# OIV-MA-AS2-02 Évaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts

**Type I method**

## 1. Principle

The refractive index at 20°C, expressed either as an absolute value or as a percentage by mass of sucrose, is given in the appropriate table to provide a means of obtaining the sugar concentration in grams per liter and in grams per kilogram for grape musts, concentrated grape musts and rectified concentrated grape musts.

## 2. Apparatus

Abbe refractometer

The refractometer used must be fitted with a scale giving:

- either percentage by mass of sucrose to 0.1%;
- or refractive indices to four decimal places.

The refractometer must be equipped with a thermometer having a scale extending at least from +15°C to +25°C and with a system for circulating water that will enable measurements to be made at a temperature of 20 ± 5°C. The operating instructions for this instrument must be strictly adhered to, particularly with regard to calibration and the light source.

## 3. Preparation of the sample

1. Must and concentrated must

Pass the must, if necessary, through a dry gauze folded into four and, after discarding the first drops of the filtrate, carry out the determination on the filtered product.

3.2. Rectified concentrated must

Depending on the concentration, use either the rectified concentrated must itself or a solution obtained by making up 200 g of rectified concentrated must to 500 g with water, all weighings being carried out accurately.

## 4. Procedure

Bring the sample to a temperature close to 20°C.

Place a small test sample on the lower prism of the refractometer, taking care (because the prisms are pressed firmly against each other) that this test sample covers the glass surface uniformly. Carry out the measurement in accordance with the operating instructions of the instrument used.

Read the percentage by mass of sucrose to within 0.1 or read the refractive index to four decimal places.

Carry out at least two determinations on the same prepared sample. Note the temperature t°C.

## 5. Calculation

5.1. Temperature correction

- Instruments graduated in percentage by mass of sucrose: use Table I to obtain the temperature correction.
- Instruments graduated in refractive index: find the index measured at t°C in Table II to obtain (column 1) the corresponding value of the percentage by mass of sucrose at t°C. This value is corrected for temperature and expressed as a concentration at 20°C by means of Table I.

2. Sugar concentration in must and concentrated must

Find the percentage by mass of sucrose at 20°C in Table II and read from the same row the sugar concentration in grams per liter and grams per kilogram. The sugar concentration is expressed in terms of invert sugar to one decimal place.

5.3. Sugar concentration in rectified concentrated must

Find the percentage by mass of sucrose at 20°C in Table III and read from the same row the sugar concentration in grams per liter and grams per kilogram. The sugar concentration is expressed in terms of invert sugar to one decimal place. If the measurement was made on diluted rectified concentrated must, multiply the result by the dilution factor.

5.4. Refractive index of must, concentrated must and rectified concentrated must

Find the percentage by mass of sucrose at 20°C in Table II and read from the same row the refractive index at 20°C. This index is expressed to four decimal places.

**Table I** Correction to be made in the case where the percentage by mass of saccharose was determined at a temperature different by 20°C.

| Temperature | Percentage by mass measured in % |
|---|---|

# Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| °C | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
| | | | | | | | | | | | | | | |
| 5 | −0,82 | −0,87 | −0,92 | −0,95 | −0,99 | | | | | | | | | |
| 6 | −0,80 | −0,82 | −0,87 | −0,90 | −0,94 | | | | | | | | | |
| 7 | −0,74 | −0,78 | −0,82 | −0,84 | −0,88 | | | | | | | | | |
| 8 | −0,69 | −0,73 | −0,76 | −0,79 | −0,82 | | | | | | | | | |
| 9 | −0,64 | −0,67 | −0,71 | −0,73 | −0,75 | | | | | | | | | |
| 10 | −0,59 | −0,62 | −0,65 | −0,67 | −0,69 | −0,71 | −0,72 | −0,73 | −0,74 | −0,75 | −0,75 | −0,75 | −0,75 | −0,75 |
| 11 | −0,54 | −0,57 | −0,59 | −0,61 | −0,63 | −0,64 | −0,65 | −0,66 | −0,67 | −0,68 | −0,68 | −0,68 | −0,68 | −0,67 |
| 12 | −0,49 | −0,51 | −0,53 | −0,55 | −0,56 | −0,57 | −0,58 | −0,59 | −0,60 | −0,60 | −0,61 | −0,61 | −0,60 | −0,60 |
| 13 | −0,43 | −0,45 | −0,47 | −0,48 | −0,50 | −0,51 | −0,52 | −0,52 | −0,53 | −0,53 | −0,53 | −0,53 | −0,53 | −0,53 |
| 14 | −0,38 | −0,39 | −0,40 | −0,42 | −0,43 | −0,44 | −0,44 | −0,45 | −0,45 | −0,46 | −0,46 | −0,46 | −0,46 | −0,45 |
| 15 | −0,32 | −0,33 | −0,34 | −0,35 | −0,36 | −0,37 | −0,37 | −0,38 | −0,38 | −0,38 | −0,38 | −0,38 | −0,38 | −0,38 |
| 16 | −0,26 | −0,27 | −0,28 | −0,28 | −0,29 | −0,30 | −0,30 | −0,30 | −0,31 | −0,31 | −0,31 | −0,31 | −0,31 | −0,30 |
| 17 | −0,20 | −0,20 | −0,21 | −0,21 | −0,22 | −0,22 | −0,23 | −0,23 | −0,23 | −0,23 | −0,23 | −0,23 | −0,23 | −0,23 |
| 18 | −0,13 | −0,14 | −0,14 | −0,14 | −0,15 | −0,15 | −0,15 | −0,15 | −0,15 | −0,15 | −0,15 | −0,15 | −0,15 | −0,15 |
| 19 | −0,07 | −0,07 | −0,07 | −0,07 | −0,07 | −0,08 | −0,08 | −0,08 | −0,08 | −0,08 | −0,08 | −0,08 | −0,08 | −0,08 |
| 20 | 0 | | | | RÉFÉREN CE | | | | | | | | 0 | |
| 21 | +0,07 | +0,07 | +0,07 | +0,07 | +0,08 | +0,08 | +0,08 | +0,08 | +0,08 | +0,08 | +0,08 | +0,08 | +0,08 | +0,08 |
| 22 | +0,14 | +0,14 | +0,15 | +0,15 | +0,15 | +0,15 | +0,16 | +0,16 | +0,16 | +0,16 | +0,16 | +0,16 | +0,15 | +0,15 |
| 23 | +0,21 | +0,22 | +0,22 | +0,23 | +0,23 | +0,23 | +0,23 | +0,24 | +0,24 | +0,24 | +0,24 | +0,23 | +0,23 | +0,23 |
| 24 | +0,29 | +0,29 | +0,30 | +0,30 | +0,31 | +0,31 | +0,31 | +0,32 | +0,32 | +0,32 | +0,32 | +0,31 | +0,31 | +0,31 |
| 25 | +0,36 | +0,37 | +0,38 | +0,38 | +0,39 | +0,39 | +0,40 | +0,40 | +0,40 | +0,40 | +0,40 | +0,39 | +0,39 | +0,39 |
| 26 | +0,44 | +0,45 | +0,46 | +0,46 | +0,47 | +0,47 | +0,48 | +0,48 | +0,48 | +0,48 | +0,48 | +0,47 | +0,47 | +0,46 |
| 27 | +0,52 | +0,53 | +0,54 | +0,55 | +0,55 | +0,56 | +0,56 | +0,56 | +0,56 | +0,56 | +0,56 | +0,55 | +0,55 | +0,54 |
| 28 | +0,60 | +0,61 | +0,62 | +0,63 | +0,64 | +0,64 | +0,64 | +0,65 | +0,65 | +0,64 | +0,64 | +0,64 | +0,63 | +0,62 |
| 29 | +0,68 | +0,69 | +0,70 | +0,71 | +0,72 | +0,73 | +0,73 | +0,73 | +0,73 | +0,73 | +0,72 | +0,72 | +0,71 | +0,70 |
| 30 | +0,77 | +0,78 | +0,79 | +0,80 | +0,81 | +0,81 | +0,81 | +0,82 | +0,81 | +0,81 | +0,81 | +0,80 | +0,79 | +0,78 |
| 31 | +0,85 | +0,87 | +0,88 | +0,89 | +0,89 | +0,90 | +0,90 | +0,90 | +0,90 | +0,90 | +0,89 | +0,88 | +0,87 | +0,86 |
| 32 | +0,94 | +0,95 | +0,96 | +0,97 | +0,98 | +0,99 | +0,99 | +0,99 | +0,99 | +0,98 | +0,97 | +0,96 | +0,95 | +0,94 |
| 33 | +1,03 | +1,04 | +1,05 | +1,06 | +1,07 | +1,08 | +1,08 | +1,08 | +1,07 | +1,07 | +1,06 | +1,05 | +1,03 | +1,02 |
| 34 | +1,12 | +1,19 | +1,15 | +1,15 | +1,16 | +1,17 | +1,17 | +1,17 | +1,16 | +1,15 | +1,14 | +1,13 | +1,12 | +1,10 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | +1,22 | +1,23 | +1,24 | +1,25 | +1,25 | +1,26 | +1,26 | +1,25 | +1,25 | +1,24 | +1,23 | +1,21 | +1,20 | +1,18 |
| 36 | +1,31 | +1,32 | +1,33 | +1,34 | +1,35 | +1,35 | +1,35 | +1,35 | +1,34 | +1,33 | +1,32 | +1,30 | +1,28 | +1,26 |
| 37 | +1,41 | +1,42 | +1,43 | +1,44 | +1,44 | +1,44 | +1,44 | +1,44 | +1,43 | +1,42 | +1,40 | +1,38 | +1,36 | +1,34 |
| 38 | +1,51 | +1,52 | +1,53 | +1,53 | +1,54 | +1,54 | +1,53 | +1,53 | +1,52 | +1,51 | +1,49 | +1,47 | +1,45 | +1,42 |
| 39 | +1,61 | +1,62 | +1,62 | +1,63 | +1,63 | +1,63 | +1,63 | +1,62 | +1,61 | +1,60 | +1,58 | +1,56 | +1,53 | +1,50 |
| 40 | +1,71 | +1,72 | +1,72 | +1,73 | +1,73 | +1,73 | +1,72 | +1,71 | +1,70 | +1,69 | +1,67 | +1,64 | +1,62 | +1,59 |

It is preferable that the variations in temperature in relation to 20°C do not exceed □ 5°C.

**TABLE II**

Table giving the sugar content of musts and concentrated musts in grammes per litre and in grammes per kilogramme, determined using a graduated refractometer, either in percentage by mass of saccharose at 20°C, or refractive index at 20°C. The mass density at 20°C is also given.

| Saccharose<br><br>% (m/m) | Refractive Index<br><br>at 20 °C | Mass<br><br>Density at 20 °C | Sugars in<br><br>g/l | Sugars in<br><br>g/kg | ABV % vol at 20 °C<br><br>at 20 °C |
|---|---|---|---|---|---|
| 10.0 | 1.34782 | 1.0391 | 82.2 | 79.1 | 4.89 |
| 10.1 | 1.34798 | 1.0395 | 83.3 | 80.1 | 4.95 |
| 10.2 | 1.34813 | 1.0399 | 84.3 | 81.1 | 5.01 |
| 10.3 | 1.34829 | 1.0403 | 85.4 | 82.1 | 5.08 |
| 10.4 | 1.34844 | 1.0407 | 86.5 | 83.1 | 5.14 |
| 10.5 | 1.34860 | 1.0411 | 87.5 | 84.1 | 5.20 |
| 10.6 | 1.34875 | 1.0415 | 88.6 | 85.0 | 5.27 |
| 10.7 | 1.34891 | 1.0419 | 89.6 | 86.0 | 5.32 |
| 10.8 | 1.34906 | 1.0423 | 90.7 | 87.0 | 5.39 |

| | | | | | |
|---|---|---|---|---|---|
| 10.9 | 1.34922 | 1.0427 | 91.8 | 88.0 | 5.46 |
| 11.0 | 1.34937 | 1.0431 | 92.8 | 89.0 | 5.52 |
| 11.1 | 1.34953 | 1.0436 | 93.9 | 90.0 | 5.58 |
| 11.2 | 1.34968 | 1.0440 | 95.0 | 91.0 | 5.65 |
| 11.3 | 1.34984 | 1.0444 | 96.0 | 92.0 | 5.71 |
| 11.4 | 1.34999 | 1.0448 | 97.1 | 92.9 | 5.77 |
| 11.5 | 1.35015 | 1.0452 | 98.2 | 93.9 | 5.84 |
| 11.6 | 1.35031 | 1.0456 | 99.3 | 94.9 | 5.90 |
| 11.7 | 1.35046 | 1.0460 | 100.3 | 95.9 | 5.96 |
| 11.8 | 1.35062 | 1.0464 | 101.4 | 96.9 | 6.03 |
| 11.9 | 1.35077 | 1.0468 | 102.5 | 97.9 | 6.09 |
| 12.0 | 1.35093 | 1.0472 | 103.5 | 98.9 | 6.15 |
| 12.1 | 1.35109 | 1.0477 | 104.6 | 99.9 | 6.22 |
| 12.2 | 1.35124 | 1.0481 | 105.7 | 100.8 | 6.28 |
| 12.3 | 1.35140 | 1.0485 | 106.8 | 101.8 | 6.35 |
| 12.4 | 1.35156 | 1.0489 | 107.8 | 102.8 | 6.41 |
| 12.5 | 1.35171 | 1.0493 | 108.9 | 103.8 | 6.47 |
| 12.6 | 1.35187 | 1.0497 | 110.0 | 104.8 | 6.54 |
| 12.7 | 1.35203 | 1.0501 | 111.1 | 105.8 | 6.60 |
| 12.8 | 1.35219 | 1.0506 | 112.2 | 106.8 | 6.67 |
| 12.9 | 1.35234 | 1.0510 | 113.2 | 107.8 | 6.73 |

