

GRAU AROMATICS GmbH & Co. KG

Bismarckstr. 4 • D-73525 Schwäbisch Gmünd

Tel.: +49 71 71 / 91 14-0 • Fax.: +49 71 71 / 91 14-10

E-Mail: info@grau-aromatics.de • Internet: www.grau-aromatics.de

GRAU
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ALCOHOLS AND CARBOXYLIC ACIDS PRODUCT LIST

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In explanation of our abbreviations:

| | |
|--------------------------------|---|
| SC | Conditions of sale: NP = Standard Product (as a rule available ex stock in quantities of 1 kg, 5 kg, ...) NP2 = Standard Product (as a rule available ex stock in quantities of 5 kg, 10 kg, ...) SP1 = Special Product (production only against firm order in quantities of 1 kg, 5 kg, ...) SP2 = Special Product (production only against firm order in quantities of 5 kg, 10 kg, ...) SP3 = Special Product (production only against firm order in quantities of 10 kg, 25 kg, ...) SP4 = Special Product (production only against firm order in quantities of 25 kg, 50 kg, ...) SP5 = Special Product (production only against firm order in quantities of 50 kg, 100 kg, ...) as long as we have a remaining stock of the above special products, we will sell them in any of our standard quantities of 1 kg, 5 kg, 10 kg, 25 kg, 50 kg, 100 kg, 170 kg. |
| * (as mark after product name) | After sale only available as custom synthesis, if raw material available |
| FP | Flash point (Degrees Centigrade - Closed cup method) |
| Status | F = Flavour material P = Fragrance material 1 = Natural flavours and natural flavouring substances 2 = Nature identical flavouring substances 3 = Artificial flavouring substances |
| FEMA | FEMA-GRAS list number |
| FLAVIS | FLAVIS number |
| COE | Council of Europe list number |
| CAS | Chemical Abstracts number |

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| | |
|-------------|---|
| TOSCA | Toxic Substances Control Act |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| K | Kosher certificate available (Rabbinically attested) |
| IFRA | Recommendations of the International Fragrance Association for the safe use of restricted fragrance materials |
| RIFM | Research Institute for Fragrance Materials |
| M | Monograph available by RIFM |
| C | The product is not restricted by IFRA |
| Customs No. | International customs identification number for import / export |

Conditions of sale:

| | |
|--------------------|---|
| Prices | Generally our prices are quoted in €/kg ex works, customs unpaid. The prices are effective for the current year. However we reserve the right to increase any individual price, if production costs increase. |
| Small quantities | Orders of less than one kilo will be accepted but will involve an additional charge of € 25,-- per item |
| Large quantities | Please inquire bulk prices for quantities of more than 2 drums (> 340 kg) within one order |
| Kosher certificate | For aroma chemicals with an official rabbinical certificate we have to invoice an extra charge of 3% |

Odor description for our fragrance materials:

