cyclohexane	0.77
1-Methyl-4-Nonyl Cyclohexane	0.55
Decyl Cyclohexane	0.50
C16 Cycloalkanes	0.61
Ethene	9.08
Propene (Propylene)	11.58
1-Butene	10.29
C4 Terminal Alkenes	10.29
1-Pentene	7.79
3-Methyl-1-Butene	6.99
C5 Terminal Alkenes	7.79
1-Hexene	6.17
3,3-Dimethyl-1-Butene	6.06
3-Methyl-1-Pentene	6.22
4-Methyl-1-Pentene	6.26
C6 Terminal Alkenes	6.17
1-Heptene	4.56
1-Octene	3.45
C8 Terminal Alkenes	3.45
1-Nonene	2.76
C9 Terminal Alkenes	2.76
1-Decene	2.28
C10 Terminal Alkenes	2.28
1-Undecene	1.95
C11 Terminal Alkenes	1.95
C12 Terminal Alkenes	1.72

Organic Compound	MIR Value [Effective Date*]
1-Dodecene	1.72
1-Tridecene	1.55
C13 Terminal Alkenes	1.55
1-Tetradecene	1.41
C14 Terminal Alkenes	1.41
1-Pentadecene	1.37
C15 Terminal Alkenes	1.37
2-Methyl Pentene (Isobutene)	6.35
2-Methyl-1-Butene	6.51
2,3-Dimethyl-1-Butene	4.77
2-Ethyl-1-Butene	5.04
2-Methyl-1-Pentene	5.18
2,3,3-Trimethyl-1-Butene	4.62
C7 Terminal Alkenes	4.56
3-Methyl-2-Isopropyl-1-Butene	3.29
cis-2-Butene	13.22
trans-2-Butene	13.91
C4 Internal Alkenes	13.57
2-Methyl-2-Butene	14.45
cis-2-Pentene	10.24
trans-2-Pentene	10.23
2-Pentenes	10.23
C5 Internal Alkenes	10.23
2,3-Dimethyl-2-Butene	13.32
2-Methyl-2-Pentene	12.28
Cis-2-Hexene	8.44
Cis-3-Hexene	8.22
Cis-3-Methyl-2-Hexene	13.38
Trans 3-Methyl-2-Hexene	14.17
Trans 4-Methyl-2-Hexene	7.88
Trans-2-Hexene	8.44
Trans-3-Hexene	8.16
2-Hexenes	8.44
C6 Internal Alkenes	8.44
2,3-Dimethyl-2-Hexene	10.41
Cis-3-Heptene	6.96
Trans-4,4-Dimethyl-2-Pentene	6.99
Trans-2-Heptene	7.33
Trans-3-Heptene	6.96
2-Heptenes	6.96
Organic Compound	**MIR Value [Effective Date*]**

C7 Internal Alkenes	6.96
Cis-4-Octene	5.94
Trans-2,2-Dimethyl-3-Hexene	5.97
Trans-2,5-Dimethyl-3-Hexene	5.44
Trans-3-Octene	6.13
Trans-4-Octene	5.90
3-Octenes	6.13
C8 Internal Alkenes	5.90
2,4,4-Trimethyl-2-Pentene	5.85
3-Nonenes	5.31
C9 Internal Alkenes	5.31
Trans-4-Nonene	5.23
3,4-Diethyl-2-Hexene	3.95
Cis-5-Decene	4.89
Trans-4-Decene	4.50
C10 3-Alkenes	4.50
C10 Internal Alkenes	4.50
Trans-5-Undecene	4.23
C11 3-Alkenes	4.23
C11 Internal Alkenes	4.23
C12 2-Alkenes	3.75
C12 3-Alkenes	3.75
C12 Internal Alkenes	3.75
Trans-5-Dodecene	3.74
Trans-5-Tridecene	3.38
C13 3-Alkenes	3.38
C13 Internal Alkenes	3.38
Trans-5-Tetradecene	3.08
C14 3-Alkenes	3.08
C14 Internal Alkenes	3.08
Trans-5-Pentadecene	2.82
C15 3-Alkenes	2.82
C15 Internal Alkenes	2.82
C4 Alkenes	11.93
C5 Alkenes	9.01
C6 Alkenes	6.88
C7 Alkenes	5.76
C8 Alkenes	4.68
C9 Alkenes	4.03
C10 Alkenes	3.39