| | | | | | |
|---|---|---|---|---|---|
| 13.0 | 1.35250 | 1.0514 | 114.3 | 108.7 | 6.79 |
| 13.1 | 1.35266 | 1.0518 | 115.4 | 109.7 | 6.86 |
| 13.2 | 1.35282 | 1.0522 | 116.5 | 110.7 | 6.92 |
| 13.3 | 1.35298 | 1.0527 | 117.6 | 111.7 | 6.99 |
| 13.4 | 1.35313 | 1.0531 | 118.7 | 112.7 | 7.05 |
| 13.5 | 1.35329 | 1.0535 | 119.7 | 113.7 | 7.11 |
| 13.6 | 1.35345 | 1.0539 | 120.8 | 114.7 | 7.18 |
| 13.7 | 1.35361 | 1.0543 | 121.9 | 115.6 | 7.24 |
| 13.8 | 1.35377 | 1.0548 | 123.0 | 116.6 | 7.31 |
| 13.9 | 1.35393 | 1.0552 | 124.1 | 117.6 | 7.38 |
| 14.0 | 1.35408 | 1.0556 | 125.2 | 118.6 | 7.44 |
| 14.1 | 1.35424 | 1.0560 | 126.3 | 119.6 | 7.51 |
| 14.2 | 1.35440 | 1.0564 | 127.4 | 120.6 | 7.57 |
| 14.3 | 1.35456 | 1.0569 | 128.5 | 121.6 | 7.64 |
| 14.4 | 1.35472 | 1.0573 | 129.6 | 122.5 | 7.70 |
| 14.5 | 1.35488 | 1.0577 | 130.6 | 123.5 | 7.76 |
| 14.6 | 1.35504 | 1.0581 | 131.7 | 124.5 | 7.83 |
| 14.7 | 1.35520 | 1.0586 | 132.8 | 125.5 | 7.89 |
| 14.8 | 1.35536 | 1.0590 | 133.9 | 126.5 | 7.96 |
| 14.9 | 1.35552 | 1.0594 | 135.0 | 127.5 | 8.02 |

TABLE II - (continued)

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose<br>% (m/m) | Refractive Index<br>at 20 °C | Mass<br>Density at 20 °C | Sugars in<br>g/l | Sugars in<br>g/kg | ABV % vol at 20 °C<br>at 20 °C |
|---|---|---|---|---|---|
| 15.0 | 1.35568 | 1.0598 | 136.1 | 128.4 | 8.09 |
| 15.1 | 1.35584 | 1.0603 | 137.2 | 129.4 | 8.15 |
| 15.2 | 1.35600 | 1.0607 | 138.3 | 130.4 | 8.22 |
| 15.3 | 1.35616 | 1.0611 | 139.4 | 131.4 | 8.28 |
| 15.4 | 1.35632 | 1.0616 | 140.5 | 132.4 | 8.35 |
| 15.5 | 1.35648 | 1.0620 | 141.6 | 133.4 | 8.42 |
| 15.6 | 1.35664 | 1.0624 | 142.7 | 134.3 | 8.48 |
| 15.7 | 1.35680 | 1.0628 | 143.8 | 135.3 | 8.55 |
| 15.8 | 1.35696 | 1.0633 | 144.9 | 136.3 | 8.61 |
| 15.9 | 1.35713 | 1.0637 | 146.0 | 137.3 | 8.68 |
| 16.0 | 1.35729 | 1.0641 | 147.1 | 138.3 | 8.74 |
| 16.1 | 1.35745 | 1.0646 | 148.2 | 139.3 | 8.81 |
| 16.2 | 1.35761 | 1.0650 | 149.3 | 140.2 | 8.87 |
| 16.3 | 1.35777 | 1.0654 | 150.5 | 141.2 | 8.94 |
| 16.4 | 1.35793 | 1.0659 | 151.6 | 142.2 | 9.01 |
| 16.5 | 1.35810 | 1.0663 | 152.7 | 143.2 | 9.07 |
| 16.6 | 1.35826 | 1.0667 | 153.8 | 144.2 | 9.14 |

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|---|---|---|---|---|---|
| 16.7 | 1.35842 | 1.0672 | 154.9 | 145.1 | 9.21 |
| 16.8 | 1.35858 | 1.0676 | 156.0 | 146.1 | 9.27 |
| 16.9 | 1.35874 | 1.0680 | 157.1 | 147.1 | 9.34 |
| 17.0 | 1.35891 | 1.0685 | 158.2 | 148.1 | 9.40 |
| 17.1 | 1.35907 | 1.0689 | 159.3 | 149.1 | 9.47 |
| 17.2 | 1.35923 | 1.0693 | 160.4 | 150.0 | 9.53 |
| 17.3 | 1.35940 | 1.0698 | 161.6 | 151.0 | 9.60 |
| 17.4 | 1.35956 | 1.0702 | 162.7 | 152.0 | 9.67 |
| 17.5 | 1.35972 | 1.0707 | 163.8 | 153.0 | 9.73 |
| 17.6 | 1.35989 | 1.0711 | 164.9 | 154.0 | 9.80 |
| 17.7 | 1.36005 | 1.0715 | 166.0 | 154.9 | 9.87 |
| 17.8 | 1.36021 | 1.0720 | 167.1 | 155.9 | 9.93 |
| 17.9 | 1.36038 | 1.0724 | 168.3 | 156.9 | 10.00 |
| 18.0 | 1.36054 | 1.0729 | 169.4 | 157.9 | 10.07 |
| 18.1 | 1.36070 | 1.0733 | 170.5 | 158.9 | 10.13 |
| 18.2 | 1.36087 | 1.0737 | 171.6 | 159.8 | 10.20 |
| 18.3 | 1.36103 | 1.0742 | 172.7 | 160.8 | 10.26 |
| 18.4 | 1.36120 | 1.0746 | 173.9 | 161.8 | 10.33 |
| 18.5 | 1.36136 | 1.0751 | 175.0 | 162.8 | 10.40 |
| 18.6 | 1.36153 | 1.0755 | 176.1 | 163.7 | 10.47 |
| 18.7 | 1.36169 | 1.0760 | 177.2 | 164.7 | 10.53 |

| | | | | | |
|---|---|---|---|---|---|
| 18.8 | 1.36185 | 1.0764 | 178.4 | 165.7 | 10.60 |
| 18.9 | 1.36202 | 1.0768 | 179.5 | 166.7 | 10.67 |
| 19.0 | 1.36219 | 1.0773 | 180.6 | 167.6 | 10.73 |
| 19.1 | 1.36235 | 1.0777 | 181.7 | 168.6 | 10.80 |
| 19.2 | 1.36252 | 1.0782 | 182.9 | 169.6 | 10.87 |
| 19.3 | 1.36268 | 1.0786 | 184.0 | 170.6 | 10.94 |
| 19.4 | 1.36285 | 1.0791 | 185.1 | 171.5 | 11.00 |
| 19.5 | 1.36301 | 1.0795 | 186.2 | 172.5 | 11.07 |
| 19.6 | 1.36318 | 1.0800 | 187.4 | 173.5 | 11.14 |
| 19.7 | 1.36334 | 1.0804 | 188.5 | 174.5 | 11.20 |
| 19.8 | 1.36351 | 1.0809 | 189.6 | 175.4 | 11.27 |
| 19.9 | 1.36368 | 1.0813 | 190.8 | 176.4 | 11.34 |

TABLE II - (continued

| Saccharose<br>% (m/m) | Refractive Index<br>at 20 °C | Mass<br>Density at 20 °C | Sugars in<br>g/l | Sugars in<br>g/kg | ABV % vol at 20 °C<br>at 20 °C |
|---|---|---|---|---|---|
| 20.0 | 1.36384 | 1.0818 | 191.9 | 177.4 | 11.40 |
| 20.1 | 1.36401 | 1.0822 | 193.0 | 178.4 | 11.47 |
| 20.2 | 1.36418 | 1.0827 | 194.2 | 179.3 | 11.54 |
| 20.3 | 1.36434 | 1.0831 | 195.3 | 180.3 | 11.61 |
| 20.4 | 1.36451 | 1.0836 | 196.4 | 181.3 | 11.67 |

| | | | | | |
|---|---|---|---|---|---|
| 20.5 | 1.36468 | 1.0840 | 197.6 | 182.3 | 11.74 |
| 20.6 | 1.36484 | 1.0845 | 198.7 | 183.2 | 11.81 |
| 20.7 | 1.36501 | 1.0849 | 199.8 | 184.2 | 11.87 |
| 20.8 | 1.36518 | 1.0854 | 201.0 | 185.2 | 11.95 |
| 20.9 | 1.36535 | 1.0858 | 202.1 | 186.1 | 12.01 |
| 21.0 | 1.36551 | 1.0863 | 203.3 | 187.1 | 12.08 |
| 21.1 | 1.36568 | 1.0867 | 204.4 | 188.1 | 12.15 |
| 21.2 | 1.36585 | 1.0872 | 205.5 | 189.1 | 12.21 |
| 21.3 | 1.36602 | 1.0876 | 206.7 | 190.0 | 12.28 |
| 21.4 | 1.36619 | 1.0881 | 207.8 | 191.0 | 12.35 |
| 21.5 | 1.36635 | 1.0885 | 209.0 | 192.0 | 12.42 |
| 21.6 | 1.36652 | 1.0890 | 210.1 | 192.9 | 12.49 |
| 21.7 | 1.36669 | 1.0895 | 211.3 | 193.9 | 12.56 |
| 21.8 | 1.36686 | 1.0899 | 212.4 | 194.9 | 12.62 |
| 21.9 | 1.36703 | 1.0904 | 213.6 | 195.9 | 12.69 |
| 22.0 | 1.36720 | 1.0908 | 214.7 | 196.8 | 12.76 |
| 22.1 | 1.36737 | 1.0913 | 215.9 | 197.8 | 12.83 |
| 22.2 | 1.36754 | 1.0917 | 217.0 | 198.8 | 12.90 |
| 22.3 | 1.36771 | 1.0922 | 218.2 | 199.7 | 12.97 |
| 22.4 | 1.36787 | 1.0927 | 219.3 | 200.7 | 13.03 |
| 22.5 | 1.36804 | 1.0931 | 220.5 | 201.7 | 13.10 |

| | | | | | |
|---|---|---|---|---|---|
| 22.6 | 1.36821 | 1.0936 | 221.6 | 202.6 | 13.17 |
| 22.7 | 1.36838 | 1.0940 | 222.8 | 203.6 | 13.24 |
| 22.8 | 1.36855 | 1.0945 | 223.9 | 204.6 | 13.31 |
| 22.9 | 1.36872 | 1.0950 | 225.1 | 205.5 | 13.38 |
| 23.0 | 1.36889 | 1.0954 | 226.2 | 206.5 | 13.44 |
| 23.1 | 1.36906 | 1.0959 | 227.4 | 207.5 | 13.51 |
| 23.2 | 1.36924 | 1.0964 | 228.5 | 208.4 | 13.58 |
| 23.3 | 1.36941 | 1.0968 | 229.7 | 209.4 | 13.65 |
| 23.4 | 1.36958 | 1.0973 | 230.8 | 210.4 | 13.72 |
| 23.5 | 1.36975 | 1.0977 | 232.0 | 211.3 | 13.79 |
| 23.6 | 1.36992 | 1.0982 | 233.2 | 212.3 | 13.86 |
| 23.7 | 1.37009 | 1.0987 | 234.3 | 213.3 | 13.92 |
| 23.8 | 1.37026 | 1.0991 | 235.5 | 214.2 | 14.00 |
| 23.9 | 1.37043 | 1.0996 | 236.6 | 215.2 | 14.06 |
| 24.0 | 1.37060 | 1.1001 | 237.8 | 216.2 | 14.13 |
| 24.1 | 1.37078 | 1.1005 | 239.0 | 217.1 | 14.20 |
| 24.2 | 1.37095 | 1.1010 | 240.1 | 218.1 | 14.27 |
| 24.3 | 1.37112 | 1.1015 | 241.3 | 219.1 | 14.34 |
| 24.4 | 1.37129 | 1.1019 | 242.5 | 220.0 | 14.41 |
| 24.5 | 1.37146 | 1.1024 | 243.6 | 221.0 | 14.48 |
| 24.6 | 1.37164 | 1.1029 | 244.8 | 222.0 | 14.55 |

| | | | | | |
|---|---|---|---|---|---|
| 24.7 | 1.37181 | 1.1033 | 246.0 | 222.9 | 14.62 |
| 24.8 | 1.37198 | 1.1038 | 247.1 | 223.9 | 14.69 |
| 24.9 | 1.37216 | 1.1043 | 248.3 | 224.8 | 14.76 |