More information is available with our data sheets for each product

| Art.-No. | Product name | K | SC | FP | TOSCA | EINECS | Status | FEMA | FLAVIS | COE | CAS | IFRA/ RIFM | Customs no. |
|----------|---------------------------------------|---|-----|-------|-------|--------|--------|------|--------|-------|------------|---------------|----------------|
| 160041 | n-Amyl alcohol (pentan-1-ol) FCC | ✓ | SP2 | 49 | ✓ | ✓ | F P 2 | 2056 | 02.040 | 514 | 71-41-0 | C/-- | 2905 1900 |
| 180063 | Benzoic acid | ✓ | SP2 | 122 | ✓ | ✓ | F P 2 | 2131 | 08.021 | 21 | 65-85-0 | C/M | 2916 3100 |
| 160071 | Benzyl alcohol | ✓ | SP2 | 101 | ✓ | ✓ | F P 2 | 2137 | 02.010 | 58 | 100-51-6 | C/M | 2906 2100 |
| 160081 | Butan-1-ol | ✓ | SP2 | 35 | ✓ | ✓ | F P 2 | 2178 | 02.004 | 52 | 71-36-3 | C/-- | 2905 1300 |
| 180101 | Butyric acid | ✓ | SP2 | 69 | ✓ | ✓ | F P 2 | 2221 | 08.005 | 5 | 107-92-6 | C/M | 2915 6019 |
| 180182 | Capric Acid (decanoic acid) | ✓ | SP2 | 150 | ✓ | ✓ | F P 2 | 2364 | 08.011 | 11 | 334-48-5 | C/M | 2915 9070 |
| 180121 | Caproic acid (hexanoic acid) | ✓ | SP2 | 104 | ✓ | ✓ | F P 2 | 2559 | 08.009 | 9 | 142-62-1 | C/M | 2915 9070 |
| 180172 | Caprylic acid (octanoic acid) | ✓ | SP2 | 130 | ✓ | ✓ | F P 2 | 2799 | 08.010 | 10 | 124-07-2 | C/M | 2915 9070 |
| 180133 | Crotonic acid (but-2-enoic acid) | ✓ | SP1 | 89 | ✓ | ✓ | F P 2 | 3908 | 08.072 | 10080 | 3724-65-0 | C/-- | 2916 1940 |
| 160021 | Decan-1-ol FCC | ✓ | SP2 | 95 | ✓ | ✓ | F P 2 | 2365 | 02.024 | 73 | 112-30-1 | C/M | 2905 1900 |
| 180022 | Formic acid | ✓ | SP2 | 48 | ✓ | ✓ | F - 2 | 2487 | 08.001 | 1 | 64-18-6 | --/-- | 2915 1100 |
| 180332 | Heptanoic acid | ✓ | SP2 | 118 | ✓ | ✓ | F P 2 | 3348 | 08.028 | 28 | 111-14-8 | C/-- | 2915 9070 |
| 160141 | Heptan-1-ol FCC | ✓ | SP2 | 75 | ✓ | ✓ | F P 2 | 2548 | 02.021 | 70 | 111-70-6 | C/M | 2905 1900 |
| 160421 | Hexan-1-ol FCC | ✓ | SP2 | 61 | ✓ | ✓ | F P 2 | 2567 | 02.005 | 53 | 111-27-3 | C/M | 2905 1900 |
| 151112 | cis-3-Hexenol | ✓ | SP1 | 58 | ✓ | ✓ | F P 2 | 2563 | 02.056 | 750 | 928-96-1 | C/M | 2905 2990 |
| 160151 | Isoamyl alcohol (3-methyl butan-1-ol) | ✓ | SP2 | 45 | ✓ | ✓ | F P 2 | 2057 | 02.003 | 51 | 123-51-3 | C/M | 2905 1900 |
| 160161 | Isobutanol (2-methyl propanol) | ✓ | SP2 | 28 | ✓ | ✓ | F P 2 | 2179 | 02.001 | 49 | 78-83-1 | C/-- | 2905 1490 |
| 180232 | Isobutyric acid | ✓ | SP2 | 59 | ✓ | ✓ | F P 2 | 2222 | 08.006 | 6 | 79-31-2 | C/-- | 2915 6019 |
| 160442 | Isotridecyl alcohol (Fixateur ITC) | | SP2 | 118 | ✓ | ✓ | - P 3 | | | | 68526-86-3 | C/-- | 2905 1900 |
| 180242 | Isovaleric acid FCC | ✓ | SP2 | 74 | ✓ | ✓ | F P 2 | 3102 | 08.008 | 8 | 503-74-2 | C/M | 2915 6090 |
| 180262 | Lactic acid 80 % | ✓ | SP2 | > 110 | ✓ | ✓ | F P 2 | 2611 | 08.004 | 4 | 79-33-4 | C/-- | 2918 1100 |
| 180292 | Lauric acid | ✓ | SP2 | 156 | ✓ | ✓ | F P 2 | 2614 | 08.012 | 12 | 143-07-7 | C/M | 2915 9030 |
| 160542 | Lauryl alcohol | ✓ | SP2 | 119 | ✓ | ✓ | F P 2 | 2617 | 02.008 | 56 | 112-53-8 | C/M | 2905 1700 |
| 180282 | Levulinic acid | ✓ | SP5 | 137 | ✓ | ✓ | F P 2 | 2627 | 08.023 | 23 | 123-76-2 | C/M | 2918 3000 |

| Art.-No. | Product name | K | SC | FP | TOSCA | EINECS | Status | FEMA | FLAVIS | COE | CAS | IFRA/ RIFM | Customs no. |
|----------|-----------------------------------|---|-----|-----|-------|--------|--------|------|--------|------|----------|---------------|----------------|
| 160241 | 2-Methyl butan-1-ol | ✓ | SP2 | 42 | ✓ | ✓ | F P 2 | 3998 | 02.076 | 2346 | 137-32-6 | C/-- | 2905 1900 |
| 180302 | 2-Methyl butyric acid | ✓ | SP1 | 77 | ✓ | ✓ | F P 2 | 2695 | 08.046 | 2002 | 116-53-0 | C/-- | 2915 6090 |
| 180322 | 2-Methyl valeric acid | ✓ | SP1 | 91 | ✓ | ✓ | F P 2 | 2754 | 08.031 | 2754 | 97-61-0 | C/M | 2915 9070 |
| 180603 | Myristic acid | ✓ | SP2 | 175 | ✓ | ✓ | F P 2 | 2764 | 08.016 | 16 | 544-63-8 | C/-- | 2915 9070 |
| 160431 | Octan-1-ol FCC | ✓ | SP2 | 82 | ✓ | ✓ | F P 2 | 2800 | 02.006 | 54 | 111-87-5 | C/M | 2905 1685 |
| 180672 | Pelargonic acid (n-nonanoic acid) | ✓ | SP2 | 140 | ✓ | ✓ | F P 2 | 2784 | 08.029 | 29 | 112-05-0 | C/M | 2915 9070 |
| 160271 | Phenylethyl alcohol | ✓ | SP2 | 102 | ✓ | ✓ | F P 2 | 2858 | 02.019 | 68 | 60-12-8 | C/M | 2906 2900 |
| 160291 | Propan-1-ol | ✓ | SP2 | 15 | ✓ | ✓ | F P 2 | 2928 | 02.002 | 50 | 71-23-8 | C/-- | 2905 1200 |
| 180382 | Propionic acid | ✓ | SP2 | 50 | ✓ | ✓ | F P 2 | 2924 | 08.003 | 3 | 79-09-4 | C/-- | 2915 5000 |
| 180532 | Valeric acid FCC | ✓ | SP2 | 86 | ✓ | ✓ | F P 2 | 3101 | 08.007 | 7 | 109-52-4 | C/-- | 2915 6090 |