Organic Compound	MIR Value [Effective Date*]
C11 Alkenes	3.09
C12 Alkenes	2.73
C13 Alkenes	2.46
C14 Alkenes	2.28
C15 Alkenes	2.06
Cyclopentene	7.38
1-Methyl Cyclopentene	13.95
Cyclohexene	5.45
1-Methyl Cyclohexene	7.81
4-Methyl Cyclohexene	4.48
1,2-Dimethyl Cyclohexene	6.77
1,3-Butadiene	13.58
Isoprene	10.69
C6 Cyclic or Di-olefins	8.65
C7 Cyclic or Di-olefins	7.49
C8 Cyclic or Di-olefins	6.01
C9 Cyclic or Di-olefins	5.40
C10 Cyclic or Di-olefins	4.56
C11 Cyclic or Di-olefins	4.29
C12 Cyclic or Di-olefins	3.79
C13 Cyclic or Di-olefins	3.42
C14 Cyclic or Di-olefins	3.11
C15 Cyclic or Di-olefins	2.85
Cyclopentadiene	7.61
3-Carene	3.21
a-Pinene (Pine Oil)	4.29
b-Pinene	3.28
d-Limonene (Dipentene or Orange Terpene)	3.99
Sabinene	3.67
Terpene	3.79
Styrene	1.95
a-Methyl Styrene	1.72
C9 Styrenes	1.72
C10 Styrenes	1.53
Benzene	0.81
Toluene	3.97
Ethyl Benzene	2.79
Cumene (Isopropyl Benzene)	2.32
n-Propyl Benzene	2.20
C9 Monosubstituted Benzenes	2.20
Organic Compound	**MIR Value [Effective Date*]**

s-Butyl Benzene	1.97
C10 Monosubstituted Benzenes	1.97
n-Butyl Benzene	1.97
C11 Monosubstituted Benzenes	1.78
C12 Monosubstituted Benzenes	1.63
C13 Monosubstituted Benzenes	1.50
m-Xylene	10.61
o-Xylene	7.49
p-Xylene	4.25
C8 Disubstituted Benzenes	7.48
C9 Disubstituted Benzenes	6.61
C10 Disubstituted Benzenes	5.92
C11 Disubstituted Benzenes	5.35
C12 Disubstituted Benzenes	4.90
C13 Disubstituted Benzenes	4.50
Isomers of Ethylbenzene	5.16
1,2,3-Trimethyl Benzene	11.26
1,2,4-Trimethyl Benzene	7.18
1,3,5-Trimethyl Benzene	11.22
C9 Trisubstituted Benzenes	9.90
Isomers of Propylbenzene	6.12
C10 Tetrasubstituted Benzenes	8.86
C10 Trisubstituted Benzenes	8.86
Isomers of Butylbenzene	5.48
C11 Pentasubstituted Benzenes	8.03
C11 Tetrasubstituted Benzenes	8.03
C11 Trisubstituted Benzenes	8.03
Isomers of Pentylbenzene	4.96
C12 Pentasubstituted Benzenes	7.33
C12 Hexasubstituted Benzenes	7.33
C12 Tetrasubstituted Benzenes	7.33
C12 Trisubstituted Benzenes	7.33
Isomers of Hexylbenzene	4.53
C13 Trisubstituted Benzenes	6.75
Indane	3.17
Naphthalene	3.26
Tetralin	2.83
Methyl Naphthalenes	4.61
1-Methyl Naphthalene	4.61
2-Methyl Naphthalene	4.61