TABLE II - (continued

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20°C | Mass Density at 20°C | Sugars In g/l | Sugars In g/Kg | ABV % vol At 20°C |
|---|---|---|---|---|---|
| 25.0 | 1.37233 | 1.1047 | 249.5 | 225.8 | 14.83 |
| 25.1 | 1.37250 | 1.1052 | 250.6 | 226.8 | 14.89 |
| 25.2 | 1.37267 | 1.1057 | 251.8 | 227.7 | 14.96 |
| 25.3 | 1.37285 | 1.1062 | 253.0 | 228.7 | 15.04 |
| 25.4 | 1.37302 | 1.1066 | 254.1 | 229.7 | 15.10 |
| 25.5 | 1.37319 | 1.1071 | 255.3 | 230.6 | 15.17 |
| 25.6 | 1.37337 | 1.1076 | 256.5 | 231.6 | 15.24 |
| 25.7 | 1.37354 | 1.1080 | 257.7 | 232.5 | 15.32 |
| 25.8 | 1.37372 | 1.1085 | 258.8 | 233.5 | 15.38 |
| 25.9 | 1.37389 | 1.1090 | 260.0 | 234.5 | 15.45 |
| 26.0 | 1.37407 | 1.1095 | 261.2 | 235.4 | 15.52 |
| 26.1 | 1.37424 | 1.1099 | 262.4 | 236.4 | 15.59 |
| 26.2 | 1.37441 | 1.1104 | 263.6 | 237.3 | 15.67 |
| 26.3 | 1.37459 | 1.1109 | 264.7 | 238.3 | 15.73 |
| 26.4 | 1.37476 | 1.1114 | 265.9 | 239.3 | 15.80 |
| 26.5 | 1.37494 | 1.1118 | 267.1 | 240.2 | 15.87 |
| 26.6 | 1.37511 | 1.1123 | 268.3 | 241.2 | 15.95 |
| 26.7 | 1.37529 | 1.1128 | 269.5 | 242.1 | 16.02 |
| 26.8 | 1.37546 | 1.1133 | 270.6 | 243.1 | 16.08 |
| 26.9 | 1.37564 | 1.1138 | 271.8 | 244.1 | 16.15 |
| 27.0 | 1.37582 | 1.1142 | 273.0 | 245.0 | 16.22 |
| 27.1 | 1.37599 | 1.1147 | 274.2 | 246.0 | 16.30 |
| 27.2 | 1.37617 | 1.1152 | 275.4 | 246.9 | 16.37 |
| 27.3 | 1.37634 | 1.1157 | 276.6 | 247.9 | 16.44 |
| 27.4 | 1.37652 | 1.1161 | 277.8 | 248.9 | 16.51 |
| 27.5 | 1.37670 | 1.1166 | 278.9 | 249.8 | 16.58 |
| 27.6 | 1.37687 | 1.1171 | 280.1 | 250.8 | 16.65 |
| 27.7 | 1.37705 | 1.1176 | 281.3 | 251.7 | 16.72 |
| 27.8 | 1.37723 | 1.1181 | 282.5 | 252.7 | 16.79 |
| 27.9 | 1.37740 | 1.1185 | 283.7 | 253.6 | 16.86 |
| 28.0 | 1.37758 | 1.1190 | 284.9 | 254.6 | 16.93 |
| 28.1 | 1.37776 | 1.1195 | 286.1 | 255.5 | 17.00 |
| 28.2 | 1.37793 | 1.1200 | 287.3 | 256.5 | 17.07 |
| 28.3 | 1.37811 | 1.1205 | 288.5 | 257.5 | 17.15 |
| 28.4 | 1.37829 | 1.1210 | 289.7 | 258.4 | 17.22 |
| 28.5 | 1.37847 | 1.1214 | 290.9 | 259.4 | 17.29 |
| 28.6 | 1.37864 | 1.1219 | 292.1 | 260.3 | 17.36 |
| 28.7 | 1.37882 | 1.1224 | 293.3 | 261.3 | 17.43 |
| 28.8 | 1.37900 | 1.1229 | 294.5 | 262.2 | 17.50 |
| 28.9 | 1.37918 | 1.1234 | 295.7 | 263.2 | 17.57 |
| 29.0 | 1.37936 | 1.1239 | 296.9 | 264.2 | 17.64 |
| 29.1 | 1.37954 | 1.1244 | 298.1 | 265.1 | 17.72 |
| 29.2 | 1.37972 | 1.1248 | 299.3 | 266.1 | 17.79 |
| 29.3 | 1.37989 | 1.1253 | 300.5 | 267.0 | 17.86 |
| 29.4 | 1.38007 | 1.1258 | 301.7 | 268.0 | 17.93 |
| 29.5 | 1.38025 | 1.1263 | 302.9 | 268.9 | 18.00 |
| 29.6 | 1.38043 | 1.1268 | 304.1 | 269.9 | 18.07 |
| 29.7 | 1.38061 | 1.1273 | 305.3 | 270.8 | 18.14 |
| 29.8 | 1.38079 | 1.1278 | 306.5 | 271.8 | 18.22 |
| 29.9 | 1.38097 | 1.1283 | 307.7 | 272.7 | 18.29 |

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20°C | Mass Density at 20°C | Sugars In g/l | Sugars In g/Kg | ABV % vol At 20°C |
|---|---|---|---|---|---|
| 25.0 | 1.37233 | 1.1047 | 249.5 | 225.8 | 14.83 |
| 25.1 | 1.37250 | 1.1052 | 250.6 | 226.8 | 14.89 |
| 25.2 | 1.37267 | 1.1057 | 251.8 | 227.7 | 14.96 |
| 25.3 | 1.37285 | 1.1062 | 253.0 | 228.7 | 15.04 |
| 25.4 | 1.37302 | 1.1066 | 254.1 | 229.7 | 15.10 |
| 25.5 | 1.37319 | 1.1071 | 255.3 | 230.6 | 15.17 |
| 25.6 | 1.37337 | 1.1076 | 256.5 | 231.6 | 15.24 |
| 25.7 | 1.37354 | 1.1080 | 257.7 | 232.5 | 15.32 |
| 25.8 | 1.37372 | 1.1085 | 258.8 | 233.5 | 15.38 |
| 25.9 | 1.37389 | 1.1090 | 260.0 | 234.5 | 15.45 |
| 26.0 | 1.37407 | 1.1095 | 261.2 | 235.4 | 15.52 |
| 26.1 | 1.37424 | 1.1099 | 262.4 | 236.4 | 15.59 |
| 26.2 | 1.37441 | 1.1104 | 263.6 | 237.3 | 15.67 |
| 26.3 | 1.37459 | 1.1109 | 264.7 | 238.3 | 15.73 |
| 26.4 | 1.37476 | 1.1114 | 265.9 | 239.3 | 15.80 |
| 26.5 | 1.37494 | 1.1118 | 267.1 | 240.2 | 15.87 |
| 26.6 | 1.37511 | 1.1123 | 268.3 | 241.2 | 15.95 |
| 26.7 | 1.37529 | 1.1128 | 269.5 | 242.1 | 16.02 |
| 26.8 | 1.37546 | 1.1133 | 270.6 | 243.1 | 16.08 |
| 26.9 | 1.37564 | 1.1138 | 271.8 | 244.1 | 16.15 |
| 27.0 | 1.37582 | 1.1142 | 273.0 | 245.0 | 16.22 |
| 27.1 | 1.37599 | 1.1147 | 274.2 | 246.0 | 16.30 |
| 27.2 | 1.37617 | 1.1152 | 275.4 | 246.9 | 16.37 |
| 27.3 | 1.37634 | 1.1157 | 276.6 | 247.9 | 16.44 |
| 27.4 | 1.37652 | 1.1161 | 277.8 | 248.9 | 16.51 |
| 27.5 | 1.37670 | 1.1166 | 278.9 | 249.8 | 16.58 |
| 27.6 | 1.37687 | 1.1171 | 280.1 | 250.8 | 16.65 |
| 27.7 | 1.37705 | 1.1176 | 281.3 | 251.7 | 16.72 |
| 27.8 | 1.37723 | 1.1181 | 282.5 | 252.7 | 16.79 |
| 27.9 | 1.37740 | 1.1185 | 283.7 | 253.6 | 16.86 |
| 28.0 | 1.37758 | 1.1190 | 284.9 | 254.6 | 16.93 |
| 28.1 | 1.37776 | 1.1195 | 286.1 | 255.5 | 17.00 |
| 28.2 | 1.37793 | 1.1200 | 287.3 | 256.5 | 17.07 |
| 28.3 | 1.37811 | 1.1205 | 288.5 | 257.5 | 17.15 |
| 28.4 | 1.37829 | 1.1210 | 289.7 | 258.4 | 17.22 |
| 28.5 | 1.37847 | 1.1214 | 290.9 | 259.4 | 17.29 |
| 28.6 | 1.37864 | 1.1219 | 292.1 | 260.3 | 17.36 |
| 28.7 | 1.37882 | 1.1224 | 293.3 | 261.3 | 17.43 |
| 28.8 | 1.37900 | 1.1229 | 294.5 | 262.2 | 17.50 |
| 28.9 | 1.37918 | 1.1234 | 295.7 | 263.2 | 17.57 |
| 29.0 | 1.37936 | 1.1239 | 296.9 | 264.2 | 17.64 |
| 29.1 | 1.37954 | 1.1244 | 298.1 | 265.1 | 17.72 |
| 29.2 | 1.37972 | 1.1248 | 299.3 | 266.1 | 17.79 |
| 29.3 | 1.37989 | 1.1253 | 300.5 | 267.0 | 17.86 |
| 29.4 | 1.38007 | 1.1258 | 301.7 | 268.0 | 17.93 |
| 29.5 | 1.38025 | 1.1263 | 302.9 | 268.9 | 18.00 |
| 29.6 | 1.38043 | 1.1268 | 304.1 | 269.9 | 18.07 |
| 29.7 | 1.38061 | 1.1273 | 305.3 | 270.8 | 18.14 |
| 29.8 | 1.38079 | 1.1278 | 306.5 | 271.8 | 18.22 |
| 29.9 | 1.38097 | 1.1283 | 307.7 | 272.7 | 18.29 |

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 30.0 | 1.38115 | 1.1287 | 308.9 | 273.7 | 18.36 |
| 30.1 | 1.38133 | 1.1292 | 310.1 | 274.6 | 18.43 |
| 30.2 | 1.38151 | 1.1297 | 311.3 | 275.6 | 18.50 |
| 30.3 | 1.38169 | 1.1302 | 312.6 | 276.5 | 18.58 |
| 30.4 | 1.38187 | 1.1307 | 313.8 | 277.5 | 18.65 |
| 30.5 | 1.38205 | 1.1312 | 315.0 | 278.5 | 18.72 |
| 30.6 | 1.38223 | 1.1317 | 316.2 | 279.4 | 18.79 |
| 30.7 | 1.38241 | 1.1322 | 317.4 | 280.4 | 18.86 |
| 30.8 | 1.38259 | 1.1327 | 318.6 | 281.3 | 18.93 |
| 30.9 | 1.38277 | 1.1332 | 319.8 | 282.3 | 19.01 |
| 31.0 | 1.38296 | 1.1337 | 321.1 | 283.2 | 19.08 |
| 31.1 | 1.38314 | 1.1342 | 322.3 | 284.2 | 19.15 |
| 31.2 | 1.38332 | 1.1346 | 323.5 | 285.1 | 19.23 |
| 31.3 | 1.38350 | 1.1351 | 324.7 | 286.1 | 19.30 |
| 31.4 | 1.38368 | 1.1356 | 325.9 | 287.0 | 19.37 |
| 31.5 | 1.38386 | 1.1361 | 327.2 | 288.0 | 19.45 |
| 31.6 | 1.38405 | 1.1366 | 328.4 | 288.9 | 19.52 |
| 31.7 | 1.38423 | 1.1371 | 329.6 | 289.9 | 19.59 |
| 31.8 | 1.38441 | 1.1376 | 330.8 | 290.8 | 19.66 |
| 31.9 | 1.38459 | 1.1381 | 332.1 | 291.8 | 19.74 |
| 32.0 | 1.38478 | 1.1386 | 333.3 | 292.7 | 19.81 |
| 32.1 | 1.38496 | 1.1391 | 334.5 | 293.7 | 19.88 |
| 32.2 | 1.38514 | 1.1396 | 335.7 | 294.6 | 19.95 |
| 32.3 | 1.38532 | 1.1401 | 337.0 | 295.6 | 20.03 |
| 32.4 | 1.38551 | 1.1406 | 338.2 | 296.5 | 20.10 |
| 32.5 | 1.38569 | 1.1411 | 339.4 | 297.5 | 20.17 |
| 32.6 | 1.38587 | 1.1416 | 340.7 | 298.4 | 20.25 |
| 32.7 | 1.38606 | 1.1421 | 341.9 | 299.4 | 20.32 |
| 32.8 | 1.38624 | 1.1426 | 343.1 | 300.3 | 20.39 |
| 32.9 | 1.38643 | 1.1431 | 344.4 | 301.3 | 20.47 |
| 33.0 | 1.38661 | 1.1436 | 345.6 | 302.2 | 20.54 |
| 33.1 | 1.38679 | 1.1441 | 346.8 | 303.2 | 20.61 |
| 33.2 | 1.38698 | 1.1446 | 348.1 | 304.1 | 20.69 |
| 33.3 | 1.38716 | 1.1451 | 349.3 | 305.0 | 20.76 |
| 33.4 | 1.38735 | 1.1456 | 350.6 | 306.0 | 20.84 |
| 33.5 | 1.38753 | 1.1461 | 351.8 | 306.9 | 20.91 |
| 33.6 | 1.38772 | 1.1466 | 353.0 | 307.9 | 20.98 |
| 33.7 | 1.38790 | 1.1471 | 354.3 | 308.8 | 21.06 |
| 33.8 | 1.38809 | 1.1476 | 355.5 | 309.8 | 21.13 |
| 33.9 | 1.38827 | 1.1481 | 356.8 | 310.7 | 21.20 |
| 34.0 | 1.38846 | 1.1486 | 358.0 | 311.7 | 21.28 |
| 34.1 | 1.38864 | 1.1491 | 359.2 | 312.6 | 21.35 |
| 34.2 | 1.38883 | 1.1496 | 360.5 | 313.6 | 21.42 |
| 34.3 | 1.38902 | 1.1501 | 361.7 | 314.5 | 21.50 |
| 34.4 | 1.38920 | 1.1507 | 363.0 | 315.5 | 21.57 |
| 34.5 | 1.38939 | 1.1512 | 364.2 | 316.4 | 21.64 |
| 34.6 | 1.38958 | 1.1517 | 365.5 | 317.4 | 21.72 |
| 34.7 | 1.38976 | 1.1522 | 366.7 | 318.3 | 21.79 |
| 34.8 | 1.38995 | 1.1527 | 368.0 | 319.2 | 21.87 |
| 34.9 | 1.39014 | 1.1532 | 369.2 | 320.2 | 21.94 |

TABLE II - (continued)

| Saccharose<br>% (m/m) | Refractive Index<br>at 20 °C | Mass<br>Density at 20 °C | Sugars in<br>g/l | Sugars in<br>g/kg | ABV % vol at 20 °C<br>at 20 °C |
|---|---|---|---|---|---|
| 35.0 | 1.39032 | 1.1537 | 370.5 | 321.1 | 22.02 |
| 35.1 | 1.39051 | 1.1542 | 371.8 | 322.1 | 22.10 |
| 35.2 | 1.39070 | 1.1547 | 373.0 | 323.0 | 22.17 |
| 35.3 | 1.39088 | 1.1552 | 374.3 | 324.0 | 22.24 |
| 35.4 | 1.39107 | 1.1557 | 375.5 | 324.9 | 22.32 |
| 35.5 | 1.39126 | 1.1563 | 376.8 | 325.9 | 22.39 |
| 35.6 | 1.39145 | 1.1568 | 378.0 | 326.8 | 22.46 |
| 35.7 | 1.39164 | 1.1573 | 379.3 | 327.8 | 22.54 |
| 35.8 | 1.39182 | 1.1578 | 380.6 | 328.7 | 22.62 |
| 35.9 | 1.39201 | 1.1583 | 381.8 | 329.6 | 22.69 |
| 36.0 | 1.39220 | 1.1588 | 383.1 | 330.6 | 22.77 |
| 36.1 | 1.39239 | 1.1593 | 384.4 | 331.5 | 22.84 |
| 36.2 | 1.39258 | 1.1598 | 385.6 | 332.5 | 22.92 |
| 36.3 | 1.39277 | 1.1603 | 386.9 | 333.4 | 22.99 |
| 36.4 | 1.39296 | 1.1609 | 388.1 | 334.4 | 23.06 |
| 36.5 | 1.39314 | 1.1614 | 389.4 | 335.3 | 23.14 |

| | | | | | |
|---|---|---|---|---|---|
| 36.6 | 1.39333 | 1.1619 | 390.7 | 336.3 | 23.22 |
| 36.7 | 1.39352 | 1.1624 | 392.0 | 337.2 | 23.30 |
| 36.8 | 1.39371 | 1.1629 | 393.2 | 338.1 | 23.37 |
| 36.9 | 1.39390 | 1.1634 | 394.5 | 339.1 | 23.45 |
| 37.0 | 1.39409 | 1.1640 | 395.8 | 340.0 | 23.52 |
| 37.1 | 1.39428 | 1.1645 | 397.0 | 341.0 | 23.59 |
| 37.2 | 1.39447 | 1.1650 | 398.3 | 341.9 | 23.67 |
| 37.3 | 1.39466 | 1.1655 | 399.6 | 342.9 | 23.75 |
| 37.4 | 1.39485 | 1.1660 | 400.9 | 343.8 | 23.83 |
| 37.5 | 1.39504 | 1.1665 | 402.1 | 344.7 | 23.90 |
| 37.6 | 1.39524 | 1.1671 | 403.4 | 345.7 | 23.97 |
| 37.7 | 1.39543 | 1.1676 | 404.7 | 346.6 | 24.05 |
| 37.8 | 1.39562 | 1.1681 | 406.0 | 347.6 | 24.13 |
| 37.9 | 1.39581 | 1.1686 | 407.3 | 348.5 | 24.21 |
| 38.0 | 1.39600 | 1.1691 | 408.6 | 349.4 | 24.28 |
| 38.1 | 1.39619 | 1.1697 | 409.8 | 350.4 | 24.35 |
| 38.2 | 1.39638 | 1.1702 | 411.1 | 351.3 | 24.43 |
| 38.3 | 1.39658 | 1.1707 | 412.4 | 352.3 | 24.51 |
| 38.4 | 1.39677 | 1.1712 | 413.7 | 353.2 | 24.59 |
| 38.5 | 1.39696 | 1.1717 | 415.0 | 354.2 | 24.66 |
| 38.6 | 1.39715 | 1.1723 | 416.3 | 355.1 | 24.74 |

| | | | | | |
|---|---|---|---|---|---|
| 38.7 | 1.39734 | 1.1728 | 417.6 | 356.0 | 24.82 |
| 38.8 | 1.39754 | 1.1733 | 418.8 | 357.0 | 24.89 |
| 38.9 | 1.39773 | 1.1738 | 420.1 | 357.9 | 24.97 |
| 39.0 | 1.39792 | 1.1744 | 421.4 | 358.9 | 25.04 |
| 39.1 | 1.39812 | 1.1749 | 422.7 | 359.8 | 25.12 |
| 39.2 | 1.39831 | 1.1754 | 424.0 | 360.7 | 25.20 |
| 39.3 | 1.39850 | 1.1759 | 425.3 | 361.7 | 25.28 |
| 39.4 | 1.39870 | 1.1765 | 426.6 | 362.6 | 25.35 |
| 39.5 | 1.39889 | 1.1770 | 427.9 | 363.6 | 25.43 |
| 39.6 | 1.39908 | 1.1775 | 429.2 | 364.5 | 25.51 |
| 39.7 | 1.39928 | 1.1780 | 430.5 | 365.4 | 25.58 |
| 39.8 | 1.39947 | 1.1786 | 431.8 | 366.4 | 25.66 |
| 39.9 | 1.39967 | 1.1791 | 433.1 | 367.3 | 25.74 |

TABLE II - (continued)

| Saccharose<br>% (m/m) | Refractive Index<br>at 20 °C | Mass<br>Density at 20 °C | Sugars in<br>g/l | Sugars in<br>g/kg | ABV % vol at 20 °C<br>at 20 °C |
|---|---|---|---|---|---|
| 40.0 | 1.39986 | 1.1796 | 434.4 | 368.3 | 25.82 |
| 40.1 | 1.40006 | 1.1801 | 435.7 | 369.2 | 25.89 |
| 40.2 | 1.40025 | 1.1807 | 437.0 | 370.1 | 25.97 |
| 40.3 | 1.40044 | 1.1812 | 438.3 | 371.1 | 26.05 |
| 40.4 | 1.40064 | 1.1817 | 439.6 | 372.0 | 26.13 |
| 40.5 | 1.40083 | 1.1823 | 440.9 | 373.0 | 26.20 |
| 40.6 | 1.40103 | 1.1828 | 442.2 | 373.9 | 26.28 |
| 40.7 | 1.40123 | 1.1833 | 443.6 | 374.8 | 26.36 |
| 40.8 | 1.40142 | 1.1839 | 444.9 | 375.8 | 26.44 |
| 40.9 | 1.40162 | 1.1844 | 446.2 | 376.7 | 26.52 |
| 41.0 | 1.40181 | 1.1849 | 447.5 | 377.7 | 26.59 |
| 41.1 | 1.40201 | 1.1855 | 448.8 | 378.6 | 26.67 |
| 41.2 | 1.40221 | 1.1860 | 450.1 | 379.5 | 26.75 |
| 41.3 | 1.40240 | 1.1865 | 451.4 | 380.5 | 26.83 |
| 41.4 | 1.40260 | 1.1871 | 452.8 | 381.4 | 26.91 |
| 41.5 | 1.40280 | 1.1876 | 454.1 | 382.3 | 26.99 |
| 41.6 | 1.40299 | 1.1881 | 455.4 | 383.3 | 27.06 |

| | | | | | |
|---|---|---|---|---|---|
| 41.7 | 1.40319 | 1.1887 | 456.7 | 384.2 | 27.14 |
| 41.8 | 1.40339 | 1.1892 | 458.0 | 385.2 | 27.22 |
| 41.9 | 1.40358 | 1.1897 | 459.4 | 386.1 | 27.30 |
| 42.0 | 1.40378 | 1.1903 | 460.7 | 387.0 | 27.38 |
| 42.1 | 1.40398 | 1.1908 | 462.0 | 388.0 | 27.46 |
| 42.2 | 1.40418 | 1.1913 | 463.3 | 388.9 | 27.53 |
| 42.3 | 1.40437 | 1.1919 | 464.7 | 389.9 | 27.62 |
| 42.4 | 1.40457 | 1.1924 | 466.0 | 390.8 | 27.69 |
| 42.5 | 1.40477 | 1.1929 | 467.3 | 391.7 | 27.77 |
| 42.6 | 1.40497 | 1.1935 | 468.6 | 392.7 | 27.85 |
| 42.7 | 1.40517 | 1.1940 | 470.0 | 393.6 | 27.93 |
| 42.8 | 1.40537 | 1.1946 | 471.3 | 394.5 | 28.01 |
| 42.9 | 1.40557 | 1.1951 | 472.6 | 395.5 | 28.09 |
| 43.0 | 1.40576 | 1.1956 | 474.0 | 396.4 | 28.17 |
| 43.1 | 1.40596 | 1.1962 | 475.3 | 397.3 | 28.25 |
| 43.2 | 1.40616 | 1.1967 | 476.6 | 398.3 | 28.32 |
| 43.3 | 1.40636 | 1.1973 | 478.0 | 399.2 | 28.41 |
| 43.4 | 1.40656 | 1.1978 | 479.3 | 400.2 | 28.48 |
| 43.5 | 1.40676 | 1.1983 | 480.7 | 401.1 | 28.57 |
| 43.6 | 1.40696 | 1.1989 | 482.0 | 402.0 | 28.65 |
| 43.7 | 1.40716 | 1.1994 | 483.3 | 403.0 | 28.72 |

| | | | | | |
|---|---|---|---|---|---|
| 43.8 | 1.40736 | 1.2000 | 484.7 | 403.9 | 28.81 |
| 43.9 | 1.40756 | 1.2005 | 486.0 | 404.8 | 28.88 |
| 44.0 | 1.40776 | 1.2011 | 487.4 | 405.8 | 28.97 |
| 44.1 | 1.40796 | 1.2016 | 488.7 | 406.7 | 29.04 |
| 44.2 | 1.40817 | 1.2022 | 490.1 | 407.6 | 29.13 |
| 44.3 | 1.40837 | 1.2027 | 491.4 | 408.6 | 29.20 |
| 44.4 | 1.40857 | 1.2032 | 492.8 | 409.5 | 29.29 |
| 44.5 | 1.40877 | 1.2038 | 494.1 | 410.4 | 29.36 |
| 44.6 | 1.40897 | 1.2043 | 495.5 | 411.4 | 29.45 |
| 44.7 | 1.40917 | 1.2049 | 496.8 | 412.3 | 29.52 |
| 44.8 | 1.40937 | 1.2054 | 498.2 | 413.3 | 29.61 |
| 44.9 | 1.40958 | 1.2060 | 499.5 | 414.2 | 29.69 |