Organic Compound	MIR Value [Effective Date*]
C11 Tetralin or Indane	2.56
2,3-Dimethyl Naphthalene	5.54
C12 Disubstituted Naphthalenes	5.54
Dimethyl Naphthalenes	5.54
C12 Monosubstituted Naphthalenes	4.20
C13 Disubstituted Naphthalenes	5.08
C13 Trisubstituted Naphthalenes	5.08
C13 Monosubstituted Naphthalenes	3.86
Acetylene	1.25
Methyl Acetylene	6.45
2-Butyne	16.33
Ethyl Acetylene	6.20
Methanol	0.71
Ethanol	1.69
Isopropanol (2-Propanol or Isopropyl Alcohol)	0.71
N-Propanol (n-Propyl Alcohol)	2.74
Isobutanol (Isobutyl Alcohol)	2.24
1-Butanol (n-Butyl Alcohol)	3.34
2-Butanol (s-Butyl Alcohol)	1.60
t-Butyl Alcohol	0.45
Cyclopentanol	1.96
2-Pentanol	1.74
3-Pentanol	1.73
N-Pentanol (Amyl Alcohol)	3.35
Cyclohexanol	2.25
1-Hexanol	2.74
2-Hexanol	2.46
1-Heptanol	2.21
1-Octanol	2.01
2-Ethyl-1-Hexanol (Ethyl Hexyl Alcohol)	2.20
2-Octanol	2.16
3-Octanol	2.57
4-Octanol	3.07
Isodecyl Alcohol	1.23
Ethylene Glycol	3.36
Propylene Glycol	2.75
1,2-Butanediol	2.21
Glycerol (1,2,3-Propanetriol)	3.27
1,2-Dihydroxy Hexane	2.75
2-Methyl-2,4-Pentanediol	1.04
Organic Compound	**MIR Value [Effective Date*]**

Dimethyl Ether	0.93
Trimethylene Oxide	5.22
Dimethoxymethane	1.04
Tetrahydrofuran	4.95
Diethyl Ether	4.01
Alpha-Methyltetrahydrofuran	4.62
Tetrahydropyran	3.81
Ethyl Isopropyl Ether	3.86
Methyl n-Butyl Ether	3.66
Methyl t-Butyl Ether	0.78
2,2-Dimethoxypropane	0.52
Di n-Propyl Ether	3.24
Ethyl n-Butyl Ether	3.86
Ethyl t-Butyl Ether	2.11
Methyl t-Amyl Ether	2.14
2-Butyl Tetrahydrofuran	2.53
Di-Isobutyl Ether	1.29
Di-n-butyl Ether	3.17
Di-n-Pentyl Ether	2.64
Ethylene Glycol Monomethyl Ether (2-Methoxyethanol)	2.98
Propylene Glycol Monomethyl Ether (1-Methoxy-2-Propanol)	2.62
2-Ethoxyethanol	3.78
2-Methoxy-1-Propanol	3.01
Diethylene Glycol	3.55
Propylene Glycol Monoethyl Ether (1-Ethoxy-2-Propanol)	3.25
Ethylene Glycol Monopropyl Ether (2-Propoxyethanol)	3.52
3-Ethoxy-1-Propanol	4.24
3-Methoxy-1-Butanol	0.97
Diethylene Glycol Methyl Ether [2-(2-Methoxyethoxy) Ethanol]	2.90
Propylene Glycol Monopropyl Ether (1-Propoxy-2-Propanol)	2.86
Ethylene Glycol Monobutyl Ether [2-Butoxyethanol]	2.90
3-Methoxy-3-Methyl-Butanol	1.74
2-(2-Ethoxyethoxy) Ethanol	3.19
Dipropylene Glycol	2.48
Propylene Glycol t-Butyl Ether (1-tert-Butoxy-2-Propanol)	1.71
2-tert-Butoxy-1-Propanol	1.81
n-Butoxy-2-Propanol	2.70