TABLE II (continued)

| Saccharose | Refractive Index | Mass | Sugars in | Sugars in | ABV % vol at 20 °C |
|---|---|---|---|---|---|

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 45.0 | 1.40978 | 1.2065 | 500.9 | 415.1 | 29.77 |
| 45.1 | 1.40998 | 1.2071 | 502.2 | 416.1 | 29.85 |
| 45.2 | 1.41018 | 1.2076 | 503.6 | 417.0 | 29.93 |
| 45.3 | 1.41039 | 1.2082 | 504.9 | 417.9 | 30.01 |
| 45.4 | 1.41059 | 1.2087 | 506.3 | 418.9 | 30.09 |
| 45.5 | 1.41079 | 1.2093 | 507.7 | 419.8 | 30.17 |
| 45.6 | 1.41099 | 1.2098 | 509.0 | 420.7 | 30.25 |
| 45.7 | 1.41120 | 1.2104 | 510.4 | 421.7 | 30.33 |
| 45.8 | 1.41140 | 1.2109 | 511.7 | 422.6 | 30.41 |
| 45.9 | 1.41160 | 1.2115 | 513.1 | 423.5 | 30.49 |
| 46.0 | 1.41181 | 1.2120 | 514.5 | 424.5 | 30.58 |
| 46.1 | 1.41201 | 1.2126 | 515.8 | 425.4 | 30.65 |
| 46.2 | 1.41222 | 1.2131 | 517.2 | 426.3 | 30.74 |
| 46.3 | 1.41242 | 1.2137 | 518.6 | 427.3 | 30.82 |
| 46.4 | 1.41262 | 1.2142 | 519.9 | 428.2 | 30.90 |
| 46.5 | 1.41283 | 1.2148 | 521.3 | 429.1 | 30.98 |
| 46.6 | 1.41303 | 1.2154 | 522.7 | 430.1 | 31.06 |
| 46.7 | 1.41324 | 1.2159 | 524.1 | 431.0 | 31.15 |
| 46.8 | 1.41344 | 1.2165 | 525.4 | 431.9 | 31.22 |
| 46.9 | 1.41365 | 1.2170 | 526.8 | 432.9 | 31.31 |
| 47.0 | 1.41385 | 1.2176 | 528.2 | 433.8 | 31.39 |
| 47.1 | 1.41406 | 1.2181 | 529.6 | 434.7 | 31.47 |
| 47.2 | 1.41427 | 1.2187 | 530.9 | 435.7 | 31.55 |
| 47.3 | 1.41447 | 1.2192 | 532.3 | 436.6 | 31.63 |
| 47.4 | 1.41468 | 1.2198 | 533.7 | 437.5 | 31.72 |
| 47.5 | 1.41488 | 1.2204 | 535.1 | 438.5 | 31.80 |
| 47.6 | 1.41509 | 1.2209 | 536.5 | 439.4 | 31.88 |
| 47.7 | 1.41530 | 1.2215 | 537.9 | 440.3 | 31.97 |
| 47.8 | 1.41550 | 1.2220 | 539.2 | 441.3 | 32.04 |
| 47.9 | 1.41571 | 1.2226 | 540.6 | 442.2 | 32.13 |
| 48.0 | 1.41592 | 1.2232 | 542.0 | 443.1 | 32.21 |
| 48.1 | 1.41612 | 1.2237 | 543.4 | 444.1 | 32.29 |
| 48.2 | 1.41633 | 1.2243 | 544.8 | 445.0 | 32.38 |
| 48.3 | 1.41654 | 1.2248 | 546.2 | 445.9 | 32.46 |
| 48.4 | 1.41674 | 1.2254 | 547.6 | 446.8 | 32.54 |
| 48.5 | 1.41695 | 1.2260 | 549.0 | 447.8 | 32.63 |
| 48.6 | 1.41716 | 1.2265 | 550.4 | 448.7 | 32.71 |
| 48.7 | 1.41737 | 1.2271 | 551.8 | 449.6 | 32.79 |
| 48.8 | 1.41758 | 1.2277 | 553.2 | 450.6 | 32.88 |
| 48.9 | 1.41779 | 1.2282 | 554.6 | 451.5 | 32.96 |
| 49.0 | 1.41799 | 1.2288 | 556.0 | 452.4 | 33.04 |
| 49.1 | 1.41820 | 1.2294 | 557.4 | 453.4 | 33.13 |
| 49.2 | 1.41841 | 1.2299 | 558.8 | 454.3 | 33.21 |
| 49.3 | 1.41862 | 1.2305 | 560.2 | 455.2 | 33.29 |
| 49.4 | 1.41883 | 1.2311 | 561.6 | 456.2 | 33.38 |
| 49.5 | 1.41904 | 1.2316 | 563.0 | 457.1 | 33.46 |
| 49.6 | 1.41925 | 1.2322 | 564.4 | 458.0 | 33.54 |
| 49.7 | 1.41946 | 1.2328 | 565.8 | 458.9 | 33.63 |
| 49.8 | 1.41967 | 1.2333 | 567.2 | 459.9 | 33.71 |
| 49.9 | 1.41988 | 1.2339 | 568.6 | 460.8 | 33.79 |

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 50.0 | 1.42009 | 1.2345 | 570.0 | 461.7 | 33.88 |
| 50.1 | 1.42030 | 1.2350 | 571.4 | 462.7 | 33.96 |
| 50.2 | 1.42051 | 1.2356 | 572.8 | 463.6 | 34.04 |
| 50.3 | 1.42072 | 1.2362 | 574.2 | 464.5 | 34.12 |
| 50.4 | 1.42093 | 1.2368 | 575.6 | 465.4 | 34.21 |
| 50.5 | 1.42114 | 1.2373 | 577.1 | 466.4 | 34.30 |
| 50.6 | 1.42135 | 1.2379 | 578.5 | 467.3 | 34.38 |
| 50.7 | 1.42156 | 1.2385 | 579.9 | 468.2 | 34.46 |
| 50.8 | 1.42177 | 1.2390 | 581.3 | 469.2 | 34.55 |
| 50.9 | 1.42199 | 1.2396 | 582.7 | 470.1 | 34.63 |
| 51.0 | 1.42220 | 1.2402 | 584.2 | 471.0 | 34.72 |
| 51.1 | 1.42241 | 1.2408 | 585.6 | 471.9 | 34.80 |
| 51.2 | 1.42262 | 1.2413 | 587.0 | 472.9 | 34.89 |
| 51.3 | 1.42283 | 1.2419 | 588.4 | 473.8 | 34.97 |
| 51.4 | 1.42305 | 1.2425 | 589.9 | 474.7 | 35.06 |
| 51.5 | 1.42326 | 1.2431 | 591.3 | 475.7 | 35.14 |
| 51.6 | 1.42347 | 1.2436 | 592.7 | 476.6 | 35.22 |
| 51.7 | 1.42368 | 1.2442 | 594.1 | 477.5 | 35.31 |
| 51.8 | 1.42390 | 1.2448 | 595.6 | 478.4 | 35.40 |
| 51.9 | 1.42411 | 1.2454 | 597.0 | 479.4 | 35.48 |
| 52.0 | 1.42432 | 1.2460 | 598.4 | 480.3 | 35.56 |
| 52.1 | 1.42454 | 1.2465 | 599.9 | 481.2 | 35.65 |
| 52.2 | 1.42475 | 1.2471 | 601.3 | 482.1 | 35.74 |
| 52.3 | 1.42496 | 1.2477 | 602.7 | 483.1 | 35.82 |
| 52.4 | 1.42518 | 1.2483 | 604.2 | 484.0 | 35.91 |
| 52.5 | 1.42539 | 1.2488 | 605.6 | 484.9 | 35.99 |
| 52.6 | 1.42561 | 1.2494 | 607.0 | 485.8 | 36.07 |
| 52.7 | 1.42582 | 1.2500 | 608.5 | 486.8 | 36.16 |
| 52.8 | 1.42604 | 1.2506 | 609.9 | 487.7 | 36.25 |
| 52.9 | 1.42625 | 1.2512 | 611.4 | 488.6 | 36.34 |
| 53.0 | 1.42647 | 1.2518 | 612.8 | 489.5 | 36.42 |
| 53.1 | 1.42668 | 1.2523 | 614.2 | 490.5 | 36.50 |
| 53.2 | 1.42690 | 1.2529 | 615.7 | 491.4 | 36.59 |
| 53.3 | 1.42711 | 1.2535 | 617.1 | 492.3 | 36.67 |
| 53.4 | 1.42733 | 1.2541 | 618.6 | 493.2 | 36.76 |
| 53.5 | 1.42754 | 1.2547 | 620.0 | 494.2 | 36.85 |
| 53.6 | 1.42776 | 1.2553 | 621.5 | 495.1 | 36.94 |
| 53.7 | 1.42798 | 1.2558 | 622.9 | 496.0 | 37.02 |
| 53.8 | 1.42819 | 1.2564 | 624.4 | 496.9 | 37.11 |
| 53.9 | 1.42841 | 1.2570 | 625.8 | 497.9 | 37.19 |
| 54.0 | 1.42863 | 1.2576 | 627.3 | 498.8 | 37.28 |
| 54.1 | 1.42884 | 1.2582 | 628.7 | 499.7 | 37.36 |
| 54.2 | 1.42906 | 1.2588 | 630.2 | 500.6 | 37.45 |
| 54.3 | 1.42928 | 1.2594 | 631.7 | 501.6 | 37.54 |
| 54.4 | 1.42949 | 1.2600 | 633.1 | 502.5 | 37.63 |
| 54.5 | 1.42971 | 1.2606 | 634.6 | 503.4 | 37.71 |
| 54.6 | 1.42993 | 1.2611 | 636.0 | 504.3 | 37.80 |
| 54.7 | 1.43015 | 1.2617 | 637.5 | 505.2 | 37.89 |
| 54.8 | 1.43036 | 1.2623 | 639.0 | 506.2 | 37.98 |
| 54.9 | 1.43058 | 1.2629 | 640.4 | 507.1 | 38.06 |

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 55.0 | 1.43080 | 1.2635 | 641.9 | 508.0 | 38.15 |
| 55.1 | 1.43102 | 1.2641 | 643.4 | 508.9 | 38.24 |
| 55.2 | 1.43124 | 1.2647 | 644.8 | 509.9 | 38.32 |
| 55.3 | 1.43146 | 1.2653 | 646.3 | 510.8 | 38.41 |
| 55.4 | 1.43168 | 1.2659 | 647.8 | 511.7 | 38.50 |
| 55.5 | 1.43189 | 1.2665 | 649.2 | 512.6 | 38.58 |
| 55.6 | 1.43211 | 1.2671 | 650.7 | 513.5 | 38.67 |
| 55.7 | 1.43233 | 1.2677 | 652.2 | 514.5 | 38.76 |
| 55.8 | 1.43255 | 1.2683 | 653.7 | 515.4 | 38.85 |
| 55.9 | 1.43277 | 1.2689 | 655.1 | 516.3 | 38.93 |
| 56.0 | 1.43299 | 1.2695 | 656.6 | 517.2 | 39.02 |
| 56.1 | 1.43321 | 1.2701 | 658.1 | 518.1 | 39.11 |
| 56.2 | 1.43343 | 1.2706 | 659.6 | 519.1 | 39.20 |
| 56.3 | 1.43365 | 1.2712 | 661.0 | 520.0 | 39.28 |
| 56.4 | 1.43387 | 1.2718 | 662.5 | 520.9 | 39.37 |
| 56.5 | 1.43410 | 1.2724 | 664.0 | 521.8 | 39.46 |
| 56.6 | 1.43432 | 1.2730 | 665.5 | 522.7 | 39.55 |
| 56.7 | 1.43454 | 1.2736 | 667.0 | 523.7 | 39.64 |
| 56.8 | 1.43476 | 1.2742 | 668.5 | 524.6 | 39.73 |
| 56.9 | 1.43498 | 1.2748 | 669.9 | 525.5 | 39.81 |
| 57.0 | 1.43520 | 1.2754 | 671.4 | 526.4 | 39.90 |
| 57.1 | 1.43542 | 1.2760 | 672.9 | 527.3 | 39.99 |
| 57.2 | 1.43565 | 1.2766 | 674.4 | 528.3 | 40.08 |
| 57.3 | 1.43587 | 1.2773 | 675.9 | 529.2 | 40.17 |
| 57.4 | 1.43609 | 1.2779 | 677.4 | 530.1 | 40.26 |
| 57.5 | 1.43631 | 1.2785 | 678.9 | 531.0 | 40.35 |
| 57.6 | 1.43653 | 1.2791 | 680.4 | 531.9 | 40.44 |
| 57.7 | 1.43676 | 1.2797 | 681.9 | 532.8 | 40.53 |
| 57.8 | 1.43698 | 1.2803 | 683.4 | 533.8 | 40.61 |
| 57.9 | 1.43720 | 1.2809 | 684.9 | 534.7 | 40.70 |
| 58.0 | 1.43743 | 1.2815 | 686.4 | 535.6 | 40.79 |
| 58.1 | 1.43765 | 1.2821 | 687.9 | 536.5 | 40.88 |
| 58.2 | 1.43787 | 1.2827 | 689.4 | 537.4 | 40.97 |
| 58.3 | 1.43810 | 1.2833 | 690.9 | 538.3 | 41.06 |
| 58.4 | 1.43832 | 1.2839 | 692.4 | 539.3 | 41.15 |
| 58.5 | 1.43855 | 1.2845 | 693.9 | 540.2 | 41.24 |
| 58.6 | 1.43877 | 1.2851 | 695.4 | 541.1 | 41.33 |
| 58.7 | 1.43899 | 1.2857 | 696.9 | 542.0 | 41.42 |
| 58.8 | 1.43922 | 1.2863 | 698.4 | 542.9 | 41.51 |
| 58.9 | 1.43944 | 1.2870 | 699.9 | 543.8 | 41.60 |
| 59.0 | 1.43967 | 1.2876 | 701.4 | 544.8 | 41.68 |
| 59.1 | 1.43989 | 1.2882 | 702.9 | 545.7 | 41.77 |
| 59.2 | 1.44012 | 1.2888 | 704.4 | 546.6 | 41.86 |
| 59.3 | 1.44035 | 1.2894 | 706.0 | 547.5 | 41.96 |
| 59.4 | 1.44057 | 1.2900 | 707.5 | 548.4 | 42.05 |
| 59.5 | 1.44080 | 1.2906 | 709.0 | 549.3 | 42.14 |
| 59.6 | 1.44102 | 1.2912 | 710.5 | 550.2 | 42.23 |
| 59.7 | 1.44125 | 1.2919 | 712.0 | 551.1 | 42.31 |
| 59.8 | 1.44148 | 1.2925 | 713.5 | 552.1 | 42.40 |
| 59.9 | 1.44170 | 1.2931 | 715.1 | 553.0 | 42.50 |

TABLE II - (continued)

| Saccharose<br>% (m/m) | Refractive Index<br>at 20 °C | Mass<br>Density at 20 °C | Sugars in<br>g/l | Sugars in<br>g/kg | ABV % vol at 20 °C<br>at 20 °C |
|---|---|---|---|---|---|
| 60.0 | 1.44193 | 1.2937 | 716.6 | 553.9 | 42.59 |
| 60.1 | 1.44216 | 1.2943 | 718.1 | 554.8 | 42.68 |
| 60.2 | 1.44238 | 1.2949 | 719.6 | 555.7 | 42.77 |
| 60.3 | 1.44261 | 1.2956 | 721.1 | 556.6 | 42.85 |
| 60.4 | 1.44284 | 1.2962 | 722.7 | 557.5 | 42.95 |
| 60.5 | 1.44306 | 1.2968 | 724.2 | 558.4 | 43.04 |
| 60.6 | 1.44329 | 1.2974 | 725.7 | 559.4 | 43.13 |
| 60.7 | 1.44352 | 1.2980 | 727.3 | 560.3 | 43.22 |
| 60.8 | 1.44375 | 1.2986 | 728.8 | 561.2 | 43.31 |
| 60.9 | 1.44398 | 1.2993 | 730.3 | 562.1 | 43.40 |
| 61.0 | 1.44420 | 1.2999 | 731.8 | 563.0 | 43.49 |
| 61.1 | 1.44443 | 1.3005 | 733.4 | 563.9 | 43.59 |
| 61.2 | 1.44466 | 1.3011 | 734.9 | 564.8 | 43.68 |
| 61.3 | 1.44489 | 1.3017 | 736.4 | 565.7 | 43.76 |
| 61.4 | 1.44512 | 1.3024 | 738.0 | 566.6 | 43.86 |
| 61.5 | 1.44535 | 1.3030 | 739.5 | 567.6 | 43.95 |

| | | | | | |
|---|---|---|---|---|---|
| 61.6 | 1.44558 | 1.3036 | 741.1 | 568.5 | 44.04 |
| 61.7 | 1.44581 | 1.3042 | 742.6 | 569.4 | 44.13 |
| 61.8 | 1.44604 | 1.3049 | 744.1 | 570.3 | 44.22 |
| 61.9 | 1.44627 | 1.3055 | 745.7 | 571.2 | 44.32 |
| 62.0 | 1.44650 | 1.3061 | 747.2 | 572.1 | 44.41 |
| 62.1 | 1.44673 | 1.3067 | 748.8 | 573.0 | 44.50 |
| 62.2 | 1.44696 | 1.3074 | 750.3 | 573.9 | 44.59 |
| 62.3 | 1.44719 | 1.3080 | 751.9 | 574.8 | 44.69 |
| 62.4 | 1.44742 | 1.3086 | 753.4 | 575.7 | 44.77 |
| 62.5 | 1.44765 | 1.3092 | 755.0 | 576.6 | 44.87 |
| 62.6 | 1.44788 | 1.3099 | 756.5 | 577.5 | 44.96 |
| 62.7 | 1.44811 | 1.3105 | 758.1 | 578.5 | 45.05 |
| 62.8 | 1.44834 | 1.3111 | 759.6 | 579.4 | 45.14 |
| 62.9 | 1.44858 | 1.3118 | 761.2 | 580.3 | 45.24 |
| 63.0 | 1.44881 | 1.3124 | 762.7 | 581.2 | 45.33 |
| 63.1 | 1.44904 | 1.3130 | 764.3 | 582.1 | 45.42 |
| 63.2 | 1.44927 | 1.3137 | 765.8 | 583.0 | 45.51 |
| 63.3 | 1.44950 | 1.3143 | 767.4 | 583.9 | 45.61 |
| 63.4 | 1.44974 | 1.3149 | 769.0 | 584.8 | 45.70 |
| 63.5 | 1.44997 | 1.3155 | 770.5 | 585.7 | 45.79 |
| 63.6 | 1.45020 | 1.3162 | 772.1 | 586.6 | 45.89 |

| | | | | | |
|---|---|---|---|---|---|
| 63.7 | 1.45043 | 1.3168 | 773.6 | 587.5 | 45.98 |
| 63.8 | 1.45067 | 1.3174 | 775.2 | 588.4 | 46.07 |
| 63.9 | 1.45090 | 1.3181 | 776.8 | 589.3 | 46.17 |
| 64.0 | 1.45113 | 1.3187 | 778.3 | 590.2 | 46.25 |
| 64.1 | 1.45137 | 1.3193 | 779.9 | 591.1 | 46.35 |
| 64.2 | 1.45160 | 1.3200 | 781.5 | 592.0 | 46.44 |
| 64.3 | 1.45184 | 1.3206 | 783.0 | 592.9 | 46.53 |
| 64.4 | 1.45207 | 1.3213 | 784.6 | 593.8 | 46.63 |
| 64.5 | 1.45230 | 1.3219 | 786.2 | 594.7 | 46.72 |
| 64.6 | 1.45254 | 1.3225 | 787.8 | 595.6 | 46.82 |
| 64.7 | 1.45277 | 1.3232 | 789.3 | 596.5 | 46.91 |
| 64.8 | 1.45301 | 1.3238 | 790.9 | 597.4 | 47.00 |
| 64.9 | 1.45324 | 1.3244 | 792.5 | 598.3 | 47.10 |

## Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts (Type-I)

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 65.0 | 1.45348 | 1.3251 | 794.1 | 599.3 | 47.19 |
| 65.1 | 1.45371 | 1.3257 | 795.6 | 600.2 | 47.28 |
| 65.2 | 1.45395 | 1.3264 | 797.2 | 601.1 | 47.38 |
| 65.3 | 1.45418 | 1.3270 | 798.8 | 602.0 | 47.47 |
| 65.4 | 1.45442 | 1.3276 | 800.4 | 602.9 | 47.57 |
| 65.5 | 1.45466 | 1.3283 | 802.0 | 603.8 | 47.66 |
| 65.6 | 1.45489 | 1.3289 | 803.6 | 604.7 | 47.76 |
| 65.7 | 1.45513 | 1.3296 | 805.1 | 605.6 | 47.85 |
| 65.8 | 1.45537 | 1.3302 | 806.7 | 606.5 | 47.94 |
| 65.9 | 1.45560 | 1.3309 | 808.3 | 607.4 | 48.04 |
| 66.0 | 1.45584 | 1.3315 | 809.9 | 608.3 | 48.13 |
| 66.1 | 1.45608 | 1.3322 | 811.5 | 609.2 | 48.23 |
| 66.2 | 1.45631 | 1.3328 | 813.1 | 610.1 | 48.32 |
| 66.3 | 1.45655 | 1.3334 | 814.7 | 611.0 | 48.42 |
| 66.4 | 1.45679 | 1.3341 | 816.3 | 611.9 | 48.51 |
| 66.5 | 1.45703 | 1.3347 | 817.9 | 612.8 | 48.61 |
| 66.6 | 1.45726 | 1.3354 | 819.5 | 613.7 | 48.70 |
| 66.7 | 1.45750 | 1.3360 | 821.1 | 614.6 | 48.80 |
| 66.8 | 1.45774 | 1.3367 | 822.7 | 615.5 | 48.89 |
| 66.9 | 1.45798 | 1.3373 | 824.3 | 616.3 | 48.99 |
| 67.0 | 1.45822 | 1.3380 | 825.9 | 617.2 | 49.08 |
| 67.1 | 1.45846 | 1.3386 | 827.5 | 618.1 | 49.18 |
| 67.2 | 1.45870 | 1.3393 | 829.1 | 619.0 | 49.27 |
| 67.3 | 1.45893 | 1.3399 | 830.7 | 619.9 | 49.37 |
| 67.4 | 1.45917 | 1.3406 | 832.3 | 620.8 | 49.46 |
| 67.5 | 1.45941 | 1.3412 | 833.9 | 621.7 | 49.56 |
| 67.6 | 1.45965 | 1.3419 | 835.5 | 622.6 | 49.65 |
| 67.7 | 1.45989 | 1.3425 | 837.1 | 623.5 | 49.75 |
| 67.8 | 1.46013 | 1.3432 | 838.7 | 624.4 | 49.84 |
| 67.9 | 1.46037 | 1.3438 | 840.3 | 625.3 | 49.94 |
| 68.0 | 1.46061 | 1.3445 | 841.9 | 626.2 | 50.03 |
| 68.1 | 1.46085 | 1.3451 | 843.6 | 627.1 | 50.14 |
| 68.2 | 1.46109 | 1.3458 | 845.2 | 628.0 | 50.23 |
| 68.3 | 1.46134 | 1.3464 | 846.8 | 628.9 | 50.33 |
| 68.4 | 1.46158 | 1.3471 | 848.4 | 629.8 | 50.42 |
| 68.5 | 1.46182 | 1.3478 | 850.0 | 630.7 | 50.52 |
| 68.6 | 1.46206 | 1.3484 | 851.6 | 631.6 | 50.61 |
| 68.7 | 1.46230 | 1.3491 | 853.3 | 632.5 | 50.71 |
| 68.8 | 1.46254 | 1.3497 | 854.9 | 633.4 | 50.81 |
| 68.9 | 1.46278 | 1.3504 | 856.5 | 634.3 | 50.90 |
| 69.0 | 1.46303 | 1.3510 | 858.1 | 635.2 | 51.00 |
| 69.1 | 1.46327 | 1.3517 | 859.8 | 636.1 | 51.10 |
| 69.2 | 1.46351 | 1.3524 | 861.4 | 636.9 | 51.19 |
| 69.3 | 1.46375 | 1.3530 | 863.0 | 637.8 | 51.29 |
| 69.4 | 1.46400 | 1.3537 | 864.7 | 638.7 | 51.39 |
| 69.5 | 1.46424 | 1.3543 | 866.3 | 639.6 | 51.48 |
| 69.6 | 1.46448 | 1.3550 | 867.9 | 640.5 | 51.58 |
| 69.7 | 1.46473 | 1.3557 | 869.5 | 641.4 | 51.67 |
| 69.8 | 1.46497 | 1.3563 | 871.2 | 642.3 | 51.78 |
| 69.9 | 1.46521 | 1.3570 | 872.8 | 643.2 | 51.87 |