Organic Compound	MIR Value [Effective Date*]
Dipropylene Glycol Methyl Ether Isomer (1-Methoxy-2-[2-Hydroxypropoxy]-Propane)	2.21
Dipropylene Glycol Methyl Ether Isomer (2-[2-Methoxypropoxy]- 1- Propanol)	3.02
2-Hexyloxyethanol	2.45
2-(2-Propoxyethoxy) Ethanol	3.00
2,2,4-Trimethyl-1,3-Pentanediol	1.74
2-(2-Butoxyethoxy)-Ethanol	2.70
2-[2-(2-Methoxyethoxy) Ethoxy] Ethanol	2.62
Ethylene Glycol 2-Ethylhexyl Ether [2-(2-Ethylhexyloxy) Ethanol]	1.71
2-[2-(2-Ethoxyethoxy) Ethoxy] Ethanol	2.66
2-(2-Hexyloxyethoxy) Ethanol	2.03
2-[2-(2-Propoxyethoxy) Ethoxy] Ethanol	2.46
2-[2-(2-Butoxyethoxy) Ethoxy] Ethanol	2.24
Tripropylene Glycol Monomethyl Ether	1.90
2,5,8,11-Tetraoxatridecan-13-ol	2.15
3,6,9,12-Tetraoxahexadecan-1-ol	1.90
Cumene Hydroperoxide (1-Methyl-1-Phenylethylhydroperoxide)**	12.61
Methyl Formate	0.06
Ethyl Formate	0.52
Methyl Acetate	0.07
Ethyl Acetate	0.64
Methyl Propionate	0.71
n-Propyl Formate	0.93
Ethyl Propionate	0.79
Isopropyl Acetate	1.12
Methyl Butyrate	1.18
Methyl Isobutyrate	0.70
n-Butyl Formate	0.95
Propyl Acetate	0.87
Ethyl Butyrate	1.25
Isobutyl Acetate	0.67
Methyl Pivalate (2,2-Dimethyl Propanoic Acid Methyl Ester)	0.39
n-Butyl Acetate	0.89
n-Propyl Propionate	0.93
s-Butyl Acetate	1.43
t-Butyl Acetate	0.20
Organic Compound	**MIR Value [Effective Date*]**

Butyl Propionate	0.89
Amyl Acetate	0.96
n-Propyl Butyrate	1.17
EEP Solvent (Ethyl 3-Ethoxy Propionate)	3.61
2,3-Dimethylbutyl Acetate	0.84
2-Methylpentyl Acetate	1.11
3-Methylpentyl Acetate	1.31
4-Methylpentyl Acetate	0.92
Isobutyl Isobutyrate	0.61
n-Butyl Butyrate	1.12
n-Hexyl Acetate (Hexyl Acetate)	0.87
2,4-Dimethylpentyl Acetate	0.98
2-Methylhexyl Acetate	0.89
3-Ethylpentyl Acetate	1.24
3-Methylhexyl Acetate	1.01
4-Methylhexyl Acetate	0.91
5-Methylhexyl Acetate	0.79
Isoamyl Isobutyrate	0.89
n-Heptyl Acetate (Heptyl Acetate)	0.73
2,4-Dimethylhexyl Acetate	0.93
2-Ethyl-Hexyl Acetate	0.79
3,4-Dimethylhexyl Acetate	1.16
3,5-Dimethylhexyl Acetate	1.09
3-Ethylhexyl Acetate	1.03
3-Methylheptyl Aceate	0.76
4,5-Dimethylhexyl Acetate	0.86
4-Methylheptyl Acetate	0.72
5-Methylheptyl Acetate	0.73
n-Octyl Acetate	0.64
2,3,5-Trimethylhexyl Acetate	0.86
2,3-Dimethylheptyl Acetate	0.84
2,4-Dimethylheptyl Acetate	0.88
2,5-Dimethylheptyl Acetate	0.86
2-Methyloctyl Acetate	0.63
3,5-Dimethylheptyl Acetate	1.01
3,6-Dimethylheptyl Acetate	0.87
3-Ethylheptyl Acetate	0.71
4,5-Dimethylheptyl Acetate	0.96
4,6-Dimethylheptyl Acetate	0.83
4-Methyloctyl Acetate	0.68

Organic Compound	MIR Value [Effective Date*]
5-Methyloctyl Acetate	0.67
n-Nonyl Acetate	0.58
3,6-Dimethyloctyl Acetate	0.88
3-Isopropylheptyl Acetate	0.71
4,6-Dimethyloctyl Acetate	0.85
3,5,7-Trimethyloctyl Acetate	0.83
3-Ethyl-6-Methyloctyl Acetate	0.80
4,7-Dimethylnonyl Acetate	0.64
2,3,5,7-Tetramethyloctyl Acetate	0.74
3,5,7-Trimethylnonyl Acetate	0.76
3,6,8-Trimethylnonyl Acetate	0.72
2,4,6,8-Tetramethylnonyl Acetate	0.63
3-Ethyl-6,7-Dimethylnonyl Acetate	0.76
4,7,9-Trimethyldecyl Acetate	0.55
2,3,5,6,8-Pentaamethylnonyl Acetate	0.74
3,5,7,9-Tetramethyldecyl Acetate	0.58
5-Ethyl-3,6,8-Trimethylnonyl Acetate	0.77
Dimethyl Carbonate	0.06
Propylene Carbonate (4-Methyl-1,3-Dioxolan-2-one)	0.25
Methyl Lactate	2.75
2-Methoxyethyl Acetate	1.18
Ethyl Lactate	2.71
Methyl Isopropyl Carbonate	0.69
Propylene Glycol Monomethyl Ether Acetate (1-Methoxy-2-Propyl Acetate)	1.71
2-Ethoxyethyl Acetate	1.90
2-Methoxy-1-Propyl Acetate	1.12
Dimethyl Succinate	0.23
Ethylene Glycol Diacetate	0.72
Diisopropyl Carbonate	1.04
Dimethyl Glutarate	0.51
Ethylene Glycol Monobutyl Ether Acetate (2-Butoxyethyl Acetate)	1.67
Dimethyl Adipate	1.95
2-(2-Ethoxyethoxy) Ethyl Acetate	1.50
2-(2-Butoxyethoxy) Ethyl Acetate	1.38
Substituted C7 Ester (C12)	0.92
1-Hydroxy-2,2,4-Trimethylpentyl-3-Isobutyrate	0.92
3-Hydroxy-2,2,4-Trimethylpentyl-1-Isobutyrate	0.88

Organic Compound	MIR Value [Effective Date*]
Hydroxy-2,2,4-Trimethylpentyl Isobutyrate Isomers (2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate)	0.89
Substituted C9 Ester (C12)	0.89
Dimethyl Sebacate	0.48
Ethylene Oxide	0.05
Propylene Oxide	0.32
1,2-Epoxybutane (Ethyl Oxirane)	1.02
Formic Acid	0.08
Acetic Acid	0.71
Glycolic Acid (Hydroxyacetic Acid)	2.67
Peracetic Acid (Peroxyacetic Acid)**	12.62
Acrylic Acid	11.66
Propionic Acid	1.16
Methacrylic Acid	18.78
2-Ethyl Hexanoic Acid	4.41
Methyl Acrylate	12.24
Vinyl Acetate	3.26
2-Methyl-2-Butene-3 -ol (1,2-Dimethylpropyl-1-en-1-ol)	5.12
Ethyl Acrylate	8.78
Methyl Methacrylate	15.84
Butyl Methacrylate	9.09
Isobutyl Methacrylate	8.99
Isobornyl Methacrylate**	8.64
2-Ethyl-Hexyl Acrylate	2.42
Furan	16.54
Formaldehyde	8.97
Acetaldehyde	6.84
Propionaldehyde	7.89
2-Methylpropanal	5.87
Butanal	6.74
C4 Aldehydes	6.74
2,2-Dimethylpropanal (Pivaldehyde)	5.40
3-Methylbutanal (Isovaleraldehyde)	5.52
Pentanal (Valeraldehyde)	5.76
C5 Aldehydes	5.76
Glutaraldehyde	4.79
Hexanal	4.98
C6 Aldehydes	4.98