TABLE II - (continued)

| Saccharose<br>% (m/m) | Refractive Index<br>at 20 °C | Mass<br>Density at 20 °C | Sugars in<br>g/l | Sugars in<br>g/kg | ABV % vol at 20 °C<br>at 20 °C |
|---|---|---|---|---|---|
| 70.0 | 1.46546 | 1.3576 | 874.5 | 644.1 | 51.97 |
| 70.1 | 1.46570 | 1.3583 | 876.1 | 645.0 | 52.07 |
| 70.2 | 1.46594 | 1.3590 | 877.7 | 645.9 | 52.16 |
| 70.3 | 1.46619 | 1.3596 | 879.4 | 646.8 | 52.26 |
| 70.4 | 1.46643 | 1.3603 | 881.0 | 647.7 | 52.36 |
| 70.5 | 1.46668 | 1.3610 | 882.7 | 648.5 | 52.46 |
| 70.6 | 1.46692 | 1.3616 | 884.3 | 649.4 | 52.55 |
| 70.7 | 1.46717 | 1.3623 | 886.0 | 650.3 | 52.65 |
| 70.8 | 1.46741 | 1.3630 | 887.6 | 651.2 | 52.75 |
| 70.9 | 1.46766 | 1.3636 | 889.3 | 652.1 | 52.85 |
| 71.0 | 1.46790 | 1.3643 | 890.9 | 653.0 | 52.95 |
| 71.1 | 1.46815 | 1.3650 | 892.6 | 653.9 | 53.05 |
| 71.2 | 1.46840 | 1.3656 | 894.2 | 654.8 | 53.14 |
| 71.3 | 1.46864 | 1.3663 | 895.9 | 655.7 | 53.24 |
| 71.4 | 1.46889 | 1.3670 | 897.5 | 656.6 | 53.34 |
| 71.5 | 1.46913 | 1.3676 | 899.2 | 657.5 | 53.44 |
| 71.6 | 1.46938 | 1.3683 | 900.8 | 658.3 | 53.53 |

| | | | | | |
|---|---|---|---|---|---|
| 71.7 | 1.46963 | 1.3690 | 902.5 | 659.2 | 53.64 |
| 71.8 | 1.46987 | 1.3696 | 904.1 | 660.1 | 53.73 |
| 71.9 | 1.47012 | 1.3703 | 905.8 | 661.0 | 53.83 |
| 72.0 | 1.47037 | 1.3710 | 907.5 | 661.9 | 53.93 |
| 72.1 | 1.47062 | 1.3717 | 909.1 | 662.8 | 54.03 |
| 72.2 | 1.47086 | 1.3723 | 910.8 | 663.7 | 54.13 |
| 72.3 | 1.47111 | 1.3730 | 912.5 | 664.6 | 54.23 |
| 72.4 | 1.47136 | 1.3737 | 914.1 | 665.5 | 54.32 |
| 72.5 | 1.47161 | 1.3743 | 915.8 | 666.3 | 54.43 |
| 72.6 | 1.47186 | 1.3750 | 917.5 | 667.2 | 54.53 |
| 72.7 | 1.47210 | 1.3757 | 919.1 | 668.1 | 54.62 |
| 72.8 | 1.47235 | 1.3764 | 920.8 | 669.0 | 54.72 |
| 72.9 | 1.47260 | 1.3770 | 922.5 | 669.9 | 54.82 |
| 73.0 | 1.47285 | 1.3777 | 924.2 | 670.8 | 54.93 |
| 73.1 | 1.47310 | 1.3784 | 925.8 | 671.7 | 55.02 |
| 73.2 | 1.47335 | 1.3791 | 927.5 | 672.6 | 55.12 |
| 73.3 | 1.47360 | 1.3797 | 929.2 | 673.5 | 55.22 |
| 73.4 | 1.47385 | 1.3804 | 930.9 | 674.3 | 55.32 |
| 73.5 | 1.47410 | 1.3811 | 932.6 | 675.2 | 55.42 |
| 73.6 | 1.47435 | 1.3818 | 934.3 | 676.1 | 55.53 |
| 73.7 | 1.47460 | 1.3825 | 935.9 | 677.0 | 55.62 |

| | | | | | |
|---|---|---|---|---|---|
| 73.8 | 1.47485 | 1.3831 | 937.6 | 677.9 | 55.72 |
| 73.9 | 1.47510 | 1.3838 | 939.3 | 678.8 | 55.82 |
| 74.0 | 1.47535 | 1.3845 | 941.0 | 679.7 | 55.92 |
| 74.1 | 1.47560 | 1.3852 | 942.7 | 680.6 | 56.02 |
| 74.2 | 1.47585 | 1.3859 | 944.4 | 681.4 | 56.13 |
| 74.3 | 1.47610 | 1.3865 | 946.1 | 682.3 | 56.23 |
| 74.4 | 1.47635 | 1.3872 | 947.8 | 683.2 | 56.33 |
| 74.5 | 1.47661 | 1.3879 | 949.5 | 684.1 | 56.43 |
| 74.6 | 1.47686 | 1.3886 | 951.2 | 685.0 | 56.53 |
| 74.7 | 1.47711 | 1.3893 | 952.9 | 685.9 | 56.63 |
| 74.8 | 1.47736 | 1.3899 | 954.6 | 686.8 | 56.73 |
| 74.9 | 1.47761 | 1.3906 | 956.3 | 687.7 | 56.83 |

TABLE III: Table giving the sugar concentration in rectified concentrated must in grams per liter and grams per kilogram.
determined by means of a refractometer graduated
either in percentage by mass of sucrose at 20°C
or in refractive index at 20°C.

TABLE III

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 50.0 | 1.42008 | 1.2342 | 627.6 | 508.5 | 37.30 |
| 50.1 | 1.42029 | 1.2348 | 629.3 | 509.6 | 37.40 |
| 50.2 | 1.42050 | 1.2355 | 630.9 | 510.6 | 37.49 |

| | | | | | |
|---|---|---|---|---|---|
| 50.3 | 1.42071 | 1.2362 | 632.4 | 511.6 | 37.58 |
| 50.4 | 1.42092 | 1.2367 | 634.1 | 512.7 | 37.68 |
| 50.5 | 1.42113 | 1.2374 | 635.7 | 513.7 | 37.78 |
| 50.6 | 1.42135 | 1.2381 | 637.3 | 514.7 | 37.87 |
| 50.7 | 1.42156 | 1.2386 | 638.7 | 515.7 | 37.96 |
| 50.8 | 1.42177 | 1.2391 | 640.4 | 516.8 | 38.06 |
| 50.9 | 1.42198 | 1.2396 | 641.9 | 517.8 | 38.15 |
| 51.0 | 1.42219 | 1.2401 | 643.4 | 518.8 | 38.24 |
| 51.1 | 1.42240 | 1.2406 | 645.0 | 519.9 | 38.33 |
| 51.2 | 1.42261 | 1.2411 | 646.5 | 520.9 | 38.42 |
| 51.3 | 1.42282 | 1.2416 | 648.1 | 522.0 | 38.52 |
| 51.4 | 1.42304 | 1.2421 | 649.6 | 523.0 | 38.61 |
| 51.5 | 1.42325 | 1.2427 | 651.2 | 524.0 | 38.70 |
| 51.6 | 1.42347 | 1.2434 | 652.9 | 525.1 | 38.80 |
| 51.7 | 1.42368 | 1.2441 | 654.5 | 526.1 | 38.90 |
| 51.8 | 1.42389 | 1.2447 | 656.1 | 527.1 | 38.99 |
| 51.9 | 1.42410 | 1.2454 | 657.8 | 528.2 | 39.09 |
| 52.0 | 1.42432 | 1.2461 | 659.4 | 529.2 | 39.19 |
| 52.1 | 1.42453 | 1.2466 | 661.0 | 530.2 | 39.28 |
| 52.2 | 1.42475 | 1.2470 | 662.5 | 531.3 | 39.37 |
| 52.3 | 1.42496 | 1.2475 | 664.1 | 532.3 | 39.47 |

| | | | | | |
|---|---|---|---|---|---|
| 52.4 | 1.42517 | 1.2480 | 665.6 | 533.3 | 39.56 |
| 52.5 | 1.42538 | 1.2486 | 667.2 | 534.4 | 39.65 |
| 52.6 | 1.42560 | 1.2493 | 668.9 | 535.4 | 39.75 |
| 52.7 | 1.42581 | 1.2500 | 670.5 | 536.4 | 39.85 |
| 52.8 | 1.42603 | 1.2506 | 672.2 | 537.5 | 39.95 |
| 52.9 | 1.42624 | 1.2513 | 673.8 | 538.5 | 40.04 |
| 53.0 | 1.42645 | 1.2520 | 675.5 | 539.5 | 40.14 |
| 53.1 | 1.42667 | 1.2525 | 677.1 | 540.6 | 40.24 |
| 53.2 | 1.42689 | 1.2530 | 678.5 | 541.5 | 40.32 |
| 53.3 | 1.42711 | 1.2535 | 680.2 | 542.6 | 40.42 |
| 53.4 | 1.42733 | 1.2540 | 681.8 | 543.7 | 40.52 |
| 53.5 | 1.42754 | 1.2546 | 683.4 | 544.7 | 40.61 |
| 53.6 | 1.42776 | 1.2553 | 685.1 | 545.8 | 40.72 |
| 53.7 | 1.42797 | 1.2560 | 686.7 | 546.7 | 40.81 |
| 53.8 | 1.42819 | 1.2566 | 688.4 | 547.8 | 40.91 |
| 53.9 | 1.42840 | 1.2573 | 690.1 | 548.9 | 41.01 |
| 54.0 | 1.42861 | 1.2580 | 691.7 | 549.8 | 41.11 |
| 54.1 | 1.42884 | 1.2585 | 693.3 | 550.9 | 41.20 |
| 54.2 | 1.42906 | 1.2590 | 694.9 | 551.9 | 41.30 |
| 54.3 | 1.42927 | 1.2595 | 696.5 | 553.0 | 41.39 |
| 54.4 | 1.42949 | 1.2600 | 698.1 | 554.0 | 41.49 |

| | | | | | |
|---|---|---|---|---|---|
| 54.5 | 1.42971 | 1.2606 | 699.7 | 555.1 | 41.58 |
| 54.6 | 1.42993 | 1.2613 | 701.4 | 556.1 | 41.68 |
| 54.7 | 1.43014 | 1.2620 | 703.1 | 557.1 | 41.79 |
| 54.8 | 1.43036 | 1.2625 | 704.7 | 558.2 | 41.88 |
| 54.9 | 1.43058 | 1.2630 | 706.2 | 559.1 | 41.97 |

TABLE III (continued)

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 55.0 | 1.43079 | 1.2635 | 707.8 | 560.2 | 42.06 |
| 55.1 | 1.43102 | 1.2639 | 709.4 | 561.3 | 42.16 |
| 55.2 | 1.43124 | 1.2645 | 711.0 | 562.3 | 42.25 |
| 55.3 | 1.43146 | 1.2652 | 712.7 | 563.3 | 42.36 |
| 55.4 | 1.43168 | 1.2659 | 714.4 | 564.3 | 42.46 |
| 55.5 | 1.43189 | 1.2665 | 716.1 | 565.4 | 42.56 |
| 55.6 | 1.43211 | 1.2672 | 717.8 | 566.4 | 42.66 |
| 55.7 | 1.43233 | 1.2679 | 719.5 | 567.5 | 42.76 |
| 55.8 | 1.43255 | 1.2685 | 721.1 | 568.5 | 42.85 |
| 55.9 | 1.43277 | 1.2692 | 722.8 | 569.5 | 42.96 |
| 56.0 | 1.43298 | 1.2699 | 724.5 | 570.5 | 43.06 |
| 56.1 | 1.43321 | 1.2703 | 726.1 | 571.6 | 43.15 |

| | | | | | |
|---|---|---|---|---|---|
| 56.2 | 1.43343 | 1.2708 | 727.7 | 572.6 | 43.25 |
| 56.3 | 1.43365 | 1.2713 | 729.3 | 573.7 | 43.34 |
| 56.4 | 1.43387 | 1.2718 | 730.9 | 574.7 | 43.44 |
| 56.5 | 1.43409 | 1.2724 | 732.6 | 575.8 | 43.54 |
| 56.6 | 1.43431 | 1.2731 | 734.3 | 576.8 | 43.64 |
| 56.7 | 1.43454 | 1.2738 | 736.0 | 577.8 | 43.74 |
| 56.8 | 1.43476 | 1.2744 | 737.6 | 578.8 | 43.84 |
| 56.9 | 1.43498 | 1.2751 | 739.4 | 579.9 | 43.94 |
| 57.0 | 1.43519 | 1.2758 | 741.1 | 580.9 | 44.04 |
| 57.1 | 1.43542 | 1.2763 | 742.8 | 582.0 | 44.14 |
| 57.2 | 1.43564 | 1.2768 | 744.4 | 583.0 | 44.24 |
| 57.3 | 1.43586 | 1.2773 | 745.9 | 584.0 | 44.33 |
| 57.4 | 1.43609 | 1.2778 | 747.6 | 585.1 | 44.43 |
| 57.5 | 1.43631 | 1.2784 | 749.3 | 586.1 | 44.53 |
| 57.6 | 1.43653 | 1.2791 | 751.0 | 587.1 | 44.63 |
| 57.7 | 1.43675 | 1.2798 | 752.7 | 588.1 | 44.73 |
| 57.8 | 1.43698 | 1.2804 | 754.4 | 589.2 | 44.83 |
| 57.9 | 1.43720 | 1.2810 | 756.1 | 590.2 | 44.94 |
| 58.0 | 1.43741 | 1.2818 | 757.8 | 591.2 | 45.04 |
| 58.1 | 1.43764 | 1.2822 | 759.5 | 592.3 | 45.14 |
| 58.2 | 1.43784 | 1.2827 | 761.1 | 593.4 | 45.23 |