Organic Compound	MIR Value [Effective Date*]
Heptanal	4.23
C7 Aldehydes	4.23
Octanal	3.65
C8 Aldehydes	3.65
Glyoxal	14.22
Methyl Glyoxal	16.21
Acrolein	7.60
Crotonaldehyde	10.07
Methacrolein	6.23
Hydroxy Methacrolein	6.61
Benzaldehyde	0.00
Tolualdehyde	0.00
Acetone	0.43
Cyclobutanone	0.68
Methyl Ethyl Ketone (2-Butanone)	1.49
Cyclopentanone	1.43
C5 Cyclic Ketones	1.43
Methyl Propyl Ketone (2-Pentanone)	3.07
3-Pentanone	1.45
C5 Ketones	3.07
Cyclohexanone	1.61
C6 Cyclic Ketones	1.61
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	4.31
Methyl n-Butyl Ketone (2-Hexanone)	3.55
Methyl t-Butyl Ketone	0.78
C6 Ketones	3.55
C7 Cyclic Ketones	1.41
Methyl Amyl Ketone (2-Heptanone)	2.80
2-Methyl-3-Hexanone	1.79
Di-Isopropyl Ketone	1.63
C7 Ketones	2.80
3-Methyl-2-Hexanone	2.81
Methyl Isoamyl Ketone (5-Methyl-2-Hexanone)	2.10
C8 Cyclic Ketones	1.25
2-Octanone	1.66
C8 Ketones	1.66
C9 Cyclic Ketones	1.13
2-Nonanone	1.30
Di-Isobutyl Ketone (2,6-Dimethyl-4-Heptanone)	2.94
C9 Ketones	1.30
Organic Compound	**MIR Value [Effective Date*]**

C10 Cyclic Ketones	1.02
2-Decanone	1.06
C10 Ketones	1.06
Biacetyl	20.73
Methylvinyl Ketone	8.73
Hydroxy Acetone	3.08
Methoxy Acetone	2.14
Diacetone Alcohol (4-Hydroxy-4-Methyl-2-Pentanone)	0.68
Phenol	1.82
Alkyl Phenols	2.34
m-Cresol	2.34
p-Cresol	2.34
o-Cresol	2.34
1-Phenoxy-2-Propanol	1.73
Nitrobenzene	0.07
Para Toluene Isocyanate	0.93
Toluene Diisocyanate	0.00
Methylene Diphenylene Diisocyanate	0.79
N-Methyl Acetamide**	19.70
Dimethyl Amine	9.37
Ethyl Amine	7.80
Trimethyl Amine	7.06
Triethyl Amine**	16.60
Diethylenetriamine**	13.03
Ethanolamine	5.97
Dimethylaminoethanol	4.76
Monoisopropanol Amine (1-Amino-2-Propanol)**	13.42
2-Amino-2-Methyl-1-Propanol**	15.08
Diethanol Amine	4.05
Triethanolamine	2.76
Methyl Pyrrolidone (N-Methyl-2-Pyrrolidone)	2.56
Morpholine**	15.43
Nitroethane**	12.79
Nitromethane**	7.86
1-Nitropropane**	16.16
2-Nitropropane**	16.16
Dexpanthenol (Pantothenylol)**	9.35
Methyl Ethyl Ketoxime (Ethyl Methyl Ketone Oxime)**	22.04
Hydroxyethylethylene Urea**	14.75
Methyl Chloride	0.03
Methylene Chloride (Dichloromethane)	0.07
Methyl Bromide	0.02
Organic Compound	**MIR Value [Effective Date*]**

Chloroform	0.03
Vinyl Chloride	2.92
Ethyl Chloride	0.25
1,1-Dichloroethane	0.10
1,2-Dichloroethane	0.10
Ethyl Bromide	0.11
1,1,1-Trichloroethane	0.00
1,1,2-Trichloroethane	0.06
1,2-Dibromoethane	0.05
n-Propyl Bromide	0.35
n-Butyl Bromide	0.60
Trans-1,2-Dichloroethene	0.81
Trichloroethylene	0.60
Perchloroethylene	0.04
2-(Chloro-Methyl)-3-Chloro Propene	1.13
Monochlorobenzene	0.36
p-Dichlorobenzene	0.20
Benzotrifluoride	0.26
PCBTF (p-Trifluoromethyl-Cl-Benzene)	0.11
HFC-134a (1,1,1,2-Tetrafluoroethane)**	0.00
HFC-152a (1,1-Difluoroethane)**	0.00
Dimethyl Sulfoxide	6.90
Base ROG Mixture	3.71
Alkane, Mixed – Predominantly (minimally 94%) C13-14	0.67
Oxo-Hexyl Acetate	1.03
Oxo-Heptyl Acetate	0.97
Oxo-Octyl Acetate	0.96
Oxo-Nonyl Acetate	0.85
Oxo-Decyl Acetate	0.83
Oxo-Dodecyl Acetate	0.72
Oxo-Tridecyl Acetate	0.67

* 30 Days after the Regulation is approved by the Office of Administrative Law.

94701. MIR Values for Hydrocarbon Solvents.

(a) Aliphatic Hydrocarbon Solvents

Bin	Average Boiling Point*** (degrees F)	Criteria	MIR Value [Effective Date*]
1	80-205	Alkanes (< 2% Aromatics)	2.08
2	80-205	N- & Iso-Alkanes (? 90% and < 2% Aromatics)	1.59
3	80-205	Cyclo-Alkanes (? 90% and < 2% Aromatics)	2.52
4	80-205	Alkanes (2 to < 8% Aromatics)	2.24
5	80-205	Alkanes (8 to 22% Aromatics)	2.56
6	>205-340	Alkanes (< 2% Aromatics)	1.41
7	>205-340	N- & Iso-Alkanes (? 90% and < 2% Aromatics)	1.17
8	>205-340	Cyclo-Alkanes (? 90% and < 2% Aromatics)	1.65
9	>205-340	Alkanes (2 to < 8% Aromatics)	1.62
10	>205-340	Alkanes (8 to 22% Aromatics)	2.03
11	>340-460	Alkanes (< 2% Aromatics)	0.91
12	>340-460	N- & Iso-Alkanes (? 90% and < 2% Aromatics)	0.81
13	>340-460	Cyclo-Alkanes (? 90% and < 2% Aromatics)	1.01
14	>340-460	Alkanes (2 to < 8% Aromatics)	1.21
15	>340-460	Alkanes (8 to 22% Aromatics)	1.82
16	>460-580	Alkanes (< 2% Aromatics)	0.57
17	>460-580	N- & Iso-Alkanes (? 90% and < 2% Aromatics)	0.51
18	>460-580	Cyclo-Alkanes (? 90% and < 2% Aromatics)	0.63
19	>460-580	Alkanes (2 to < 8% Aromatics)	0.88
20	>460-580	Alkanes (8 to 22% Aromatics)	1.49

* 30 Days after the Regulation is approved by the Office of Administrative Law.
*** Average Boiling Point = (Initial Boiling Point + Dry Point) / 2

(b) Aromatic Hydrocarbon Solvents

Bin	Boiling Range (degrees F)	Criteria	MIR Value [Effective Date*]
21	280-290	Aromatic Content (?98%)	7.37
22	320-350	Aromatic Content (?98%)	7.51
23	355-420	Aromatic Content (?98%)	8.07
24	450-535	Aromatic Content (?98%)	5.00

* 30 Days after the Regulation is approved by the Office of Administrative Law.