| | | | | | |
|---|---|---|---|---|---|
| 58.3 | 1.43909 | 1.2832 | 762.6 | 594.3 | 45.32 |
| 58.4 | 1.43832 | 1.2837 | 764.3 | 595.4 | 45.42 |
| 58.5 | 1.43854 | 1.2843 | 766.0 | 596.4 | 45.52 |
| 58.6 | 1.43877 | 1.2850 | 767.8 | 597.5 | 45.63 |
| 58.7 | 1.43899 | 1.2857 | 769.5 | 598.5 | 45.73 |
| 58.8 | 1.43922 | 1.2863 | 771.1 | 599.5 | 45.83 |
| 58.9 | 1.43944 | 1.2869 | 772.9 | 600.6 | 45.93 |
| 59.0 | 1.43966 | 1.2876 | 774.6 | 601.6 | 46.03 |
| 59.1 | 1.43988 | 1.2882 | 776.3 | 602.6 | 46.14 |
| 59.2 | 1.44011 | 1.2889 | 778.1 | 603.7 | 46.24 |
| 59.3 | 1.44034 | 1.2896 | 779.8 | 604.7 | 46.34 |
| 59.4 | 1.44057 | 1.2902 | 781.6 | 605.8 | 46.45 |
| 59.5 | 1.44079 | 1.2909 | 783.3 | 606.8 | 46.55 |
| 59.6 | 1.44102 | 1.2916 | 785.2 | 607.9 | 46.66 |
| 59.7 | 1.44124 | 1.2921 | 786.8 | 608.9 | 46.76 |
| 59.8 | 1.44147 | 1.2926 | 788.4 | 609.9 | 46.85 |
| 59.9 | 1.44169 | 1.2931 | 790.0 | 610.9 | 46.95 |

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density at 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 65.0 | 1.45347 | 1.3248 | 879.7 | 664.0 | 52.28 |

| | | | | | |
|---|---|---|---|---|---|
| 65.1 | 1.45369 | 1.3255 | 881.5 | 665.0 | 52.39 |
| 65.2 | 1.45393 | 1.3261 | 883.2 | 666.0 | 52.49 |
| 65.3 | 1.45416 | 1.3268 | 885.0 | 667.0 | 52.60 |
| 65.4 | 1.45440 | 1.3275 | 886.9 | 668.1 | 52.71 |
| 65.5 | 1.45463 | 1.3281 | 888.8 | 669.2 | 52.82 |
| 65.6 | 1.45487 | 1.3288 | 890.6 | 670.2 | 52.93 |
| 65.7 | 1.45510 | 1.3295 | 892.4 | 671.2 | 53.04 |
| 65.8 | 1.45534 | 1.3301 | 894.2 | 672.3 | 53.14 |
| 65.9 | 1.45557 | 1.3308 | 896.0 | 673.3 | 53.25 |
| 66.0 | 1.45583 | 1.3315 | 898.0 | 674.4 | 53.37 |
| 66.1 | 1.45605 | 1.3320 | 899.6 | 675.4 | 53.46 |
| 66.2 | 1.45629 | 1.3325 | 901.3 | 676.4 | 53.56 |
| 66.3 | 1.45652 | 1.3330 | 903.1 | 677.5 | 53.67 |
| 66.4 | 1.45676 | 1.3335 | 904.8 | 678.5 | 53.77 |
| 66.5 | 1.45700 | 1.3341 | 906.7 | 679.6 | 53.89 |
| 66.6 | 1.45724 | 1.3348 | 908.5 | 680.6 | 53.99 |
| 66.7 | 1.45747 | 1.3355 | 910.4 | 681.7 | 54.11 |
| 66.8 | 1.45771 | 1.3361 | 912.2 | 682.7 | 54.21 |
| 66.9 | 1.45795 | 1.3367 | 913.9 | 683.7 | 54.31 |
| 67.0 | 1.45820 | 1.3374 | 915.9 | 684.8 | 54.43 |
| 67.1 | 1.45843 | 1.3380 | 917.6 | 685.8 | 54.53 |

| | | | | | |
|---|---|---|---|---|---|
| 67.2 | 1.45867 | 1.3387 | 919.6 | 686.9 | 54.65 |
| 67.3 | 1.45890 | 1.3395 | 921.4 | 687.9 | 54.76 |
| 67.4 | 1.45914 | 1.3400 | 923.1 | 688.9 | 54.86 |
| 67.5 | 1.45938 | 1.3407 | 925.1 | 690.0 | 54.98 |
| 67.6 | 1.45962 | 1.3415 | 927.0 | 691.0 | 55.09 |
| 67.7 | 1.45986 | 1.3420 | 928.8 | 692.1 | 55.20 |
| 67.8 | 1.46010 | 1.3427 | 930.6 | 693.1 | 55.31 |
| 67.9 | 1.46034 | 1.3434 | 932.6 | 694.2 | 55.42 |
| 68.0 | 1.46060 | 1.3440 | 934.4 | 695.2 | 55.53 |
| 68.1 | 1.46082 | 1.3447 | 936.2 | 696.2 | 55.64 |
| 68.2 | 1.46106 | 1.3454 | 938.0 | 697.2 | 55.75 |
| 68.3 | 1.46130 | 1.3460 | 939.9 | 698.3 | 55.86 |
| 68.4 | 1.46154 | 1.3466 | 941.8 | 699.4 | 55.97 |
| 68.5 | 1.46178 | 1.3473 | 943.7 | 700.4 | 56.08 |
| 68.6 | 1.46202 | 1.3479 | 945.4 | 701.4 | 56.19 |
| 68.7 | 1.46226 | 1.3486 | 947.4 | 702.5 | 56.30 |
| 68.8 | 1.46251 | 1.3493 | 949.2 | 703.5 | 56.41 |
| 68.9 | 1.46275 | 1.3499 | 951.1 | 704.6 | 56.52 |
| 69.0 | 1.46301 | 1.3506 | 953.0 | 705.6 | 56.64 |
| 69.1 | 1.46323 | 1.3513 | 954.8 | 706.6 | 56.74 |
| 69.2 | 1.46347 | 1.3519 | 956.7 | 707.7 | 56.86 |

| | | | | | |
|---|---|---|---|---|---|
| 69.3 | 1.46371 | 1.3526 | 958.6 | 708.7 | 56.97 |
| 69.4 | 1.46396 | 1.3533 | 960.6 | 709.8 | 57.09 |
| 69.5 | 1.46420 | 1.3539 | 962.4 | 710.8 | 57.20 |
| 69.6 | 1.46444 | 1.3546 | 964.3 | 711.9 | 57.31 |
| 69.7 | 1.46468 | 1.3553 | 966.2 | 712.9 | 57.42 |
| 69.8 | 1.46493 | 1.3560 | 968.2 | 714.0 | 57.54 |
| 69.9 | 1.46517 | 1.3566 | 970.0 | 715.0 | 57.65 |

| Saccharose % (m/m) | Refractive Index at 20 °C | Mass Density à 20 °C | Sugars in g/l | Sugars in g/kg | ABV % vol at 20 °C |
|---|---|---|---|---|---|
| 70.0 | 1.46544 | 1.3573 | 971.8 | 716.0 | 57.75 |
| 70.1 | 1.46565 | 1.3579 | 973.8 | 717.1 | 57.87 |
| 70.2 | 1.46590 | 1.3586 | 975.6 | 718.1 | 57.98 |
| 70.3 | 1.46614 | 1.3593 | 977.6 | 719.2 | 58.10 |
| 70.4 | 1.46639 | 1.3599 | 979.4 | 720.2 | 58.21 |
| 70.5 | 1.46663 | 1.3606 | 981.3 | 721.2 | 58.32 |
| 70.6 | 1.46688 | 1.3613 | 983.3 | 722.3 | 58.44 |
| 70.7 | 1.46712 | 1.3619 | 985.2 | 723.4 | 58.55 |
| 70.8 | 1.46737 | 1.3626 | 987.1 | 724.4 | 58.66 |
| 70.9 | 1.46761 | 1.3633 | 988.9 | 725.4 | 58.77 |
| 71.0 | 1.46789 | 1.3639 | 990.9 | 726.5 | 58.89 |
| 71.1 | 1.46810 | 1.3646 | 992.8 | 727.5 | 59.00 |

| | | | | | |
|---|---|---|---|---|---|
| 71.2 | 1.46835 | 1.3653 | 994.8 | 728.6 | 59.12 |
| 71.3 | 1.46859 | 1.3659 | 996.6 | 729.6 | 59.23 |
| 71.4 | 1.46884 | 1.3665 | 998.5 | 730.7 | 59.34 |
| 71.5 | 1.46908 | 1.3672 | 1000.4 | 731.7 | 59.45 |
| 71.6 | 1.46933 | 1.3678 | 1002.2 | 732.7 | 59.56 |
| 71.7 | 1.46957 | 1.3685 | 1004.2 | 733.8 | 59.68 |
| 71.8 | 1.46982 | 1.3692 | 1006.1 | 734.8 | 59.79 |
| 71.9 | 1.47007 | 1.3698 | 1008.0 | 735.9 | 59.91 |
| 72.0 | 1.47036 | 1.3705 | 1009.9 | 736.9 | 60.02 |
| 72.1 | 1.47056 | 1.3712 | 1012.0 | 738.0 | 60.14 |
| 72.2 | 1.47081 | 1.3718 | 1013.8 | 739.0 | 60.25 |
| 72.3 | 1.47106 | 1.3725 | 1015.7 | 740.0 | 60.36 |
| 72.4 | 1.47131 | 1.3732 | 1017.7 | 741.1 | 60.48 |
| 72.5 | 1.47155 | 1.3738 | 1019.5 | 742.1 | 60.59 |
| 72.6 | 1.47180 | 1.3745 | 1021.5 | 743.2 | 60.71 |
| 72.7 | 1.47205 | 1.3752 | 1023.4 | 744.2 | 60.82 |
| 72.8 | 1.47230 | 1.3758 | 1025.4 | 745.3 | 60.94 |
| 72.9 | 1.47254 | 1.3765 | 1027.3 | 746.3 | 61.05 |
| 73.0 | 1.47284 | 1.3772 | 1029.3 | 747.4 | 61.17 |
| 73.1 | 1.47304 | 1.3778 | 1031.2 | 748.4 | 61.28 |
| 73.2 | 1.47329 | 1.3785 | 1033.2 | 749.5 | 61.40 |

| | | | | | |
|---|---|---|---|---|---|
| 73.3 | 1.47354 | 1.3792 | 1035.1 | 750.5 | 61.52 |
| 73.4 | 1.47379 | 1.3798 | 1037.1 | 751.6 | 61.63 |
| 73.5 | 1.47404 | 1.3805 | 1039.0 | 752.6 | 61.75 |
| 73.6 | 1.47429 | 1.3812 | 1040.9 | 753.6 | 61.86 |
| 73.7 | 1.47454 | 1.3818 | 1042.8 | 754.7 | 61.97 |
| 73.8 | 1.47479 | 1.3825 | 1044.8 | 755.7 | 62.09 |
| 73.9 | 1.47504 | 1.3832 | 1046.8 | 756.8 | 62.21 |
| 74.0 | 1.47534 | 1.3838 | 1048.6 | 757.8 | 62.32 |
| 74.1 | 1.47554 | 1.3845 | 1050.7 | 758.9 | 62.44 |
| 74.2 | 1.47579 | 1.3852 | 1052.6 | 759.9 | 62.56 |
| 74.3 | 1.47604 | 1.3858 | 1054.6 | 761.0 | 62.67 |
| 74.4 | 1.47629 | 1.3865 | 1056.5 | 762.0 | 62.79 |
| 74.5 | 1.47654 | 1.3871 | 1058.5 | 763.1 | 62.91 |
| 74.6 | 1.47679 | 1.3878 | 1060.4 | 764.1 | 63.02 |
| 74.7 | 1.47704 | 1.3885 | 1062.3 | 765.1 | 63.13 |
| 74.8 | 1.47730 | 1.3892 | 1064.4 | 766.2 | 63.26 |
| 74.9 | 1.47755 | 1.3898 | 1066.3 | 767.2 | 63.37 |
| 75.0 | 1.47785 | 1.3905 | 1068.3 | 768.3 | 63.49 |